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Cooperative State Research, Education, and Extension Service and Land-Grant University System

Proceedings

Proceedings of the Third National Small Farm Conference

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PREFACE

Small farms have been critical to the fabric of American society throughout the nation's history. Today, as historically, the vast majority of all farms in the United States are small (92 percent). The viability and sustainability of these farms is important to our nation's economy, to the wise stewardship of our biological and natural resources, and to the leadership and social fabric of rural communities. Their economic contribution is important to the nation and is especially critical to the thousands of rural communities where they pay taxes and to the thousands of businesses they support.

The National Commission on Small Farms in 1998 described small farms as farms with less than $250,000 gross receipts annually, on which day-to-day labor and management are provided by the farmer and/or the farm family that owns the production, or owns or leases the productive assets.

A farm typology developed by the USDA-Economic Research Service categorizes farms into more homogenous groups than classification based on sales volume alone, producing a more effective policy development tool. The policy identifies five groups of small family farms (sales less than $250,000): limited resource, retirement, residential/lifestyle, farming occupation/low sales, and farming occupation/high sales. To cover the remaining farms, the typology identifies large family farms, very large family farms, and nonfamily farms.

It is the policy of USDA to develop and support research, development, regulatory and outreach programs and initiatives that focus on the special needs of small-scale farmers, especially those programs that help small farms develop alternative enterprises, value-added products, and collaborative marketing efforts, including cooperatives that enhance stewardship of biological, natural, human and community resources.

From Sept. 17 to 20, 2002, nearly 600 participants from the public and private sectors, including community-based organizations, the land-grant university system, small-scale farmers and ranchers, convened in Albuquerque, N.M. at the Third National Small Farm Conference.

The purpose of the conference was to convene national, state and local small farm program managers, representatives of community-based organizations, foundations, agri-industry, small farm and ranch communities, and other public and private sector organizations to provide a forum to: discuss areas of concern involved in keeping American small farms economically viable, form new partnerships and formulate an action agenda necessary to maximize existing resources, coordinate activities to help America's small farms, ranches and rural communities survive and thrive in the 21st century.

Major issues discussed at the conference included niche crops and specialty enterprises, managing small farms and ranches, marketing and value-added enterprises, focusing on small wood lot owners, environmental and food safety issues, developing skills and collaborative efforts for programs, computer applications, and appropriate technology for small farms.

We hope you will find these proceedings helpful in building partnerships to strengthen small family farms.

ACKNOWLEDGEMENTS

On behalf of the U.S. Department of Agriculture and its stakeholders nationwide, we would like to thank Mr. Edmund Gomez and his staff at New Mexico State University for hosting the Third National Small Farm Conference.

Great thanks to the following for sponsoring the conference: Farm Foundation, W. K. Kellogg Foundation, U.S. Environmental Protection Agency, New Mexico State University, U. S. Department of Agriculture: Agricultural Marketing Service, Animal Plant Health Inspection Service, Cooperative State Research, Education and Extension Service–Plant and Animal Systems, Sustainable Agriculture Research and Education Program, Economic and Community Systems, Foreign Agricultural Service, Farm Service Agency, Forest Service, Food Safety and Inspection Service, National Agricultural Statistics Service, Natural Resources Conservation Service, and Risk Management.

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We wish to acknowledge the assistance of the members of the Steering, Program, Exhibit, Poster and Logistics committees for their patience and resilience during conference planning and to conference sponsors for providing the resources to support the conference.

For their assistance in editing the proceedings, many thanks to Mr. Edmund Gomez and his staff, and the NMSU's Agricultural Communications department for publishing the proceedings.

Many others provided assistance to the overall success of this conference who we are unable to mention, and to all of you, we express our sincere appreciation.

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The Table of Contents has been set up with links to each section. Use the "hand" tool to click onto the section you wish to view. To return to the Table of Contents, click the "back" arrow on the Acrobat toolbar.

Table of Contents

Session 4A—Focusing on Serving Small Farm and Ranch Woodlot Owners

Session 5A—Focus On Environmental Issues: The Impact Of The Endangered Species Act On Small Farms

Session 6A—Developing Skills For Programs

Session 7A—Computer Applications

Session 1B—Specialty Enterprises

Session 2B—Managing Small Farms and Ranches—Part II

Session 3B—Marketing—Part II

Session 4B—Serving Small Farm and Ranch Woodlot Owners—Managing Timber In Unique Ways

Session 5B—Focus On Environmental Issues: Resource Protection And Livestock Environmental Stewardship

Research and Extension Priorities for Small Farms

Coping With Farm Stress

Grant Writing For Farmers

Ilustrating Program Successes

Risk Management

The Importance of Small Family Farms to Agriculture, Communities and Families

Colien Hefferan
Administrator
U.S. Department of Agriculture
Washington, D.C.

I am very pleased to be the speaker this evening. First I am pleased to bring to you the message that Cooperative State Research, Education, and Extension Service (CSREES) and United States Department of Agriculture (USDA) strongly support the small-scale farmers of this country. Secondly, I am pleased to be this evening's speaker, because realizing I am what is keeping you from your evening buffet, I can be very popular by keeping my speech short. So that is the plan.

What is a small farm?

1. The National Commission on Small Farms describes small farms as farms with less than $250,000 gross receipts annually on which day-to-day labor and management are provided by the farmer and/or the farm family that owns the production or owns or leases the productive assets.
2. Small farms account for 91% of all farms. They also account for a large share of assets owned by farms (69%) including land (68%).
3. Small farms play a major role in natural resource and environmental policy. Retirement farms alone accounted for 29% of the land in the Conservation Reserve Program (CRP) in 1998.
4. Small family farms have sales less than $250,000

The Economic Research Service (ERS) developed a farm typology that categorizes farms into fairly homogenous groups for policy development and evaluation purposes. This typology is based on the occupation of operators and the sales class of farms. ERS defines the farm typology group as follows:

- **Limited resource**—any small farm with gross sales less than $100,000, farm assets less than $150,000 and total operator household income less than $20,000;
- **Retirement**—small farms operators who report that they are retired. Excludes limited resource farms operated by retired farmers;
- **Residential/lifestyle**—small farmoperators who report a major occupation other than farming, and
- **Farming occupation farms**—small farm operators who report farming as their major occupation—low sales farms have sales less than $100,000 and high sales farms have sales between $100,000 and $249,000

What do small farms contribute to the fabric of rural america?

- **Small farms often lead the way in new product development.** For example, the fastest growing sectors of the agricultural market in the United States today are the organic and natural food markets. Small farms led the way in both areas and contribute most of the production.
- **Small farms enhance the quality of life for all Americans and protect natural resources for the entire nation.** About one-third of the nation's 946 million acres of farmland belongs to small farmers.
- **Small farms play a dynamic and important role in maintaining and stabilizing rural communities.** Small-scale farmers are often major clients of the business community in rural areas. Their tax dollars are critical to the entire community.
- **Small farms also enhance the quality of life for urban communities.** Small farms often are the only productive land use that can serve as a buffer between high-density population centers and rural areas. They contribute significantly to the quality of the urban diet by providing fresh, high-quality, diverse produce through direct markets to urban residents.
- **Small farms protect resources that serve all Americans.** They provide open space for wildlife habitat, water recharge and the human need for contact with nature.

What are the special needs of small-scale farmers?

- **Small-scale farmers have special and varied needs.** Small farms are highly varied in size, mix of animal and plant enterprises, gate receipts, and gender and cultural background of the farm operator.
- **Small farms produce an enormous range of products and many of them are products for which the existing research base is not well developed.** Organic production provides one example. Relatively little research-based information is available for organic producers. USDA agencies are funding projects dealing with organic agriculture. CSREES' Initiative for Future Agriculture and Food Systems and the Organic Transition Program under Section 406 are great examples where USDA funds are supporting organic agriculture.
- **Small farms are not unsuccessful large farms.** Small-scale farmers are resourceful entrepreneurs who produce valuable agricultural products using more limited fiscal, human and land resources than their larger-scale neighbors. They have special research, education and extension needs because they have fewer resources available to them than larger farms.
- **Small farms differ widely from state to state and even within the same state.** Small-scale farmers include many different cultural and social groups. For example, language can be a barrier for some, and these groups need information available to them in their own languages. Some small-scale farmers have limited educational backgrounds. They also have special information needs. Education and Extension programs must address these multiple groups of clients.

CSREES has a long record of support, although it recognizes the need to play a role in shaping policies in the future that may impact small farms, including market access, biotechnology and organic agriculture.

- **CSREES/Economic and Community Systems' Small Farm Program responds to small farm needs** through a full-time national program leader for small farms, specialist and part-time assistant who closely partner with a small farm program coordinator network in the land-grant university system, community-based organizations, USDA agencies and other stakeholders**.** Ongoing program efforts include a Small Farm Digest Newsletter; Small Farm Hotline; representation in USDA Small Farm Quarterly Meetings, the USDA Small Farm Working Group, and at key national and regional small farm meetings nationwide; and key sponsorship or leadership of three national and four regional small farm conferences and workshops. CSREES is the lead agency in organizing this National Small Farm Conference. Although not legislatively mandated since 1976, approximately $2 million is disbursed annually through Smith Lever 3b/c formula funds and 1890 Program funds to 1862 and 1890 land-grant colleges and universities to work with small farmers. A $20,000 FY 2000 innovation grant allowed the identification of four small farm regional programs to enhance coordination and easier access to CSREES small farm programs and services.
- **CSREES National Research Initiative is a basic research, fundamental science program.** Some research project outcomes have the potential to benefit small farms although NRI has no legislative mandate to fund small farms. The 1997 comment attributed to Rominger was: "We will try to have as a goal $5 million for small farms in NRI." CSREES awarded $28.86 million among 20 projects in FY 2000 and $57.1 million among 44 projects addressing regional small farm issues across the nation within the NRI's Initiative for Future Agriculture and Food Systems. NRI's Agricultural Systems competitive grant program awarded $3.3 million for 27 small farms relevance projects in FY 1998 and $6.3 million for 35 projects in FY 1999.
- **CSREES Community Food Projects competitive grant program awarded $5.2 million from FY 1996-2001** for 45 low-income, African-American, Asian-Pacific, Hispanic, and migrant small farm specific projects benefitting community food banks, community supported agriculture, farmer cooperatives, farmers markets, school lunch and elderly meal programs, and emergency food networks across the nation.
- **CSREES Small Business Innovation Research (SBIR) Competitive Grant Program** awarded $12.8 million for 55 Phase II projects from FY 1997-2000 to for-profit companies to commercialize technology that may be of potential benefit to small-scale farmers.

- **USDA-CSREES/Economic and Community Systems and the National Endowment for Financial Education co-funded a $15,000 Innovation Grant in FY 2001** to research retirement and succession plans of farm families, develop a "Farm Family Retirement Estimator" educational tool and module that can be delivered via Internet or workshop to farmers.
- **CSREES' Natural Resources and Environment Unit administers the Renewable Resources Extension Act,** which since 1982 has targeted 60% of its appropriation—currently $4 million—toward Extension projects for small private, nonindustrial woodlot and rangeland owners. In addition, approximately 25% of the nation's federally supported $30 million forestry/range outreach program contributes to outreach projects in every state that benefit small private forest or rangeland owners.
- **CSREES/Science and Education Resources Development's Tribal Colleges Education Equity Grants Program awarded $203,452 during FY 1998-2001** to Ft. Berthold Community College to reintroduce native food sources to help reduce diabetes among the Hidatsa, Mandan and Arikira tribes.
- **CSREES National Integrated Water Quality Section 406 Competitive Grants Program awarded $801,000 to five universities in FY 2000 and $878,500 in FY 2001** to do integrated research/Extension outreach projects.
- **CSREES SARE program funded 46 farmer, professional development or research and extension grants from 1995-2001 totaling $2.47 million.** SARE also funded four major conferences during 1999-2001, targeting small farmers with marketing and production practices to help their operations stay profitable; publications; tip sheets; and a video entitled "Farm To Market: A Journey of Change and Independence," relates to sustainable agriculture and alternative marketing practices.
- **CSREES Fund for Rural America supported four projects totaling $4 million from FY 1998-1999 and seven projects during FY 2001 totaling $3.6 million that were helpful to small farm efforts.**

Secretary of Agriculture Ann Veneman has delegated the authority for the 2501 grant program for helping disadvantaged farmers to CSREES. We will be working closely with USDA agencies and our land-grant university partners to encourage and assist disadvantaged farmers and ranchers.

Questions we must play a role in answering

- **Globalization**—How are small-scale farmers supposed to compete in the new global market? To what degree should we focus on direct markets and local markets versus global markets for small farms? Global competitiveness should stimulate new lines of research and new extension program priorities. The need to be more competitive on a global basis could lead us to focus on value-added products, new uses for agricultural commodities and a systems approach to our research and extension programs. This also entails focusing on issues rather than disciplines, and in looking at the farm unit as a food, feed and fiber production system, rather than as an isolated set of production issues.
- **Biotechnology**—Many critics of biotechnology argue that the application of this technology is harmful to small farms because the products are developed and owned by large corporate interests and are tied together in packages (e.g., buy Roundup-ready soybeans and buy Roundup); and the technologies themselves do not address the problems that are most important to small farmers; and the technologies are expensive. How can biotech benefit small-scale farmers? Given the research priorities of large corporate interests, what should be the focus of biotech research in the USDA/land-grant system to benefit small farmers?
- **National organics rule**—The rule says that certifying agencies can no longer provide production recommendations to farmers. For example, if you certify you can't also tell a farmer "use this product." This means that the demand for information from the USDA/land-grant system will increase enormously. Do we have the research data we need to provide this information? Are our extension faculty knowledgeable enough about organic production to deliver this information to farmers?
- **Declining resource base**—Research and extension budgets have not grown significantly at the federal level and many states are experiencing very serious cutbacks. Yet the small farm audience is very large and growing. How can USDA/Land Grant meet this demand for services and information in an era of reduced resources?
- **Research and Extension**—With diminishing resources within the land-grant system, collaboration is becoming very important

and significant if we have to accomplish more with limited resources; increase research and education programs to help families and communities transition to new forms of agriculture and develop alternative enterprises

What is the role of USDA and our land grant partners in working with small farmers?

- The ultimate role of the USDA land-grant partnership is to help small farmers understand where their farm operations are, relative to the potential of their resource base. We can also assist small farmers to understand, evaluate, and select options as they face choices and change.

Welcome from USDA

Alma Hobb
Deputy Administrator
USDA-ECS
Washington, D.C.

On behalf of USDA agencies and as the deputy administrator for Economic and Community Systems with CSREES where the Small Farm Program is located, I am delighted to bring you greetings and warmly welcome you to the Third National Small Farm Conference.

USDA's mission is to enhance the quality of life for the American people by supporting production agriculture.

We want to ensure a safe, affordable, nutritious and accessible food supply, support sound development of rural communities, provide economic opportunities for farm and rural residents, and expand global markets to ensure that small farmers and ranchers have a stake in this effort.

USDA agencies are committed to ensuring that small-scale farmers and ranchers not only survive, but thrive beyond the 2lst century. Again, we welcome you to this conference and hope you will acquire some program information that will be applicable to working with small farmers and ranchers in your various regions and states.

New Mexico State University's administration and staff have collaborated and worked hard together under the leadership of Edmund Gomez. For that, I sincerely thank New Mexico State University's administration, faculty and staff for your wonderful collaboration and hard work in putting together this conference under the able leadership of Edmund Gomez.

I would like to also express appreciation to all the USDA agencies that contributed funding to make this conference happen. USDA wants to ensure that its programs meet the needs of small farmers and ranchers.

I look forward to building a strong working relationship with other USDA agencies with small farm programs.

The kind of partnership that made this conference happen reflects the theme of this 3rd National Small Conference, "Building Partnerships to Strengthen Small Farms and Ranches."

Partnership can be rewarding. What we witness here today is a partnership unfolding. This conference is happening because of partnership by USDA and the land grant college and university partners.

I encourage you to work together to overcome the many challenges facing small-scale farmers and ranchers in today's economy. By gaining access to markets, establishing cooperatives, and placing more emphasis on diversification and alternative enterprises, as appropriate, small-scale farmers can enhance their farm income.

You are here to increase your expertise in building partnerships. Learn as much as possible, and teach us what you know. Our job is to use education to overcome the challenges facing the small-scale farmers and ranchers in today's economy. The more knowledgeable you are, the better the education.

Many small-scale farmers want to enhance their farm income. You can help them by teaching them how to access markets, establish cooperatives, and explore diversification and alternative enterprises. Teach them how to take a calculated risk in supporting food and agricultural systems and rural communities.

The success of small-scale farmers and ranchers is critical to American agriculture in terms of global food security and providing the highest quality and safest food in the world to our nation's citizens and the world community. It is crucial to help our farmers and ranchers maintain a viable income so they can support their families and communities while maintaining a rural lifestyle that is the backbone of our country's cultural values and character.

The Role of USDA in Serving Small-Scale Farmers

Lou Gallegos
Assistant Secretary for Administration
U.S. Department of Agriculture
Washington, D.C.

Good morning! I am delighted to be here with you today and delighted that you have chosen Albuquerque, a beautiful city and my home for many years, for this important conference. I bring warm wishes and strong support from Secretary Ann Veneman, who recognizes the vital importance of small farms to our economy, our security, our culture and our nation.

You know, we call them "small" farms, but they're not small at all in terms of their place in the American psyche, nor are they small in terms of USDA's commitment to preserve and enhance their viability.

Their farms are small, but their spirit is not. Small-scale farmers farm because they love the land, love the way of life, and love being close to the earth and making it bloom. There isn't a corporate farm in the world that can give you that kind of satisfaction, is there?

I'm here to tell you that this administration is deeply committed to addressing the need to equip small farmers and ranchers to stay economically competitive.

Small-scale producers deserve a place in 21st century agriculture. For decades, our nation has watched its farm heritage disappear. Today, at the turn of the 21st century, 2% of America's population works in farming, compared to 50% at the turn of the 20th century.

USDA, the people's department, is committed to being responsive to all its constituents, including the diverse operators of approximately 2 million small farms. Even now, this represents 92% of the total number of farms in the nation.

Small-scale farmers and ranchers contribute safe, abundant, quality, and affordable farm-raised products to the global food and fiber supply, while preserving green space, fueling local economies and energizing diverse rural communities that dot America's landscape.

Economic forces, such as consolidation into corporate farms, depressed prices, weak export markets, Federal farm policies, consumer choices, as well as natural catastrophies, such as drought, floods, fires and crop and animal diseases, are causing small farmers to look at the business of farming in new ways. Farmers need real opportunities to capture niche markets to compete against large corporate farm enterprises and succeed in a rapidly changing world.

Challenges to small-scale farmers and ranchers include a lack of affordable credit; program delivery too often geared toward big producers; a need for research into low tech, affordable innovations; and direct marketing expertise. Rural America needs access to the tools and infrastructure that make communities economically competitive in the modern world.

USDA-appointed advisory committees maintain input flowing from stakeholders all around the country. The secretary of agriculture appointed the National Commission on Small Farms back in 1997 to recommend a course of action for USDA to take relative to helping small farms remain economically viable. The commission's report, "A Time to Act," included eight policy goals and 146 recommendations.

A committee of Small Farm Coordinators from every USDA mission area and agency continues to work to implement the recommendations in "A Time To Act." Recommendations include ensuring that small and beginning farmers have ready access to new production technologies, market advice, business and management skills, and are able to diversify products on the farm to maintain a competitive edge in the marketplace.

The Advisory Committee on Beginning Farmers and Ranchers provides guidance to the secretary of agriculture on ways to maximize the number of new farming and ranching opportunities created through federal and state beginning farmer and rancher programs.

USDA's Advisory Committee on Small Farms was established to maintain an external advisory mechanism on small farm issues after the charter of the National Commission on Small Farms expired in 1999. The committee ensures the continued consideration and implementation of the recommendations in "A Time To Act."

USDA issued a Departmental Regulation on Small Farms Policy in 1999, establishing the USDA's Council on Small Farms comprised of subcabinet officials and chaired by the deputy secretary, a Department-wide group of small farm coordinators from each mission area, individual agencies, the Office of Outreach and the Office of Civil Rights.

USDA agencies with small farm mission responsibilities are working on many fronts to help small farmers, including underserved groups, such as disadvantaged and limited resource farmers.

Many USDA agencies have programs targeting small-scale farmers and ranchers:

Co-ops will be a big part of farming and rural growth in the 21st century, and our rural development mission area's resources and technical assistance will continue to support co-op growth through loan and grant programs. (You know, in a previous life, I was state director for USDA's Farmer Home Administration, Rural Development's predecessor, right here in New Mexico).

The Rural Business-Cooperative Service supports small, minority, female and disadvantaged farmer programs and cooperatives and value-added projects for small-scale farmers. USDA-Rural Business Service (RBS) offers a guaranteed loan program to support cooperative enterprises.

Our Agricultural Marketing Service's leadership on the new organic rule, which governs the rapidly growing niche of organic agriculture, helps the economic betterment of the nation's farmers in this rapidly growing marketing niche largely occupied by small farmers. USDA's Agricultural Marketing Service (AMS) also provides information on alternative enterprises, value-added products and direct marketing of farm-raised products through farmers markets and other marketing channels.

The Farm Service Agency offers direct and guaranteed loan programs for farmers and emergency payments. FSA continues to expand its outreach efforts to small, beginning and limited-resource farmers by working with farmers in remote locations to help them with loan applications when they cannot easily reach an FSA office. Some FSA field staff have teamed up with churches, health professionals and other partners to reach farm families affected by the farm crisis to understand available USDA assistance programs.

The Cooperative State Research, Education and Extension Service (CSREES) works to improve small farm operations throughout the United States via partnerships with the land-grant university system, public and private sectors, including farmers, community-based organizations, foundations and others. CSREES grant programs support producer grants for on-farm research. CSREES provides national leadership to a network of state land-grant, university-based small farm program coordinators and to the AgrAbility program that assists injured and disabled farm workers.

CSREES also now runs the 2501 program to provide critically needed information on USDA programs and how to apply for this grant. Competitive 2501 grant program funds target small farmers and ranchers with a variety of outreach programs, serving 107,000 socially disadvantaged farmers and ranchers through 28 projects in 394 counties during the past five years. Got those numbers? There will be a test on all of this later!

And CSREES provides leadership for this National Small Farm Conference held every three years. (And a fine job they have done! Thank you, CSREES.)

National Agricultural Statistics Service (NASS) serves the basic agricultural and rural data needs of people in the United States by providing important, usable and accurate statistical information and services for informed decision-making. They gather and analyze information regarding small farms and ranches within the United States and its territories. And don't forget! The Census of Agriculture conducted every five years by NASS begins this fall—let's make sure we have the vital info you need and that it reflects your needs—please be sure to return the survey form when you get it. Thank you. End of commercial.

The Food and Nutrition Service continues its food donation programs and efforts to promote the purchase of commodities from small farms for USDA feeding programs, including a "farm-to-school" project, expanding the Women, Infants and Children (WIC) Farmers' Market Nutrition Program and increasing the participation of farmers markets in the Food Stamp Program.

The Natural Resources Conservation Service cadre of field staff work directly with farmers nationwide to show ways of working the land that are economically productive and environmentally responsive.

The Foreign Agricultural Service works to improve foreign market access for U.S. products. FAS recently tailored a pilot program for small and minority producers in Alabama, Georgia and Mississippi to help them master the fundamentals of international marketing.

The Agricultural Research Service's network of research scientists push the frontiers of research in the food and agricultural sciences. USDA's research investment through biotechnology, genomic, pest and natural resource management, etc., will yield new food and fiber processing, transportation, marketing and production models to benefit the efficiency of small-farm operators. ARS is evaluating the potential of their research programs to contribute to the economic and environmental sustainability of small farms.

Food Safety and Inspection Service programs enhance a science-based food safety system. FSIS recently launched a training program in Pacific Island and Navajo farm communities to promote animal hygiene and proper preharvest handing practices. FSIS sponsors workshops to help smaller animal producers make sound decisions in their day-to-day productions that are consistent with meat and poultry plants operating under process control systems.

Animal and Plant Health Inspection Service programs address plant and animal diseases that affect farmers' crops and herd health.

Forest Service's programs and national network of foresters will continue to help the nation's woodlot owners manage their wood resources sustainably on America's 737 million acres of forest land, and fight fires in one the worst forest fire years in the United States.

The Office of Outreach, which reports to me, ensures that USDA programs and services are accessible to all constituents, including the underserved, socially disadvantaged and limited-resource farmers, ranchers, farm workers and other rural constituents.

Today, you will have many discussions on keeping American small farms economically viable and forming new partnerships to formulate an action agenda necessary to maximize existing resources. Let us work together in value-added educational, outreach, marketing and credit programs to produce the sustainable agriculture that will help ensure that new generations of small farms are profitable and environmentally sound.

I hope when you leave this conference you will have received information from the professionals here that you can take back to your communities and organizations to share. This conference is for you. So enjoy, and ask lots of questions. USDA is proud to serve you and the farmers you represent. Thank you so much for letting me be a part of this great event.

Typology of America's Small Farms

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Farms vary widely in size and other characteristics. They range from very small residential and retirement farms to farms with sales in the millions of dollars. The U. S. Department of Agriculture's Economic Research Service (ERS) has developed a farm typology that classifies farms into more homogeneous groups, based largely on operator occupation and farm sales class. This method produces a more effective policy development tool than classifications based on sales class alone.

The typology identifies five groups of small, family farms (annual sales less than $250,000): limited-resource, retirement, residential/lifestyle, farming occupation/lower sales, and farming occupation/higher sales (see box). To cover the remaining farms, the typology also classifies all other farms into large family farms, very large family farms, and nonfamily farms.

The groups differ in their contribution to agricultural production, their product specialization, program participation, and dependence on farm income.

The diversity of today's farms has some implications listed below:

- Production is concentrated among large family farms, very large family farms, and nonfamily farms. The nation relies on larger farms for most of its food and fiber, despite the large number of small farms.
- There is unlikely to be a "one-size-fits-all" policy for family farms. The variety of farm types—what they produce and their differences in characteristics, economic situation, and household and business arrangements—mean that policy challenges vary for different portions of the family farm population.
- Commodity programs are most relevant to high-sales small farms, large family farms, and very large family farms. These farms produce most of the commodities that farm programs have traditionally supported.
- Small family farms manage and operate the bulk of farm assets, including the soil, water, energy and natural habitat resources associated with farmland use. In this regard, policies addressing natural resource quality and conservation can play a major role in the portfolio of policy instruments addressing the American family farm.
- If high-value enterprises are to be adopted by small farm operators—as suggested by many small farm advocates—compatibility with part-time farming is an important consideration. Many small farms specialize in cattle for a very practical reason. Cow-calf operations require limited hours of work, with some flexibility as to when the work is performed.
- The nonfarm economy is critically important to households operating small family farms. Because small-farm households rely on off-farm work for most of their income, general economic policies, such as tax or economic development policy, can be as important to them as traditional farm policy.
- Nevertheless, such measures as extension education, innovative marketing programs, and credit targeted specifically at small farms could help some small farm families increase their income. Trying to raise earnings from farming may be particularly appropriate for limited-resource farmers. Even modest improvements in household income from any source could be important to these low-income farmers.

Defining the Farm Typology

Small Family Farms (sales less than $250,000)	Other Family Farms
Limited-resource farms. Small farms with sales less than $100,000, farm assets less than $150,000 and total operator household income less than $20,000. Operators may report any major occupation, except hired manager. **Retirement farms.** Small farm operators who report they are retired (excludes limited-resource farms operated by retired farmers). **Residential/lifestyle farms.** Small farm operators who operators report a major occupation other than farming (excludes limited-resource farms with operators reporting a nonfarm major occupation). **Farming-occupation farms.** Small farm operators who report farming as their major occupation (excludes limited-resource farm operators who report farming as their major occupation). **Low-sales.** Sales less than $100,000. **High-sales.** Sales between $100,00 and $249,999.	**Large family farms.** Sales between $250,000 and $499,999. **Very large family farms.** Sales of $500,000 or more.
	Nonfamily Farms
	Nonfamily farms. Farms organized as nonfamily corporations or cooperatives, as well as farms operated by hired managers.

USDA-National Agricultural Statistics Service

Dwaine Nelson
Director, USDA-National Agricultural
Statistics Service, N.M.

The presentation was a power point slide show with comments by Nelson. The first few slides discussed USDA activities (Farm support, Food Stamps, Food Assistance, conservation efforts, food safety and the Forest Service), budget and staffing. Many people do not realize that the Forest Service is within USDA. The Forest Service has the largest number of USDA employees. People compare the number of people in USDA with the number of farmers and say the ratio of USDA employees to farmers is too high, but Forest Service employees are included in the USDA numbers. Food Assistance has the largest budget. There is the same misunderstanding when comparing the budget with the number of farmers and the number of employees. People are excluding food assistance budgets from the ratio.

The next slides discussed NASS's organization structure, staffing and mission within Research, Education and Economics of USDA. One slide displayed a century of NASS's staffing changes:

1901	2001	
133	1,066	Total employees
43	680	Field employees
90	386	Headquarters employees
Zero	200	State employees
60	710	Professional employees

Another slide displayed a century of NASS's program changes:

1901	2001	
20	425	Statistical reports
15	120	Crops covered
Zero	45	Livestock production items
13	67	Monthly commodity Prices

NASS's mission is "To provide timely, accurate and useful statistics in service to U. S. agriculture." But one slide told what NASS doesn't do:

- Economic analyses
- Daily market news
- Proprietary estimates
- International statistics. NASS does have an international program to aid foreign countries to develop and improve their statistical programs.

Next, there were slides that defined NASS's farm definition and presented the "concerns and results" of the eras of the Civil War, World War I, Great Depression, World War II and current environmental concerns. NASS's farm definition is "A farm is any place from which $1,000 or more of agricultural products were produced and sold, or normally would have been sold during the reference year." During the Civil War, the Department of Agriculture was established to acquire and diffuse useful information on subjects connected with agriculture due to the concern for the food supply for the northern army. World War I concerns for food supply, conservation of resources, prices and wage rates resulted in expanded vegetable statistics, midyear livestock estimates, cotton forecasts, farm wage surveys and federal/state agreements. The Great Depression concerns for food supplies were matching livestock production to feed availability, prices and incomes resulted in county estimates for corn/hogs and increased staffing for statistics. World War II concerns for agriculture labor supplies, availability of war materials, food supplies and living conditions resulted in surveys of tractors/spare parts, Chicago Dairy Office for weekly dairy reports, farm labor survey and quarterly agricultural surveys, such as family living/health. The current environmental concerns of the amount of chemicals used by agriculture and farming practices have resulted in the establishment of new chemical surveys, increased staffing, expansion of statistical partners and increased interest in NASS statistics.

This lead into discussion of U.S. agricultural facts over the past 100 years and information of the 1997 Census of Agriculture. The amount of farmland was 839 million acres in 1900, peaked to 1,159 million acres in 1950 and declined to 932 million in 1997. The distribution of farms by sales of less than $250,000 in 1997 was 92 percent of the farms with 28 percent of the sales.

Age of Farm Operators

	1992	1997
Under 35	11%	8%
35–44	20%	19%
45–54	22%	24%
55–69	32%	32%
70+	15%	17%

Diversity of Farm Operators

	1992	1997
Women	145.1	165.1
Spanish origin	20.9	27.7
Black	18.8	18.5
American Indian	8.3	10.6
Asian/Pacific Islander	8.1	8.7

Percentage of the market value of U.S. 1997 crops sold ($98 billion) by commodity:

19 Corn for grain
16 Soybeans
13 Fruits, nuts and berries
11 Nursery and greenhouse
9 Vegetables, sweet corn and melons
7 Wheat
6 Cotton
3 Tobacco
16 All other crops

Percentage of the market value of U.S. 1997 livestock and poultry sold ($99 billion) by commodity:

41 Cattle and calves
23 Poultry and poultry products
19 Dairy products
14 Hogs and pigs
3 All other livestock

Direct government payments rose dramatically from 12.2 billion dollars in 1998 to 22.7 billion in 2000. This would provide almost $12,000 per farm in 2000.

Some changes in the U.S. farm population from the 1992 to 1997 Census of Agriculture were presented.

The ending slide gave thanks to all the American agricultural producers who kindly respond to the Census of Agriculture and other NASS surveys. This supports the effort to enhance the mutual information and benefit flow among farmers, government, food processing industry and farm suppliers and consumers.

Growing Essential Crops Organically: Perspectives from the Frontier

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More than 20 essential oil crops have been grown organically and evaluated in the Midwestern region of the United States for their new crop and plant product potential. This research was initiated by industry to provide appropriate production data to commercial growers and to identify issues related to quality and marketability. This presentation highlights the results of replicated field studies conducted at the Frontier Organic Research Farm to ascertain oil yields, oil quality and market acceptance of a wide variety of aromatic plants, including German chamomile (*Matricaria recutita*), hyssop (*Hyssopus officinalis*), lavender and lavandin (*Lavandula* spp.), lemon balm (*Melissa officinalis*), peppermint (*Mentha* x *piperita*) and others. Not surprising, we found significant differences in oil yields, quality and market acceptance by plant source and variety. We also noted significant yield differences between years, and harvest times. Selecting the correct variety or chemotype is critical in the production of an essential oil. Some commercial varieties do not produce oils of commercial acceptance. The proper use of fertility and mulches and other management practices have a significant impact on oil yields and quality. Producing essential oils for the commercial market in a sustainable manner over time is difficult and should be considered a high risk. Growers should recognize that the production of a high yielding and acceptable oil product, even one that is organically certified, will still face strong competition, as other factors in the marketplace, such as price, reliability, timing, supply and availability as well as the reputation of the grower, and the personal relationship that develops between the producer and the buyer impact the final buying decision.

Introduction

Aromatic plants producing extractable essential oils are attractive to commercial growers as promising potential new crops. Years past, the relatively high returns of oils, compared to with traditional agronomic crops, fostered this interest. With the production of herbs and the evaluation of essential oil crops going more and more mainstream generating many potential new growers, the market can easily become saturated. The mint market, North American's success story in the commercialization of an aromatic plant is just the latest example of oversupply, depressed prices, and significant acreage reductions. Growers with steam distillation equipment are searching for new oil crops that can be distilled using the same process of steam distillation as used in the production and processing of mint oils. Our research has attempted to generate baseline oil yield data in the United States under field conditions so that growers and industry will have a better idea as to potential yields for the most common essential oil crops.

Methods

Essential oil crops, obtained by a wide variety of commercial seed sources (table 1) were field-grown in replicated randomized design field trials using either direct sowing or transplants. Plants were grown for one to three years (crop and study specific) and monitored throughout the growing season for agronomic data. Each year plants were harvested at the optimum time as commercially practiced. While some plants were purposefully dried, others were distilled fresh. Oil yields per plant and as an estimated area yield (lb oil/A) were calculated and reported in table 2.

For the extraction of essential oils from catnip, clary sage, hyssop, lemon balm and peppermint, steam distillation was performed. Semidry plant material (6 to 10 lbs depending on species) was placed in a percolator with a 2,000 mL round bottom flask connected underneath with 1000 mL distilled-deionized water and the oil isolated over a 1 1/2 to 3 hour period (depending on species) using a modified Clevenger trap. Volatile oil content was determined on an oil volume to plant tissue weight basis.

Table 1: Sources of selected aromatic plants grown organically and evaluated for essential oil yield and quality at the Frontier Organic Research Farm, Norway, Iowa.

Common Name	Botanical Name	Cultivar	Seed/Plant Source[b]
Catnip	*Nepeta cataria*	cv. Lemon	Johnny's Selected Seeds
German Chamomile	*Matriceria recutita*	cv. Bodgard	Johnny's Selected Seeds
		cv. Bona	Johnny's Selected Seeds
		cv. Common[a]	Johnny's Selected Seeds
Clary Sage	*Salvia sclaria*	cv. Common	Johnny's Selected Seeds
Hyssop	*Hyssoppus officinalis*	cv. Common	Richter's Herbs
Lemon Balm	*Mallssa officinalls*	cv. Aurea	Companion Plants
		cv. Quedlinberger	Johnny's Selected Seeds
		cv. Common	Richter's Herbs
Lavandin	*Lavandula x intermedia*	cv. Abriallii	Goodwin Creek
		cv. Alba	Companion Plants
		cv. Grosso	Richter's Herbs
		cv. Provence	Richter's Herbs
		cv. Super	Goodwin Creek
Lavendar	*Lavandula angustifolia*	cv. English	Richter's Herbs
		cv. Grey Lady	Companion Plants
		cv. Hidcote	Richter's Herbs
		cv. Lady	Richter's Herbs
		cv. Munstead	Richter's Herbs
Peppermint	*Mantha x piperita*	cv. Roberts Mitcham	Summit Laboratories

[a]cv. Common = Listed by the seed company as common, or with not varietal name.

[b]Companion Plants, Athens, Ohio; Johnny's Selected Seeds, Albion, Maine; Goodwin Creek, Williams, Oregon; Richters Herbs, Goodwood, Ontario; Seeds of Change, Santa Fe, New Mexico, Summit Laboratories, Colorado.

Table 2. Frontier organic research farm, Norway, Iowa.

Common Name	Cultivar	Plants/A	(lbs/per pl)	(g oil/per plant)	(Est. lb oil/A)
Catnip	cv. Citriodere	19,360	0.80	1.60	68.30
German Chamomile	cv. Bodegard	21,780	0.08	0.07	3.30
	cv. Bone	21,780	0.06	0.04	2.00
	cv. Common	21,780	0.04	0.04	2.10
Clary Sage	cv. Common	14,600	0.51	0.11	3.20
Hyssop	cv. Common	14,600	0.20	2.90	93.30
Lemon Balm	cv. Aurea	19,360	0.40	0.06	2.60
	cv. Quedlinberger	19,360	0.40	0.05	2.10
	cv. Common	19,360	0.45	0.10	4.20
Lavandin	cv. Abriallii	14,600	0.29	4.10	131.90
	cv. Grosso	14,600	0.31	4.50	144.70
	cv. Provence	14,600	0.26	2.60	83.60
	cv. Super	14,600	0.31	4.00	128.60
Lavender	cv. Alba	14,600	0.30	1.50	48.20
	cv. English	14,600	0.18	0.90	29.00
	cv. Grey Lady	14,600	0.15	1.10	35.40
	cv. Hidcote	14,600	0.15	0.80	9.70
	cv. Lady	14,600	0.17	1.00	32.20
Peppermint	cv. Robert's Mitcham	19,360*	0.30	0.75	32.10
	cv. Todd's Mitcham	19,360*	0.30	1.10	48.50
	cv. Black Mitcham	19,360	0.30	0.90	38.40

*Estimated and based upon orginial planting.

The essential oils of German chamomile and lavender were extracted using hydrodistillation. For hydrodistillation, 75g of dried plant material was placed in a 2000 mL round bottom flask with 1000 mL distilled-deionized water and the oil isolated over a 1- to 5- hour period using a modified Clevenger trap. The oil content was determined on an oil volume to tissue weight basis. Oil samples were stored in sealed Varian autosampler vials at 2ºC in the dark.

The extracted oils were analyzed using gas chromatography using a Varian 3400 CX gas chromatograph equipped with FID and a Varian Workstation. A fused silica capillary column (30 m x 0.22 mm) with an DB-5 bonded phase (J&W, polydimethylsiloxane) was used to separate the oil constituents. A 1-ul oil sample was injected with helium as the carrier gas and 100:1 split-vent ratio. The oven temperature was held isothermal at 75ºC for 2 min and then programmed to increase at 3ºC/min to 200ºC to give complete elution of all peaks. The injector and detector temperatures were 250 and 300ºC, respectively. The relative peal area for individual constituents was determined by a Varian Star Workstation.

In addition, each oil was subjected to a variety of other oil quality tests including physiochemical tests and organoleptic evaluations. Samples of all essential oils were also presented to the oils evaluation team at Frontier Natural Products Co-op for an organoleptic assessment of overall market acceptance and desirability.

Results/observations

Plant biomass and essential oil yields for eight aromatic herbs are presented in table 2. Results indicate a wide range of oil yield, from lemon balm yielding only 2.1 to 4.2 lbs oil/A to lavandin ranging in oil yield from 83.6 to 144.7 lbs oil/A. Peppermint oil yields of 32.1 to 48.5 lbs oil/A though low, were not out of range from that obtained in the Midwest by commercial mint growers. The lowest oil yielding herbs included German chamomile, clary sage and lemon balm, and growers should be hesitant to grow these crops for essential oil unless higher yields can be achieved. Alternatively, oil yields from catnip, hyssop and lavandin appear most promising.

Timing of harvest is a critical consideration as is the reproducibility of an aroma over time or over years. Most of the herbs studied are harvested at flowering with two notable exceptions. Peppermint is harvested at just before flowering and clary sage is harvested at post full-bloom. Three selected examples illustrating changes in the relative percentage of the major constituents of hyssop, lemon balm and lavender over years show that producers need to recognize that there will be qualitative changes in the oil each year, just as there will be variability in oil yield. In all three cases, differences in the relative composition of oil constituents was expected and observed with lavender, for example, the essential oil becomes more characteristic in Year 2 rather than in Year 1.

While the main and minor compounds can be characterized for each potential essential oil crop, some varieties produce oils not acceptable to the oil trade. For example, the catnip oil found in this study represents an interesting new oil source, one with strong citronellal and nerol, but with a composition typical of a lemon catnip. This would not be representative of the catnip oil of commerce. No nepatalactone, the compound in the catnip oil identified by Tucker that causes the attraction to cats was present. In this case, the commercially available seed was the wrong type for use in the dried catnip and catnip oil markets, though it would be acceptable as an ornamental garden herb. The lavender and lavandin, peppermint, lemon balm and hyssop oils were found to be acceptable. The oils from the other herbs simply yielded too low that even if found to be acceptable in quality would not be found to be commercially viable under the conditions of this study. Essential oil quality is judged using a variety of techniques, each contributing to the market acceptance of the oil product. Oils are subjected to both scientific analytical tests including gas chromatography for compared identification, a series of physiochemical tests and, ultimately, to organoleptic evaluation. In short, oils must possess an acceptable aroma, be free of off-odors that can arise from the presence of weeds, possess the right color, the expected viscosity and be pure and authentic.

Overall quality must be considered if one intends to produce essential oil crops. In order to generate high-quality oils, many sustainable agricul-

ture applications must be considered in addition to correct harvesting time and distillation technique. There is opportunity to produce aromatic plants organically, but it is limited, just highly competitive. A good quality oil is one factor, though an important one, that leads to a purchase.

Data from the Frontier Organic Research Farm indicates that an increase in plant yield of lemon balm occurred when the plants were amended with composted horse manure at rates of 100 lbs/A available N and 200 lbs/A available N. The application rates did not indicate, however, a change in the essential oil yield or quality. Hornok's work on dill, peppermint, coriander and sweet basil oil indicates that with increased applications of N, essential oil in dill seed decreased, while essential oil in dill herb, peppermint, coriander seed and sweet basil increased. Work done by A. Aflatuni indicates that when comparing compost applications with chemical applications of fertilizer, essential oil contents of marjoram, oregano, hyssop, dragonhead, anisehyssop, and caraway were 0.07–0.64% higher. Only the oil content generated from peppermint was lower in the compost amended plots versus the chemical fertilizer applications.

Applying mulches to your fields, heats the soil to higher temperatures, therefore providing higher heat units to the plants. Higher soil temperatures often attribute to a higher microbial activity level, which can speed up the release of nutrients to plants. This nutrient release can enhance plant growth, producing higher-yielding plants. Mulches also service to cover the soil surface, therefore inhibiting weed development and creating an environment less competitive to the development of the aromatic plants. Covering the soil surface impedes the loss of top soil through soil erosion. Many aromatic plants, such as lemon balm, are susceptible to soil fungal diseases. A mulch protects the plant from harsh rains that hit the soil surface, which often causes the soil fungi to be reflected onto the plant leaves and spreads the disease, i.e. septoria leafspot on lemon balm.

Correct variety selections are difficult for the commercial farmer to assess. One may purchase a particular variety line assuming it is the one that meets market expectations, only to find through oil quality and organoleptic analysis that the cultivar is an off-type, i.e. lavender and catnip. In conclusion, the organic production of essential oil crops in the Midwest is feasible but should be considered a high risk for farmers. Competition by other suppliers, a fluctuating market (relative to pricing and demand) and the inherent challenges in producing and processing a high quality oil product is best achieved by the most serious and dedicated new crop oriented grower.

Using Applied Research to Develop Niche Crops

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The development of new crop alternatives is important to diverse types of farming operations and essential to many small farms. The successful adoption of new crops or crop products is a research and development process that involves different aspects of the production, postharvest handling and marketing chains on and off of the farm.

The identification of promising new crops begins with the marketplace and a clear indication of potentially profitable market windows. A thorough market analysis of fruit, vegetable or ornamental markets will highlight the opportunities for alternative new crops. Growers and others working in new crop research and development should thoroughly familiarize themselves with the market and market windows for identified potential crops. Information on historical weekly prices and volumes of products moving through the market is essential. Price is generally related to consistency of quality and supply, as well as experience in sales and handling of the product. Growers and marketers need to become familiar with the typical presentation of the product and packaging and horticultural characteristics expected by the marketplace. And successful marketers will also understand the established sources supplying the market at different time of the year and the relative cost or quality advantages or disadvantages of those sources.

One valuable source for market information on diverse horticultural and other specialty crops is the Market News division of the USDA Agricultural Marketing Service (USDA-AMS). The USDA-AMS has diverse types of reports and services available to provide timely or historical information on different horticultural and specialty crops. A Market News Users Guide that outlines these reports and other information is available at their Web site at: **www.ams.usda.gov/marketnews.htm** or by writing to USDA AMS at: USDA, AMS, FV Market News, 1400 Independence Ave. SW, Stop 0238, Washington, D.C. 20250-0238, or by calling the USDA-AMS Customer Service Center at (800)-487-8796. Production requirements of the new crop should demonstrate the potential to fit into the agroecological conditions of the production area with special attention to suitable climate regime, soils types and water quality and availability. Different fruit, nut, vegetable, herb or ornamental crops have widely varying and often critically important requirements for efficient and timely production. In certain circumstances, the growing conditions can be economically modified to create special production regimes (protected cropping) for high-value crops.

Once the market niche of the crop is clear, field trials will verify if the crop can be produced for the desired market with a quality and cost that will assure successful production and marketing. Field production trials should attempt to resolve the key production constraints necessary to get the product into the commercial stream. Growers can often adapt and modify key cultural practices from other growing areas and it is not usually necessary to completely reinvent all aspects of crop management in a new area. Growers need to determine if the crop will not only grow in a given area but also if it can be efficiently managed on a commercial scale and fulfill the quality expectations of the market.

Postharvest management can often be a serious limitation to successful development of a new niche crop. Many of the specialty niche crops are highly perishable and have demanding postharvest management requirements to successfully produce and deliver them to the marketplace. The specific type of precooling required—whether the product will tolerate contact with water, for example—is often a serious limitation. The timing of precooling and the critical temperatures for storage and transport are important. Specialty niche products are often marketed in smaller volumes and it may be necessary to mix the product with other products in the truck or cold room for efficient handling. Information about which products are compatible in storage

may be critical to the quality of the product in the market. Marketers working with a new crop also must learn how to successfully handle the product in the marketing chain, because they are responsible for handling the product once it leaves the farm gate. Other factors in the production environment, such as cost and availability of labor, cold room or other postharvest infrastructure, truck availability, etc., may also be critical to the crop's success.

Once detailed information about the different production, postharvest management and marketing processes is available, growers will be able to project the competitive advantages that may exist for their product when compared with more traditional sources of the product. To be successful, a new crop from a new production area will join or replace existing product in the market, and the value and quality of the new product will need to be similar to the existing product or demonstrate special advantages (e.g. longer shelf life from domestic product compared to imported off-shore product) over existing product.

Specific examples from recent alternative crop projects in California further illustrate some of the critical aspects of niche crop development. Early season fresh blueberries are a new crop being planted in central and southern California. The mild climate in these growing areas combined with newer low-chill southern highbush type blueberries provides an opportunity for early season production when prices are high. Blueberries are also a good marketing fit with strawberries and other small fruit traditionally grown in these areas. Blueberries have not traditionally been grown in California, however, because they require very low soil pH. California's high pH soils require a special set of cultural practices for successful production.

Lettuce is a major crop in California, but it is traditionally grown in milder, cool weather production areas. A small Community Supported Agriculture (CSA) farm near Arroyo Grande, Calif. has developed a successful specialized lettuce production system for warm weather to provide consistent supplies to their CSA members over a long, hot summer. This system uses specialized Tufbel fabric covers on tunnels over the beds combined with misting irrigation between the hours of 10 a.m. and 4 p.m. to minimize effects of the heat. A system of incorporating residues and resting fields for 30 days between transplanted leaf lettuce crops on this organic farm also contributes to a constant supply of high-quality product. The system has thus far been successful for leaf lettuce and herbs, and trials are underway with spinach and other leafy crops.

Trials with late-summer harvested asparagus are also in progress along California's mild central coast. When the traditional North American asparagus harvest ends in late July, asparagus prices typically soar as production shifts to Mexico, Guatemala, Peru, and Chile. Twenty-three varieties of asparagus are under evaluation to determine how well they adapt to a cutting regime that begins in August instead of the normal spring harvest. Early results are encouraging for one or more of the asparagus varieties being evaluated.

Edamame vegetable soybeans are a traditional mainstream vegetable and snack food in Japan and other Asian countries. Demand is increasing rapidly in the United States. Considerable information exists on grain soybean management, particularly in key soybean-growing areas. Edamame have special production and quality requirements that are affected by the growing conditions, and soybean flowering and pod setting is also affected by temperature and daylength. Thus, critical edamame production management information is very site-specific, and field trials need to be conducted in each potential production area. Trials have been initiated in multiple production areas across California to evaluate diverse commercial edamame varieties following different dates of planting. Varieties differ with respect to their optimum planting date and one or more varieties stand out as producing high yields of good quality edamame with a large percentage of two- and three-seeded pods.

Multiple other specialty crops, such as sweet onions, lychee, longan, guava, and pitayaha among others, are in different stages of research and development as promising new niche crops for California small farms.

Consumer-Driven Niche Marketing Opportunities

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This presentation summarizes the initial findings of a survey of 500 households in the states of Nebraska, Iowa, Missouri and Wisconsin. The primary grocery shopper in the household was surveyed for their attitudes and opinions about locally grown and produced food[1], organic and all-natural food and meat purchasing behaviors.

To access a respondent's purchasing behavior, each respondent was asked to rank the importance of twelve attributes in determining the product or brand they purchase. The attributes most important to consumers in the region[2] include taste, quality, nutrition/healthfulness, and price. Seven in 10 respondents said that it was very or extremely important that their purchase supported a local family farm and was locally grown or produced. The respondents also showed a great deal of interest in purchasing locally grown or produced products from several different sources, including the grocery store, farmers' market, local farmer (direct) and restaurant and/or cafeteria.

Nearly all (99 percent) of the respondents have purchased locally grown or produced food at one time or another. Over half of the households have purchased locally grown or produced beef, pork, chicken and cheese, and that proportion could increase significantly if locally grown or produced products were more widely available. However, when determining the price that respondents were willing to pay for locally grown or produced products, 48 percent would prefer to pay an amount equal to the "typical retail price" for the item. Consequently, a consumer needs to be convinced that a price premium for locally grown or produced products is justified because of the attributes (analyzed in this report) that are most important to consumers. Among those who have purchased locally grown or produced food, 81 percent have purchased these items from a farmers' market, while approximately 75 percent have purchased from a grocery store and/or direct from a local farmer. The top three reasons for purchasing locally grown or produced products were freshness, better taste and the opportunity to support local farmers.

The terms organic and all-natural were not defined for the respondents. Therefore, the results are based upon the consumers' perceptions of what constitutes organic and/or all-natural food. Seventy-one percent of the households said that organic and/or all-natural products were available in their local area. The organic and all-natural market is substantial with 35 percent of the households in the region reporting they have purchased organic foods, 36 percent saying they have purchased all-natural foods, and 27 percent indicating they have purchased both. However, when determining the price respondents were willing to pay for these items, about half preferred to pay a price equal to the typical retail price for a "conventional" item. Among households who have purchased organic and all-natural foods, 34 percent to 48 percent have purchased locally grown organic or all-natural beef, pork, chicken and cheese, and these percentages could increase significantly if there was more product availability.

Among those who have not purchased organic or all-natural foods, at least 58 percent would purchase locally grown organic and/or all-natural products if available. Among this group of respondents, the top reasons for not purchasing were that they had no interest or need; the products were too expensive; products were not available; and that they needed more information (knowledge) about the products. Those who have not purchased organic and all-natural products stated they would be influenced to purchase locally grown organic and/or all-natural foods if the product's price was more

[1]Food that was grown on a local farm or made y a small local company.
[2]Nebraska, Wisconsin and Missouri.

reasonable, competitive or comparable to mainstream food products and if the products were more widely available.

More than 70 percent of those who have purchased organic and all-natural food purchased their products from a farmers' market and/or a conventional grocery store, while 46 percent have purchased the products from an organic or natural foods store. The top-ranked reasons why these consumers purchase organic and all-natural foods are that the foods have no chemicals, pesticides, herbicides or antibiotics; are healthy and/or nutritious; and simply because they taste better.

More than half of all respondents (53 percent) consume meat six to seven days a week with 42 percent eating meat every day. The respondents were asked to rank the importance of 17 attributes in selecting the meat that they purchase. Food safety was the top-ranked attribute followed by quality, USDA inspection, tenderness, juiciness and farm fresh taste. Price was ranked seventh among these attributes.

More than of the households in the region have purchased meat direct from a farmer or farmer's market. Nearly half of the respondents (47 percent) would prefer to pay a price equal to the typical price for meat. However, if locally produced meat met the consumer's needs, such as food safety, (high) quality, USDA inspection, tenderness, juiciness, and farm fresh taste, then a premium price may be asked for the products.

Among those who have purchased meat directly from a farmer, 47 percent were influenced to do so because they knew who raised the animals. Among respondents who have not purchased meat direct, 61 percent stated that product was not available or convenient for them to buy.

Consumers purchase chicken primarily because they like the taste and they believe the product is nutritious and healthy. However, if local chicken producers want to reach the greatest proportion of the population they should offer boneless and/or skinless chicken that is not frozen and is packaged in certain parts, such as all breasts.

Among those who purchase chicken, nearly 11 percent have heard of pastured poultry, while 4.6 percent have purchased this product. Thirty-five percent of the households have heard of free-range chicken, while 11 percent have purchased it. Among those who have purchased pastured poultry or free-range chicken, 61 percent have purchased the product directly from a local farmer.
Among those who have purchased pastured poultry or free-range chicken, 37 percent prefer to purchase this product at a price equal to the typical retail price for chicken. However, if this product met the consumer's needs, such as food safety, (high) quality, USDA inspection, tenderness, juiciness, and farm fresh taste, then a premium price may be asked for the products.

The annual income among those who have purchased pastured poultry or free-range chicken is significantly higher than the sample as a whole. However, the potential pastured poultry and/or free-range chicken buyers have similar demographics to the entire sample of respondents. Among those who have not purchased pastured poultry or free-range chicken, 24 percent would try the product if it had a reasonable, competitive or comparable price. In addition, the vast majority of households who have not purchased pastured poultry or free-range chicken would prefer to purchase this product from a conventional grocery store.

Business Planning for Small Farms Through the 2501 Program

Nelson Daniels
Cooperative Extension Program
Prairie View A&M University

Small-scale and limited-resource farm producers face numerous challenges in obtaining financial resources, producing profitable agricultural commodities and surviving extreme weather conditions. Extension farm advisors, working with the Small Farmer Outreach Training and Technical Assistance Program, help individuals overcome and address these challenges through business planning.

The Cooperative Extension Program at Prairie View A&M University is the primary educational outreach unit of the university, which disseminates research-based knowledge to Texas citizens. One of Extension's goals is to assist small-scale and limited-resource farm producers to maintain and sustain their agricultural operations. This goal is accomplished through the Small Farmer Outreach Training and Technical Assistance Program (2501 Program), which is part of the Agriculture and Natural Resources program area. This program was established in 1989 as a joint effort between the Cooperative Extension Program at Prairie View A&M University and the U. S. Department of Agriculture.

The objectives of the 2501 programs are:

- Enhance business management and marketing skills of selected Farm Services Agency borrowers.
- Implement outreach programs to acquire farm operating and ownership loans for small, socially disadvantaged and beginning farmers.
- Develop financial documentation necessary for small agricultural producers to obtain loans from the Farm Services Agency and to transition to commercial lending institutions.
- Establish a long-range base for self-sustaining farm business analysis services using existing associations and institutions.

Extension farm advisers provide one-on-one assistance to farm producers to develop business plans. They also help them complete loan applications. Loan programs include farm operating and ownership loans. Farm operating loans are used to purchase annual operating inputs, such as, feed, seed, fertilizer and utilities. Loans are also used to purchase capital expenditures, such as farm equipment, livestock and farm improvements. Farm ownership loans are designed to purchase farm real estate. Extension farm advisers also make monthly visits to individuals enrolled in the technical assistance program to help them evaluate their farm operations and make optimal use of farm resources. Likewise, farm advisers provide farm producers with technical assistance and recommendations land use and other resources needed to achieve farm goals. Emphasis is placed on scientific farm management practices and alternative farm enterprises. The program extends its outreach efforts to a multicultural population in the Northern Plains, eastern and south-central and Rio Grande Valley regions of Texas. These diverse audiences include a predominately Hispanic population in the Northern Plains and the Rio Grande Valley, a strong African-American presence in eastern and south-central Texas as well as other ethnic groups in these areas.

Following is a list of 1999-2001 accomplishments:

1. Completed loan applications for more than 400 small agricultural producers.
2. Provided technical assistance to 3,249 small farmers.
3. Completed applications totaling $15,705,266 in farm operating and farm ownership loans.
4. Secured $36,600 in loans for youth.
5. Acquired $4,184,020 in emergency loans for drought assistance.
6. Increased average cash flow from sale of agricultural commodities by $2,100 per participant.
7. Saved an average of $1,234 per applicant in loan preparation costs.

Small Farm Success Project in the Mid-Atlantic

Tom Kriegl
Farm Management Project Coordinator
University of Wisconsin
Madison, Wis.

Regional Multistate Interpretation of Small Farm Financial Data from the First Year Report on 2000 Great Lakes Grazing Network Grazing Dairy Data. Aided by a USDA Integrated Food and Agricultural Systems grant, 10 states and one province have standardized data handling and analysis procedures and combined actual farm financial and a more limited amount of production data to provide financial benchmarks to help farm families and their communities be successful and sustainable.

The first enterprise analyzed in this project is dairy grazing. To be considered a dairy farm for the study, 85 percent or more of gross income must be from milk sales or 90 percent of gross income must typically be from dairy livestock sales plus milk sales. To be considered a grazier for the study, one must harvest more than 30 percent of grazing season forage needs by grazing and must provide fresh pasture at least once every three days.

This analysis of actual farm financial data from 92 graziers in the Great Lakes region provides some insight into the economics of grazing as a dairy system in the northern United States. These insights include:

1. The graziers in the study were economically competitive with confinement herds in the states that had comparable data from both groups.
2. A comparison of the most profitable half with the least profitable half shows that while many graziers are very successful economically, some are not.
3. The average grazing herd with less than 100 cows had a higher NFIFO per cow and per Cost per Hundredweight Equivalent of Milk Sold (CWT EQ) than the average grazing herd with more than 100 cows.
4. The average grazier in the study who is fully seasonal (stops milking at least one day each year), has a less desirable financial performance than the average nonseasonal herd, whether NFIFO/cow, NFIFO/CWT EQ or total NFIFO is used as the yardstick. Despite having access to data from many states, data from only seven seasonal were part of the analysis.

Tom Kriegl from the UW Center for Dairy Profitability is the lead author of this report. You may contact him at (608) 263-2685, via e-mail at tskriegl@facstaff.wisc.edu or by writing the UW Center for Dairy Profitability, 277 Animal Science Bldg., 1675 Observatory Drive, Madison, WI 53706. The following researchers are leading the project in their respective states: Jim Endress (Illinois), Larry Tranel and Robert Tigner (Iowa), Ralph Booker (Indiana), Bill Bivens and Sherrill Nott (Michigan), Margot Rudstrom (Minnesota), Greg Bishop-Hurley (Missouri) Jim Grace (New York), Thomas Noyes and Clif Little (Ohio), Jack Kyle and John Molenhuis (Ontario, Canada), J. Craig Williams (Pennsylvania), and Tom Kriegl and Gary Frank (Wisconsin).

The study also confirms that accounting methodology and financial standards are important both in the accuracy and the standardization of comparison values across large geographic areas involving different combinations of production assets and management skills.

Comparing the results of this study with results from other studies will help to understand the measures used here, but not in all places in the country. These measures are more fully explained in the main report, but here is a brief description. Cost per Hundredweight Equivalent of Milk Sold (CWT EQ) is an indexing procedure that focuses on the primary product that is sold and standardizes farms in terms of milk price and many other variables for analysis purposes. It is different from cost per CWT sold.

A comprehensive evaluation of production cost of any business will examine several cost levels. The AgFA cost of production report calculates basic, allocated and total costs. Total allo-

cated cost equals total cost minus the opportunity cost of unpaid labor, management and capital supplied by the owning family. Allocated cost also equals total income minus NFIFO. Since opportunity cost is not consciously calculated by everyone, allocated cost often is used by noneconomists as a default proxy for total cost.

Total basic costs are all the cash and noncash costs, except the opportunity costs and interest, depreciation, labor and management.

Basic cost is a useful measure for comparing one farm to another that differs by:

1. Amount of paid versus unpaid labor
2. Amount of paid versus unpaid management
3. Amount of debt
4. Investment level
5. Capital consumption claimed (depreciation).

The measures of profitability calculated in the detailed cost of production and farm earnings reports, are calculated using the historic cost asset valuation method (HC) to provide a better measure of profit levels generated by operating the farm business. Any comparison between the measures in this report and data based on the CMV of assets will be misleading.

Average performance of 92 grazing dairy farms from many states

The average of the 92 grazing dairy farms that provided usable data display a financial performance level that many farm families would be satisfied with. This level of financial performance, along with some other characteristics of grazing systems, suggest that it may be a variable alternative for farm families that want to be financially successful with a dairy farm that relies primarily on family labor.

Table 1-1. Performance measures that summarize the average performance of 92 grazing dairy farms from many states.

	Average
Number of herds	92
Number of cows per herd	90
Average lbs. milk per cow	16,836
Average lbs. milk per herd	1,511,264
Average basic cost per CWT EQ	$7.83
Allocated cost per CWT EQ	$10.67
Allocated minus basic cost per CWT EQ	$2.84
NFIFO* per cow	$395
NFIFO* per CWT EQ	$1.66
NFIFO* per farm	$33,098
NFIFO* per CWT EQ (without deducting any labor compensation)	$2.60

*NFIFO (without deducting any labor compensation) is not a common measure. It is used in this project because some comparisons are made between farms that rely mainly on hired labor and farms that rely entirely on unpaid labor. In such cases, this uncommon measure provides additional insight to the comparisons.

Building Business and Management Skills Through Education

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Understanding the management and financial side of the businesses is one of the greatest hurdles producers face when they direct market their products. Producers generally know the technical side of how to raise their crops and livestock, yet many do not know how to best reach their markets and customers or how to effectively manage business finances. Through business education, producers gain these skills and learn to effectively plan for their business future.

Planning is an integral process in agriculture. Producers plan which crops to plant, when to add inputs, when to cull and so much more. Many however, do not plan for the long-term or understand how budgeting can help in the planning process.

Why should producers plan?

Although planning can be a time-consuming and sometime painful process, the rewards can greatly outweigh the costs for personal as well as financial reasons.

- Planning assists producers with integration of all farm operations, from planting to sales. It helps producers understand the interrelations between profit centers.
- Allows for a realistic evaluation of ideas. Planning can answer questions about costs, risks and potential income before a producer actually invests capital on the new venture.
- Planning can prepare a producer for change. Through a better understanding of current operations and potential alternatives, producers will know what options are available should they need or want to change.
- Planning shows opportunities and pitfalls. Researching industry trends can show producers where consumer markets are heading. It helps to answer questions, such as: Is the industry in a growth or declining stage? What types of businesses have succeeded? How does the producer's business idea fit with the industry?
- Planning can help with family conflicts. Ideally, planning should include all individuals involved in the business, both directly and indirectly. Through a better understanding of the roles and expectations of all concerned future problems are decreased or even eliminated.
- Planning forces producers to conduct a "reality check" and objectively evaluate the business's income potential. Financial knowledge of the business is essential for a successful business start and long-term growth.

What makes a successful planning process?

Over the years, the business planning process has been criticized for its lack of understanding by the business owner and its lack of usage by the business. The business plan becomes most effective when the business owner (and partners, staff, spouse, etc.) thoroughly understands the plan and uses it as a management tool. Listed below are some general guidelines that lead to a successful business plan.

1. The owner assumes the lead in the process by either writing or working closely with the writing team.
2. The planning process involves everyone in the family and/or business.
3. The plan reflects reality. It uses research-based information, not hunches.
4. The plan includes a contingency plan for the worst-case scenario. It prepares the owner for action should marketing and financial goals fall behind.
5. The goals and objectives are achievable and clear, based on realistic information.
6. The plan is flexible, once a plan is written it does not force the company to follow only what is in the plan, but should allow the owner to adjust and look at new opportunities.
7. The plan is reviewed often and revised whenever "reality" dictates. The plan should be used often to see if assumptions, budgets are being met, and if not, discover why and how to correct.

Development of a planning curriculum

To assist producers with planning for their business ideas, the University of Nebraska teamed up with the NxLeveL Education Foundation and numerous agricultural and business consultants to produce a planning and marketing curriculum for alternative, sustainable and organic producers. The project was funded through the USDA Sustainable Agricultural Research and Education Program.

The curriculum, "Tilling the Soil of Opportunity: A NxLeveL Guide for Agricultural Entrepreneurs" is a producer-driven training course that's offered on the community level in a nontraditional adult learner setting. Each class offers very practical, hands-on learning that's organized around each participant's business interests. The course provides opportunity for producers to develop a well-reasoned agricultural business plan.

Curriculum outline—steps to writing a business plan

The "Tilling the Soil of Opportunity" Agricultural Entrepreneurs is a 36-hour in-classroom course. Sessions can be taught one night per week, or a combination of sessions that fit the producers' schedules. Session format includes instructor-led discussions and lecture, guest speakers, networking opportunities and instructor consultations.

Session 1—Take Stock of Your Resources
Session 2—Basic Equipment Required: Planning and Research
Session 3—The Legal Terrain
Session 4—Manage from the Ground Up
Session 5—Plant It, Grow It, MARKET IT!
Session 6—Reap the Benefits–Marketing Strategies
Session 7—Get Your Budgets In Line
Session 8—Analyze THESE: Cash Flow and Financial Statements
Session 9—Cultivate Your Money Resources
Session 10—Harvest Your Future

How are producers using their plans?

Producers who have participated in the training course are using their plans as management and financial decision-making tools. Here are a few examples.

Missouri—Two participants received refinancing and expansion loans that would not have been granted without the business plan. Three are using the business plan as part of a strategic planning process for their farms.

Missouri—As a result of the training course, a Missouri farm couple reviewed their insurance and realized they were assuming more risk than they wanted because their bulls were not covered. They purchased insurance and have since collected after a bull disappeared.

Nebraska—While participating in the course, a Nebraska commercial feedlot owner realized they were losing $20,000 a year due to a business decision they made at the request of one of their customers. They have since corrected the problem and even sponsored the customer during the next class so that he too could better understand the financial side of the business.

Nebraska—A producer discovered that for his fruit and vegetable business to become more profitable, he must be closer to his customer base. The producer sold his ranch in western Nebraska and purchased a farm in eastern Nebraska, closer to the metropolitan customers.

Montana—A producer completed a business plan for a local herb business. He presented the business plan to his local bank and was approved for the test market phase. The business, Big Sky Tea Company Inc., was incorporated as a S-Corporation in May 2001. (The company helped by one of the guest speakers from the class). It now has a facility with an established certified kitchen and many other resources for incubating farm-based products in the area.

Maine—One participant received funding for an irrigation project based upon his business plan from Farm Credit. The quality of the plans were outstanding. Several were reviewed by ag lenders who raved about them.

California—Hispanic growers participated in a course in southern California. As a result of the course, the producers have learned to market their own products without a broker. This is significant, because there has been a history of abuse of the system by some local brokers.

For more information on the tilling the soil training course, contact:

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Considering the Possible Legal Issues Involved in Direct-Farm Marketing

Neil Hamilton
Professor
Drake University of Ag Law Center
Des Monies, Iowa

This session examined the major legal topics that can present challenges to direct-farm marketers, including land use and zoning, employment, insurance policies, contracts and marketing, food processing regulations, labeling and advertising, and farmers' market regulations. The session provided attendees with advice about how to approach legal issues and how to recognize the need for legal services. There was an opportunity for participants to ask questions concerning their own experiences.

Commitment to Cooperatives and Cooperatives Development

John Wells
USDA
Washington, D.C.

The goal of the Cooperative Services program of USDA's Rural Business-Cooperative Service (RBS) is to help rural residents form new cooperative businesses and improve the operations of existing cooperatives. To accomplish this, USDA provides technical assistance to cooperatives and those thinking of forming cooperatives. It also conducts cooperative-related research and produces information products to promote public understanding of cooperatives.

Brainstorming Session

Desmond Jolly
University of California-Davis

There is a lack a visibility for the resources available to agri-entrepreneurs.
1. Document existing resources/programs.
2. State the group's focus and services.

Vehicles for internal communication within the Western Region
1. Western Region Small Farm Conference—rotate it within the region and between the national meetings.
2. Develop a common Web page link—perhaps under the USDA's Small Farm Web site.

What is the focus of existing support programs? (see above comment)

Add keywords to publications to indicate a small farm focus—i.e. many titles do not explain the contents of the article

Where do our clients get their info?
Crop specific?

How do clients access this?
Collaborate with USDA outreach

What are client needs versus provider needs?

Where and how are National Small Farm Program dollars that come to state going?
Need transparency of budget

Bring in public officials to meetings like this to get them more informed on the subject of agriculture

Make sure region is better represented at national level because of:
Changing demographics
Distinct cropping

Advocate for our clients with our public officials
Provide and follow-up on information to officials and agencies

Programs are fragmented and duplicative
1. Overwhelming and confusing to client
2. Coordinate as regional policy group.
State-by-state then to region

1. A possible solution is to develop a matrix of services and who provides them (by state)—Hawaii is doing this right now

Do resources need to be shifted so underserved areas are more supported?

Support folks in the field

Refocus on core competency then collaborate for effectiveness

Minimum acreages on funded programs may be too high for some small farmers

Reduced percentage on cost share (for funding programs)

Look at changes in new Farm Bill

State committee's key

Language is not funding

Participate in comment periods

Emphasize collaborations with tribes

Different mechanisms

Congress is who votes on appropriations.
Need to have small farms represented

Bring in consumers

Get our farmers to participate in Ag Census in mail Dec 16th

Documents our contribution to food supply

What are barriers to program participation for small farms

Outreach

Use community-based organization to do technical assistance and help with forms—(refers to census)

record keeping

Tribes missed in Ag Census because they do not file a schedule F because they do not pay taxes

Qualitative data from within the community. Not necessarily numbers based.

Questions in census biased by size, nonsensical
Need to tailor outreach and communication by community

Cultural sensitivity

Different communications flow and paradigms

Quarterly electronic newsletter for the region?

Common Web page with links located on each small farm program site (see top of list)

Focus on Small Farm and Ranch Woodlot Owners: New Value-Added Product Research

Mark Knaebe
Roundwood Structures Coordinator
Forest Products Lab, USDA Forest Service
Madison, Wis.

Many of our national forests face an increased risk of catastrophic wildfire because of an overabundance of dense, overstocked forest stands. This situation resulted from more than 50 years of effective fire exclusion. To help restore the forests to presettlement times, thinning is required. Such restoration is expensive, but if economic uses can be found for this thinned small-diameter and low-value material, some costs could be offset. To provide assistance with these forest restorations, the USDA Forest Service, Forest Products Laboratory (FPL), in Madison, Wisconsin (http://www.fpl.fs.fed.us), has been exploring many options for using this thinned material.

In addition to the traditional uses of lumber and poles for this thinned material, value can be added by making everything from flooring to furniture. Residues, as well as material currently considered nonmerchantable, can be used in composites, a variety of energy products and environmental uses, such as water purification, compost and erosion control mats.

Using the small-diameter roundwood (and keep it round!) to build structures has many advantages. The FPL has been exploring the concept of using small-diameter timber to build roundwood structures and is providing further assistance in the form of connector testing and facilitating code approval of new joints. Examples of joints are dowel-nut, powder-driven mortised plate, coarse thread screws and wood pegs. Everything from pole barns to timber frame-style homes can be made using small-diameter roundwood. Engineering roundwood for trusses and space-frame will increase the opportunities of building with roundwood. Plus, it ensures greater spans and a more efficient use of the resource than using traditional rafters and joists. Finally, juvenile wood, which is boxed in the center of the log and is the major obstacle to cutting warp-free lumber from small trees, essentially will have no effect on the properties of roundwood.

One asset to obtaining and distributing thinned material is a log sort yard. Managed by local communities, log sort yards create opportunities that traditionally were only available to large companies. In this type of log sort yard, logs are obtained from a variety of sources as well as a variety of material from one source, then sorted into categories. End users are then able to select the log material they need, and the market drives the value.

In addition to the benefits of producing value-added products, the area where the timber has been thinned becomes more parklike in appearance. Not only is forest health improved, but the aesthetics of the forest are enhanced. Many of the technologies discussed in this presentation are appropriate for small businesses and can provide economic opportunities for rural communities.

Cooperative Marketing of Niche Wood Products

Kent Prather
Sustainable Woods Cooperative
Lone Rock, Wis.

How would you like to maximize the return a landowner receives for having a well-managed forest?

Well-managed means environmentally responsible, which enhances the long-term aesthetics, ecological and recreational values of the land.

Your obstacle is that in most parts of the country, there are not a lot of markets out there looking for well-managed logs. This is changing due to the new ecofriendly consumer, but in general you will need to create a niche market.

This is why I am going to suggest to you today to consider organizing a sustainable woods cooperative. This forest land owner cooperative would understand the benefits of a well-managed forest and would be willing to produce and market well-managed products from its membership-based resource.

Just like the organic food industry, this would not be an easy task. In the organization I am a member of (Sustainable Woods Cooperative, Lone Rock, WI), thanks must go to the great group of people who have volunteered large chunks of their time, including the members who came up with the big bucks to invest. Grant monies have also helped, and the USDA has been one of our largest benefactors.

There are other benefits as well, such as a great opportunity to educate your members and the sharing of resources and their related costs.

Let me tell you the Sustainable Woods Cooperative story. We came into existence four years ago in the living room of one of our local consulting forester's home. Everyone there had two factors in common: we were all land owners; and we all had an interest in managing our non-agricultural land.

A year later, we were up to 150 members strong, and had 20,000 acres under Forest Stewardship Council's (FSC) certified management.

What forces brought us all together?

1. No management
   - Most of our land had not been managed in the past.
   - The timber stands were badly high graded, and the other lands (old pasture) were being invaded by low-value trees and invasive species.
2. Environmental concerns
   - Forestry practices in the past had shown little concern for air or water quality nor the improvement of eco-systems health and wildlife habitat.
3. Resources
   - A need to share our resources—some of us had good experiences, others had bad, and still others had no experience at all.
4. Education
   - All of us saw a need to educate ourselves as much as possible.
5. Money
   - Managing land for the future costs money. We all felt a need to maximize our returns to help defer the cost.

To meet these challenges, a two-fold market strategy was put together: to create overtime a for-profit mill to manufacture value-added products for factory direct retail sales; and to sell this environmentally responsible product to the ever increasing ecofriendly consumer.

The products we chose to manufacture were flooring and paneling with the raw materials coming from our members' land. Why flooring and paneling? The wood flooring market is more than $1 billion dollars and growing. The random widths and lengths required lends itself to small diameter, low-grade logs. Unlike other wood products, there isn't the defect-free, no knot requirement. Rustic and character floors and paneling retains their value.

Selling retail maximizes the return for the manufacturing of low-value wood and, therefore, allows us to reverse the high grading of timber stands and the removal of less valuable trees. The benefit to the member is he has a market for his low-grade logs and gets to share in the profit of the co-op, a second paycheck.

We felt there were ecofriendly consumers out there who would want to do business with an environmentally responsible company like ours. But how do you get out that message? And how do you give that message believability? FSC certification was the answer. FSC sets standards for well-managed forestry worldwide. FSC then accredits organizations to certify forests according to FSC standards. SmartWood is one of those accrediting organizations.

For the co-op member to get certified and to avoid the high cost of individual certification, we chose to use FSC's Resource Manager program. It works like this: a professional consulting forester, who has received his own certification, can through his active management of a member's land be FSC certified. I know this is hard to understand, so I'll say it again this way: If one of our members uses a FSC certified Resource Manager to oversee and manage his land, that land and the by-products (logs) are FSC certified to be well-managed. There is no direct cost to the landowner. The FSC Resource Manager is repaid for certification like any business expense—through his fees. To finish the chain of custody, the co-op (the mill) must be certified. That is simply an audit that shows that we keep track of the logs we purchase and who we purchase them from. Two years ago, we received our chain of custody certification from Smartwood, #COC 282.

So what have we accomplished? Three years ago we bought a 4-acre site in Lone Rock, WI. Two years ago, we had our Super Solar kiln up and running, using a portable Woodmizer saw for lumber production. We have created a niche market for our members. A place to sell their logs that are the by-product of a well-managed forest. The co-op then turns that resource into a product and sells it to an eco-friendly consumer who believes our story because of the FSC standards and our certification tag and label. The co-op member has maximized his return through the second paycheck, education and the sharing of expenses. The local economy has benefited with the addition of jobs at the mill.

Utilization of Small Diameter Trees for Alternative Products

Phil Archuleta, CEO
P&M Plastics
Mountainair, N.M.

The utilization of juniper or pine fiber as raw material for making a composite panel product has continued to attract the interest of private sector, state, federal agencies and universities since 1994. The inherent ability of this technology to provide land management and economic development agencies with opportunities to improve and manage watersheds, while creating rural jobs, are the reasons for its appeal. Beginning in 1994, with a visit to the Forest Products Laboratory (FPL), it became obvious to P&M that there was great potential for using durable wood-plastic composites in the demanding highway signage market. Working with FPL, small prototype signs were made from juniper wood fiber and plastic, and evaluated on-site at the Kaibab and Cibola National Forests. We found that compared to traditional sign materials made of aluminum and plywood, the new composite signs were less expensive, more durable in service and very resistant to animal damage.

P&M Plastics and P&M Signs, in cooperation with their partners, have invested a considerable amount of time and money to develop a fully functional pilot scale facility oriented exclusively to the use of these underutilized woody raw materials. We call our product Altree, because we use the entire tree, including the bark, needles, stem and branch fibers and the root system, in making our product. Our focus is on expanding the potential uses of woody materials from juniper and pinelands and the development of technology for their commercial and industrial application. We intend to: address current environmental management needs for Ponderosa pine forests and juniper rangelands; improve rural community economic sustainability through job formation and the development of a viable rural manufacturing facility; provide jobs for the removal and utilization of undesirable tree and woody plant species; and provide a competitive and efficient alternative for high-value solid wood and fiber products.

The project also addresses three other critical environmental problems, namely: the development of economic uses for material that will be removed in an effort to reduce the risks from catastrophic wildfires at rural-urban interfaces; the restoration of watersheds now being threatened by invasive species and by small diameter ponderosa pine; and the development of economic uses for recycled plastics, with a corresponding decrease in the landfill space required to bury these materials.

The combined efforts of our partners, including the USDA's Rural Development program, the Forest Service and the Natural Resources Conservation Service, along with state agencies, universities and the private sector, have made it possible for a pilot facility to be constructed in Mountainair, N.M. We have now developed two new Web sites, www.altree.com and www.p&msignsinc.com, and are now ready to accept orders for smaller Altree signage products. Our plans include installing a larger extruder that will allow us to process substantially more materials into larger products and to expand our sign-making operations so that we can increase our employment from the 17 full-time employees that we have now to a total of 60 people in the next two or three years. Beyond that time frame, we plan to look at other plant locations and exploring the possibility of licensing our technology to others.

Endangered Species Act Opportunities for Endangered Species Conservation

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Much of the land containing the nation's existing and potential fish and wildlife habitat is owned by private citizens and other nonfederal entities and, thus, the future of many declining species is dependent wholly or in part on conservation efforts on these nonfederal lands. By precluding or removing the need to list a species through early conservation efforts, property owners can maintain land use and flexibility. The Candidate Conservation Agreements with Assurances policy was issued June 17, 1999 (64 FR 32726). In addition, the service manages the "Safe Harbor" program to facilitate the conservation of listed species through a collaborative approach with private landowners, states, local governments, tribes, businesses, organizations, and other nonfederal property owners that are stakeholders and stewards in the conservation of theses species. Simply put, Safe Harbor agreements are provided to nonfederal landowners for voluntary conservation actions for covered species on their property

Endangered Species Act–Impact of the Endangered Species Act on Farmers and Ranchers

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The orgins of the Endangered Species Act (ESA) stems from treaties that were constructed to protect species of international concern and value and also resource industries in rural areas. Since the enactment of ESA, actions of federal agencies and litigation from environmental groups have ignored the original intent of the act and caused serious harm to rural communities, cultures and their economies at many levels. In response to this direction, the federal government has created various conservation programs to attempt to implement ESA protections on nonfederal lands without opening the land owner and land users to litigation impacts. The potential hazard of such programs opens the land owner to the impacts of a Federal Nexus on these nonfederal properties and, thus, restrictions of land uses by the land owners and users. This, in turn, carries potential economic impacts that may ripple through the associated communities and cultures. Currently, ESA is open for revision in Congress. Without proper changes with incentives to specifically promote land owners and protect economies with equal significance, the trend of impacts will continue at the expense and demise of rural communities and species.

Developing Skills and Collaborative Efforts for Programs

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In this workshop, a diverse team from community based groups and the university shared results from research assessing minority farm participation in crop insurance and other USDA programs. Henry English (Minority Farm Outreach Program, University of Arkansas, Pine Bluff) presented outreach and research methods as used among limited resource producers in Arkansas. Luz Gutierrez and Malaquias Flores (of the Center for Latino Farmers, Rural Community Development Resources, Yakima, WA) presented demographic and other results from their research to define the needs of new Latino producers in Washington State. Anna Kleiner (Ph.D candidate, Missouri Action Research Connection, Department of Rural Sociology University of Missouri, Columbia, MO) outlined the research methodology used in a collaborative research project to identify gaps in USDA service to limited research farmers.

The group then participated, in a hands-on and participatory way, in a demonstration of the focus group methodology used in the research. Divided into small groups, the workshop participants learned how participatory research and collaboration improves the research process, enhances the usefulness of results and develops the skills of all participants. Dorathy Barker (Operation Spring Plant, Oxford, NC) then shared how the research process benefited her organization and how the findings enhanced her work. David Wiggins, Outreach Field Staff (NC), of the USDA Risk Management Agency, which sponsored the research, explained how the research findings were useful to RMA in understanding gaps in services and defining the crop insurance needs of small farmers. The panel discussed how the focus group and survey techniques can be employed to achieve cost-effective and ground-breaking research results.

Computer Applications for Small Farms

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Computer usage on farms has increased significantly in recent years, with Internet access increasing most dramatically (USDA, National Agricultural Statistics Service, July 2001). While large farms are more likely to have computers and to use them in the farm business, the percentage of small-scale farmers owning and using computers is also increasing. Given scarce resources of both time and money on many small farms, identifying appropriate computer applications is important. Many inexpensive or free software tools are available to assist managers of small farms in record-keeping, analysis and decision-making. This paper very briefly discusses tools for financial and cow-calf production records, enterprise budgets, machinery cost analysis, whole farm plans, Farm Bill decisions and Web sites with software. A more extensive list of Web sites for farm management tools is provided on my faculty page under working papers (http://www.agecon.okstate.edu/).

Table 1. U.S. farm computer usage.

	1997	1999	2001
Computer access	38	47	55
Own or lease computers	31	40	50
Using computers for farm business	20	24	29
With Internet access	13	29	43

Source: USDA, National Agricultural Statistics Service, July 2001.

Choosing computer applications

Selection of computer applications should be driven by function, value, ease of use, hardware and software requirements, flexibility, and compatibility with other software. Before beginning to shop for software, thought must be given as to what exactly is needed from the software. The purpose may have several dimensions, for instance, support decision-making, manage production or financial risk, maintain records, find Web-based information. Value is influenced by cost, whether the software does everything you want, provides technical support, cost of upgrades, etc. Ease of use is especially important if the tool is one that you will use frequently. While it would be nice to be able to recommend one package that is a perfect solution for a given need, often there are trade-offs in features that must be weighed and rarely is there a "one size fits all" solution. As there are many good products available both commercially and through public institutions, be sure to do a thorough search before setting out to develop your own software.

Financial records

Financial records are the first task that many people think about "computerizing." Software created specifically for agriculture may be too expensive for small-scale producers. Quicken, a popular commercial record-keeping package, is user-friendly, relatively inexpensive, readily available and flexible, allowing record-keeping for a wide variety of agricultural and nonagricultural business enterprises. Quicken is easy for people unfamiliar with accounting terms to use, making it a good place to start when changing from a hand-kept cash accounting system to computerized records. Although Quicken includes only home and general business income and expense categories, farm income and expense categories are easily added. You can import a farm category list developed elsewhere (at Oklahoma State University, for example, or by Extension in your state) that matches Tax Schedule F, minimizing the effort required to develop a beginning list. Quicken's "class" feature can be used with categories to further identify and sort transactions to allow cash reports by enterprise, partnership share or farm. Reports—transactions, cash flow, account balances, balance sheet, comparison, tax summary—are easily generated. More information and step-by-step instruction manuals for adapting Quicken for farm and ranch use are available at http://www.agecon.okstate.edu/quicken/. If the ability to create invoices and track accounts payable and receivable is important, a more sophisticated package may be required.

Cow/calf enterprise

Many small farms include cows. The second most frequently requested recommendation for computer applications that I receive (behind one for financial records) is one for maintaining cow records. It is extremely important to determine what items will be tracked and to anticipate the needs for sorting and summarizing information in different ways. An excellent reference publication describing the features of prominent cow/calf software packages is available at http://www.ansi.okstate.edu/exten/beef/WCR-3279/WCR-3279.pdf. A relatively inexpensive package that gets good reviews is the Beef Cattle fIRM, available from the University of Tennessee (http://economics.ag.utk.edu/firm.html).

Several free downloadable tools are valuable in supporting other cow/calf enterprise decisions. A bull expense calculator is available from Virginia Tech (http://www.aaec.vt.edu/fbm/bull/Bull.htm) A spreadsheet to help calculate the value of different parties contributions to livestock partnership shares is available at www.agecon.okstate.edu/temp/CowShare.xls. Ration formulators are available at several institutions with the widely used OSU CowCulator at http://www.ansi.okstate.edu/exten/cowculator/.

Enterprise budgets

Many states develop and maintain enterprise budgets to summarize costs and returns associated with production activities. The Southern Extension Farm Management Committee has developed a searchable database of budgets to facilitate finding budgets for specific crops and livestock by state (http://agecon.okstate.edu/survey_new/).

Whole farm plans

If whole farm planning software is of interest, a range of tools is available. A free, downloadable Farm Planning Tool is available at http://www.uky.edu/Agriculture/AgriculturalEconomics/on_data.html. OSU's Integrated Farm Financial Statements facilitates development of enterprise budgets, building to a whole farm plan (http://www.agecon.okstate.edu/IFFS/). The "Cadillac" model is FINPACK, a University of Minnesota product (http://www.cffm.umn.edu/).

Machinery cost estimation

Two alternatives for estimating machinery costs and evaluating ownership versus custom hire are the Ag Field Machinery Cost Estimator (AgMach$) at Oklahoma State University (http://www.dasnr.okstate.edu/agmach/index.html) and the Machinery Cost Calculator, U of Tennessee (http://economics.ag.utk.edu/mcc.html).

Farm Bill decision tools

Two tools that provide timely assistance in evaluating decisions resulting from changes in the Farm Bill are available through the Farm foundations Web site: http://www.farmfoundation.org. Click on 2002 Farm Bill, Commodity Title Trainer Meetings, then Texas A&M for the base and yield analyzer (http://www.afpc.tamu.edu/models/bya) or baseupcalver16 for an Excel spreadsheet analysis tool.

Lease agreement forms

Two sites including blank forms for lease agreements that can be printed for free are Midwest Plan Services (http://www.public.iastate.edu/~mwps_dis/mwps_web/fr_matls.html) and the farm.doc Web site (choose Law and Taxation, Acquiring Farmland, Lease forms at http://www.farmdoc.uiuc.edu/legal/farm_lease_forms_abs.html).

Web sites with small farm resources

Some key Web sites targeted specifically to small farms include:

- Cornell Univ. Small Farms Program:
- http://www.cals.cornell.edu/agfoodcommunity/afs_t mp1.cfm?topicID=67
- Missouri Small Farms Information: http://www.hartcreek.com/smallfarms/index.htm
- Small Farms @ USDA: http://www.usda.gov/oce/smallfarm/
- U of Oregon Small Farm Program: http://smallfarms.orst.edu/
- U of California–Davis Small Farms Center: http://www.sfc.ucdavis.edu/
- USDA CSREES Small Farm Program: http://www.reeusda.gov/smallfarm/
- USDA Sustainable Development Program: http://www.usda.gov/sustainable/

Web sites to bookmark

The Internet is the place to start a search for software. Some of the sites that I regularly check are described in the following paragraphs. One of the most useful software directories I have found is the Alberta Ag Software Directory at http://www.agric.gov.ab.ca/agdex/agsoft/. Software categories include financial records, physical records, nutrition/ ration / fertilizer analysis, decision aids, communications, marketing, agro-electronics, land management, and other. FARM.doc, a University of Illinois product, offers a variety of software tools at http://www.farmdoc.uiuc.edu/index.html FAST tools include those to assist with financial analysis, investment analysis, loan analysis, farm management, land purchase analysis, and machinery financing. Other Web sites with software include the Center for Dairy Profitability, University of Wisconsin (http://cdp.wisc.edu/), Cornell Program on Agriculture and Small Business Finance (http://agfinance.aem.cornell.edu/decision_aids.htm), FBMInet (http://fbminet.ca/bc/index.htm) and Montana State University (http://www.montana.edu/wwwextec/) For producers considering a new enterprise, a University of Kentucky publication, "A PRIMER for Selecting New Enterprises for Your Farm" provides valuable guidance: http://www.uky.edu/Ag/AgEcon/publications/ext2000-13.pdf. Another valuable online resource is the National Ag Risk Library at http://www.agrisk.umn.edu/.

Concluding thoughts

The key to identifying useful software is to have well-formed ideas about what kind of output you want. Software is a tool, similar to a tractor or piece of tillage equipment and should be thought of as an investment that will provide long-term benefits. Thus, the least expensive tool may not be the best choice. This article offers a starting point for finding information helpful for people interested in farm management. An Internet search will turn up many more useful sources.

A Retirement Estimator for Farm Families

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Introduction and purpose

Between January and May 2001, I interviewed several farm operators and their spouses from a variety of states. The purpose of the study was to learn more about farm families' views on retirement and farm transfer. The study was funded by USDA-CSREES and the National Endowment for Financial Education. One of the questions that I asked was "What is your vision of retirement?" Although many farm families were "on track" with plans for retirement, others responded by saying, "I don't know if I can afford to retire. I'll probably just keep on working, but I might slow down a little." Many of the farmers and spouses that I interviewed had additional jobs to provide more financial support for the family, but a major concern was whether or not they could afford to retire from the farm.

As the data collection stage finished for the retirement and farm transfer study, I was encouraged by Jane Schuchardt, National Program Leader for Economic and Family Systems at USDA-CSREES, to conduct another study to develop an Internet-based retirement estimator for farm families. I asked two colleagues at Purdue University to work with me. They are Janet Bechman, Extension Specialist in Family Resource Management; and George Patrick, Professor in Agricultural Economics. After receiving funding for the project, we discussed whether we should consider both retirement planning and farm transfer. We decided to focus on retirement planning because we felt that farmers needed to decide whether they would retire before they developed their plans for farm transfer.

Development of the Retirement Estimator

We believed that we could reach the majority of farmers with the least expense if we developed a retirement estimator that could be used through the Internet. In support of the Internet as a delivery medium, we examined the results from a survey conducted at the Indiana Farm Progress Show in 2001. The survey showed that the majority of farm families who attended the Farm Progress Show use computers. In fact, 87.6% of farmers age 45 to 54 and 69.7% of farmers age 55 to 64 owned computers. Daily use of the Internet ranged between 37.8% and 47.4% for farmers aged 45 to 54 and 55 to 64, respectively. Based on the survey and other information on computer usage, we concluded that most farmers would be willing to use an Internet calculator to estimate the affordability of retirement.

We decided to focus on life expectancy, changes in spending after retirement, income in retirement and expenses in retirement. Further, we decided that the Retirement Estimator would be interactive, meaning that those who used it could enter information and make changes after learning whether retirement was affordable or not. Monetary values would be entered in current dollars and this would avoid the need to estimate inflation. If farmers learn that retirement is not affordable using the values that they enter, we offer suggestions for making changes by increasing income or reducing expenses.

The Estimator begins by asking farmers to think about their current living expenses. We show information from studies on living expenses in Iowa and Illinois and ask farmers to think about changes that could occur in the future. Then we ask farmers to think about their life expectancy and that of a spouse. The Estimator links to life insurance tables to provide estimates of life expectancy and also to a calculator that asks questions about lifestyle, health and so forth. In other words, the farmer can either use a life expectancy from a table or personalize the estimate of life expectancy by entering his information into a calculator.

In the section on future income, the Estimator links to the Social Security Administration site so farmers can obtain an estimate of their retirement benefits. Next, the Estimator asks farmers to enter an estimated annual withdrawal from

sources, such as employer pensions, Individual Retirement Accounts and savings like Certificates of Deposit or others. The Estimator asks for this information for the farmer and spouse.

In the section on farm-related income, the Estimator asks farmers to enter estimated annual income from cropland, pastureland, sale of assets, custom work and other sources. The importance of this section is that it encourages farmers to think comprehensively about all possible sources of future income. In the section on annual farm-related payments after retirement, the Estimator asks farmers to enter items, such as bank notes, insurance on farm property, taxes and other items.

Results

After the Retirement Estimator calculates the affordability of retirement by adding up all of the income sources and deducting all the payments, a change screen allows farmers to change the value of any of their previous entries. Then the Estimator provides a new statement about the affordability of retirement. It is possible to print the screen that compiles all of the information. We suggest printing these pages, because the Estimator does not retain any information when the user exits the program.

A Retirement Tips section allows farmers to link with any of the Internet sites that have been mentioned. Also, farmers can link to several of the modules in Planning for a Secure Retirement, such as the links to self-employed retirement plans, starting an Individual Retirement Account or deciding what to do with a lump sum distribution. That site is available at http://www.ces.purdue.edu/retirement. Janet Bechman and I developed the content for that site, and it has been available since November 2000.

The url for the Retirement Estimator is http://www.ces.purdue.edu/farmretirement/. It has been available since March 2002. As Internet users know, there are times when a link becomes unavailable. We attempt to keep all links active. Further, we appreciate receiving suggestions about the site. Because the Estimator is on the Internet, it is possible to make changes as they are needed. We hope that your visit to the Retirement Estimator is helpful and thought-provoking.

Improving Profitability for Small Farms: Teaming Technology with Farmers

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Farming is a business that needs to make a profit along with a decent family living. Farmers should not have to accept lower standards of living, even if they are small-scale farmers. Technology can help lower costs and raise profits for small farmers and level the playing field with larger farms. Farmers, and those who work with farmers, have a solid native knowledge of their farm, working abilities, soil, families and their communities; proper use of technology applied to this knowledge will enhance farm management and improve decision-making ability and improve their standard of living.

Sunrise Software has teamed with North Carolina A & T Cooperative Extension to successfully create an innovative approach to provide solutions for bringing technology to small farms. Sunrise Software has created a suite of tools—both hardware and software—that can utilize a farmer's base knowledge and can expand and grow with the farmer. An advanced set of tools is available for those who work with farmers, crop consultants, advisors, and extension agents for example. Information can be shared back and forth between these advisors and farmers, building upon both knowledge bases.

Users of FarmWin can tailor the program to fit their own operation exactly, tracking only what's important to them. Farmer's databases can be e-mailed for review, suggestions and test trials to their advisors and agents. Farmers can manage inventories, track costs of production unique to their own farm, create break-even cost charts, track their time and do "what-if" scenarios with their farm's data. FarmersMaps can be used by farmers to create maps of their fields, track weeds, fertility, drainage problems and anything else they'd wish to track with maps.

Farm advisors can use CropSave and FarmersMaps to help decision making with farmers. ComWeb is also available as a communications and reporting tool, allowing agents across a large region to submit reports to a central database.

The Importance of Technology in the Farming Community

James Davies III
2002 Small Farmer-of-the-Year
Tillery, N.C.

My name is James A. Davis III, a farmer in Scotland Neck, N.C. I produce traditional row crops, which are cotton, peanuts, soybeans and corn, with cotton being my biggest commodity. Technology has played an important role in my farming operation. Specifically, computer technology to me as a farmer is a necessity. Today, the success of a business is driven by computer technology. Without using the latest computer technologies, such as the Internet and software technology, I wouldn't be able to compete in today's economy. The computer is the most significant piece of technology that I use in my daily operations. I do not only use it for my farm management and record keeping, I also use it for purchasing chemicals online because they are less expensive. The computer is definitely a saving tool for my home and farm operations. I have also used different farm management and record-keeping software, however, the current one that I use is FarmWin. FarmWin is the best farm software that I have used thus far, because it is so user-friendly that you really don't have to be computer literate to use it. I was introduced and trained to use this software by North Carolina A&T Cooperative Extension Program through the FACT Project. FACT is an acronym for Farmers Adopting Computer Training. This outreach project is good for farmers who are not familiar with computers, because a representative from the university comes out and covers the whole software program in your home on a one-on-one basis. NC A&T Cooperative Extension also offers group workshop training sessions for farmers at least once a year to stay abreast of upgrades and to enhance learning. FarmWin training is readily available to farmers in North Carolina, unlike other software programs that I have used for which training is neither in farmers' homes nor in the state. Individual users for other programs have to travel out of state to receive training. However, through Cooperative Extension's outreach, training for the FarmWin is a part of the package deal for adopting the software program. This software was very easy for me and should also be for other farmers who are not computer literate. In summary, I believe that in the future, farmers who don't adapt to computer technology-based operations will be less likely to succeed in their farm operations than those who adopt computer technology. These farmers who adopt computer technology are the ones who can compete in today's ever-changing society. Thanks.

Product Development Through Packaging, Labeling and Marketing

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Marketing is a process that is designed to meet the overall needs of the customer. It involves more than the mere selling of a product. It involves the development of a product that consumers will want to purchase and is achieved through a combination of packaging choice, label design and the five ps of marketing. The 5 ps of marketing explore the basic needs of successful marketing strategy–product, price, placement, promotion and people. More specifically, the value or advantage of the product and the look and design of the packaging to attract consumers; the price of the product; the placement of that product in a location where your target customer will purchase the product; the promotion of your product, your company and, most importantly, yourself; and lastly, the people.

Value-Added Enterprises Session: Developing a Sound, Value-Added Enterprise for Small-Scale Farmers

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Overview

Maryland Cooperative Extension (MCE) Small Farm Institute's mission is to enable small-scale farmers and entrepreneurs to improve the viability and profitability of their operations through innovative research-based and community information focusing on identified needs and partnerships. MCE Small Farm Institute develops alternative enterprises and establishes new market outlets and strategies for small-scale farmers by stimulating research and extension educational programs (Tubene, 2002).

A competitive world in which small farms operate today, combined with the development of giant firms have pressured small farmers to become innovative. These innovations include high-value crops, value-added enterprises and alternative marketing strategies. The development of value-added activities is influenced by several parameters including small-scale farmers' economic environment, agricultural and demographic trends; and consumers' tastes and preferences.

Capitalizing on such parameters, this paper discusses strategies farmers and agricultural entrepreneurs could use to develop and sustain value-added activities.

Farmers' classification

A farm typology developed by USDA's Economic Research Service distinguishes three categories of farms: small family farms (sales less than $250,000), other family farms (sales more than $250,000) and nonfamily farms. Small family farms comprise four groups: limited-resource, retirement, residential/lifestyle, and farming-occupation farms (Hoppe and MacDonald, 2001).

1. Limited-resource farms are small farms that reported gross sales less than $100,000, total farm assets less than $150,000 and total operator household income less than $20,000.
2. Retirement farm operators reported that they were retired. This group excludes limited-resource farms operated by retired farmers.
3. Residential/lifestyle farms are small farms whose operators reported a major occupation other than farming.
4. The farming-occupation farms group includes operators whose primary/major occupation is farming. They include low- and high-sales farms. Farming-occupation/low-sales farms are small farms with gross sales less than $100,000 with operators reporting farming as their major occupation, whereas farming-occupation/high-sales farms reported gross sales between $100,000 and $249,999, and farming as their major occupation.

Small farmers' economic environment

U.S. small farm characteristics include size of operation, land use, production, farm financial returns, government payment patterns, source of household income, location and business arrangements. Most U.S. farms are small and most farmland is on small farms. However, most agricultural production (more than 2/3) comes from large family and nonfamily farms. Small farms, on average, are less viable businesses than large farms. In terms of government payments, high-sales small farms and large family farms receive a large share of government payments. In addition, small farm households rely heavily on off-farm income (Hoppe and MacDonald, 2001).

Nowadays, small-scale farmers struggle to keep up with economic and technological changes that have affected the U.S. agricultural industry since last decade. The competitive world in which small farms operate has created a business uncertainty and added more risk to farm operations. Adequate risk management tools and marketing skills are no longer an exception but a requirement. Small-scale farmers must be creative in order to compete against their large

farm counterparts. Innovations may take several forms including more diversified enterprises and value-added activities as well as product and market development (Tubene and Hanson, 2002).

U.S. agricultural and demographic trends

The 2000 Census data revealed significant trends in the U.S. population. Trends were also recorded in the agricultural sector over the last decade. For instance, while the total mid-Atlantic population (i.e., Maryland, New Jersey and Pennsylvania) has increased less than 12 percent in the last decade, the Caucasian population has decreased less than 4 percent. Most mid-Atlantic minority populations have grown by more than 24 percent. On the other hand, mid-Atlantic farms and farmland, agriculture cash patterns, and crop production have experienced mixed trends. In fact, the number of farms and farmland has dropped since 1987, whereas the agricultural cash sales have increased in the last 10 years. While some crops have increased in size, others (such as tobacco) have declined (Tubene, 2001).

These trends can guide small-scale farmers in their decision-making process when choosing value-added enterprises. New and emerging markets may be targeted toward new crops (i.e., wine grapes rather than tobacco in the mid-Atlantic) and growing populations' tastes and preferences.

Value-added enterprise strategies

Value-added enterprise can be defined as an activity that enhances value to a commodity or product as a result of change in its physical state. The best value-added enterprise strategy is one that meets business entrepreneurs' goals and helps them stay in business. Some value-added strategies include knowing the market structure in which a business operates, defining the business' goals through a well-developed business plan, checking financial resources, developing adequate products and potential markets, testing the strategy at hand and establishing criteria for changing a strategy.

1. **Market structure:** Market structure refers to the number of sellers, information availability, nature of the product and the exit, and entry conditions of the market. Market structure includes perfect competition, monopolistic competition, oligopoly and monopoly. Most farmers operate in a highly competitive market. Knowing the market structure could help farmers strategize.
2. **Measurable goals:** Mission statement, goals and objectives are part of the business plan. Measurable goals help evaluate desired outcomes and monitor progress.
3. **Funds availability:** Financial plan is crucial in achieving business success. Very often new ideas and dreams are not fulfilled due to the lack of financial resources.
4. **Product and market development:** New products and markets are developed with customers in mind. Product differentiation, innovative market techniques and outlets based on consumers' tastes and preferences as well as current demographic trends could help farmers increase their farm margins.
5. **Strategic plan:** A strategic plan helps channel value-added innovations and market opportunities. A set of strategies might include defining how to meet business goals and objectives, testing existing strategies and establishing criteria for change, setting realistic expectations and contingency plans.

Potential sources of funding for value-added enterprises

Several federal, state and local agencies as well as private organizations provide funds and/or help to identify funds for implementing value-added enterprises. They comprise Rural Business-Cooperative Service (RBS), Resource Conservation and Development Inc. (RCD), Sustainable Agriculture Research and Education (SARE), Small Business Centers, County Economic Development offices, and university Cooperative Extension services.

Title 6 of the 2002 Farm Bill (www.usda.gov/farmbill) has a provision about rural development funds. Section 6401 discusses value-added agricultural product market development grants.

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Creating a Value-Added Marketing Network for Limited-Resource Farmers

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Abstract:

Limited-resource minority farmers contribute to agricultural production in the United States, but they are often faced with more extensive obstacles than other small-scale farmers. Many of these farmers have less education, and lack the resources to participate in alternative methods of production and marketing. They are frequently unable to access facilities that process livestock, thereby limiting their sales to traditional and often unprofitable markets.

This paper outlines a successful collaboration among a nonprofit organization, government agency, a private cooperative and limited-resource farmer groups to market agricultural products. Networking together, each partner provides resources or skills to create a marketing infrastructure that helps to minimize risks for limited-resource farmers. The model has the potential for transferability to other locations.

Introduction

Small farms are an important contributor to U.S. agriculture, even though their overall numbers have been declining for years. According to a report by the Economic Research Service, they comprise about 92% of all farms, if defined as agricultural sales of less than $250,000 annually (USDA, 1997). "Limited resource" farms are a subset of small-scale farmers and generally have household incomes of less than $20,000 per year. These farmers often have fewer years of formal education and are older than most small-farm operators (Steele, 1998a). Although this category earns less than other small-scale farmers, it constitutes 16% of all small farms. Forty-three percent of all farms owned by African-Americans are considered limited-resource (Steele, 1998b).

Many limited-resource farmers indicate they are unlikely to use government programs to assist them with record-keeping or credit, preferring cash to advisory services (Blackburn, et.al, 1979). Only 13 percent of limited-resource farmers use government programs as compared with 30 percent of all small-scale farmers (Steele, 1998b). Further, small-scale producers are less likely to spend more time on management or improving their marketing skills (USDA, 1996). Limited- resource farmers generally have less debt than other small farmers (20 percent compared with 48 percent), but they are less able to service debt with their lower household incomes. The combination of lower levels of education, lower household income, older age and less willingness to utilize government assistance, places limited-resource farmers in a precarious position for the future, particularly when you consider they are less likely to join cooperatives to assist with marketing and purchasing inputs in bulk (Tackie, N., Findlay, H., and Baharanyi, N., 1998).

Methodology

Heifer International (HI) has been working to empower limited-resource families worldwide since 1944. Fundamental to HI's development philosophy is full participation by all stakeholders, thereby encouraging trust and ownership of the process. In the five decades that HI has engaged in community development, a set of guidelines or "cornerstones" has emerged. These are integral to all work that HI undertakes and become the base for project development, implementation and evaluation. HI uses a wholistic framework for groups to utilize in defining their current situation, visioning the future, planning the project and monitoring the process. While the group is engaged in these processes, the cornerstones provide guidance for assessing and understanding what the community or organization stands for and how their priorities might match with HI's philosophy. HI began working with another nonprofit organization, the New North Florida Cooperative (NNFC), in 1999 to address the marketing needs of limited resource, minority farmers in the southeastern United States. NNFC was founded in 1995 by a group of small-scale farmers interested in providing a marketing network and training to low-income, minority farmers. The organization started with marketing culturally appropriate produce to predominantly African

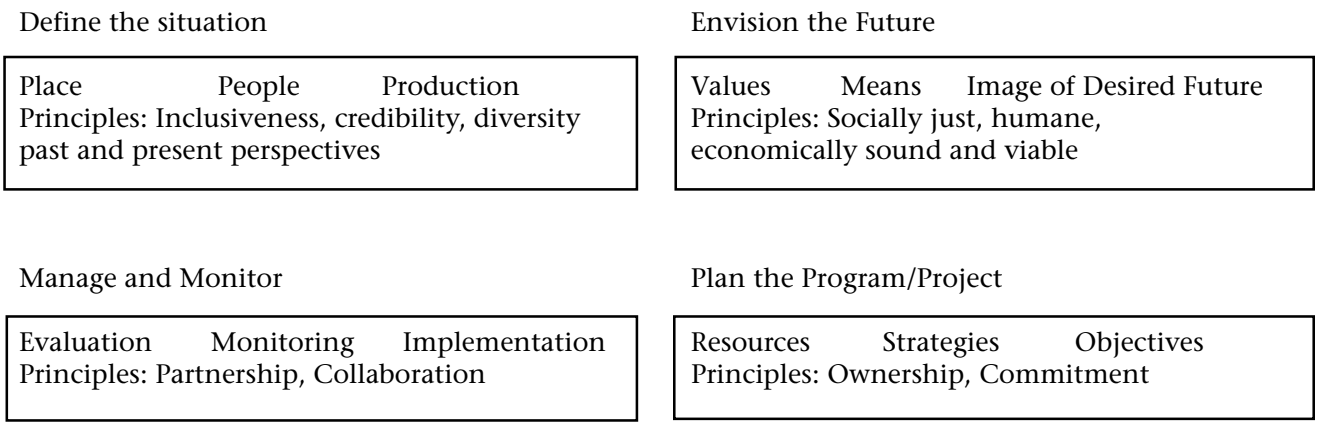

Figure 1: Cornerstones-based planning and management from "The Cornerstones Model: Values-based Planning and Management"

American school districts in the southeast. Initially, only collard greens were marketed, but the product line has expanded to include strawberries, muscadines, blackberries and hot peppers. NNFC works with limited-resource farmers to identify what they are capable of growing and assists in securing the market for the farmers' product. They also assist in transportation and processing of the product, packaging the finished product with nutritional analysis, recipes and UPC labeling. In the past few years, sales have expanded to Alabama, Georgia and Florida, with well over 300,000 school children receiving fresh, locally grown produce for lunch.

Results

Currently, the collaborative marketing network works with nine farmer groups (averaging 10-20 families/group) and markets to school districts in Alabama, Georgia and Florida. Sixteen school districts are receiving fresh, locally grown produce. As of June 2002, 321,200 children are being served, with an estimated 551,200 children as potential beneficiaries. Farmers participating in the network receive higher prices than they would through traditional avenues. For example, farmers selling collard greens to NNFC receive a consistent price of $14/dozen plants (June 2002), whereas the market fluctuates anywhere from $4 to $14/dozen. Farmers selling peas to NNFC are able to receive $13/bushel for their product, whereas farmers selling through more traditional routes, such as vegetable brokers, earn approximately $6/bushel. NNFC is able to provide farmers with this consistency due to stable contracts, and a specialized institutional market.

According to discussions with farmers participating in the network, the farmers are delighted to have another entity securing markets for their products and allowing them to concentrate on what they prefer doing—raising products and farming. Additionally, the value-added production (processing and bagging produce) provides jobs for rural residents. NNFC currently employs 15-30 part-time employees and three full-time staff.

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GAPs: Key Principles of Hazard Identification and Risk Reduction

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Consumer awareness of food safety issues related to microbial pathogens has increased in the wake of the President's Food Safety Initiative of 1997. Sparked, in part, by broad media coverage of notable outbreaks on fresh and minimally processed fruits and vegetables not commonly associated with severe illness, this initiative drew consumer and produce buyer attention. With repeated outbreaks linked to consumption of fresh produce, the apparent prevalence and severity of foodborne illness has largely replaced concern for pesticide residues as the foremost consumer confidence issue facing producers and shippers. In part, consumer opinions are one reflection of the impact of premature or inaccurate reporting of outbreak investigations related to fresh produce, which by virtue of forming the basis for purchasing behavior can be economically devastating to a commodity and region. The timing of the reports often is disassociated with the seasonal availability or actual origin of the product.

Inaccurate or incomplete reporting by the media also tend to perpetuate false associations of outbreaks with fresh produce that serve to elevate consumer concern. For example, a relatively recent outbreak of E. coli O157:H7 in foodservice outlets continues to be cited as evidence for the uncertain safety of watermelon consumption despite the clear outcome of health investigators that determined the cause to be negligent cross-contamination during meat handling in the same facility.

However, regardless of the economic impact of false associations, there remain real cases of produce-based contamination, illness and even death attributable to the consumption of uncooked fruits, vegetables and other perishable, edible horticultural commodities. Complacency and denial of the role of fresh produce in food safety, at any scale of production and handling or point in the pipeline from farm gate to consumers, is not a responsible or acceptable response. The more common response to these issues and concerns, by those at the forefront of both the conventional and organic produce industry, whether corporate growers and shippers or small-farm operators, has been to develop and adopt voluntary food safety programs. These food safety systems are being innovated and customized for each specific region, crop and crop management situation, which reflects the complexity and diversity of production of perishable, edible horticultural crops. These programs are based on various voluntary guidelines, typified by the 1998 Guide to Minimize Microbial Food Safety Hazards for Fresh Fruits and Vegetables released by the Food and Drug Administration. This document provides a framework for the industry to establish its own set of Good Agricultural Practices (GAPs) that are tailored by crop, region and the specific channels of commerce. The core approach of any GAP or related program is to identify steps to prevent microbial pathogen contamination and to implement multiple, science-based barriers to survival, persistence, dissemination and multiplication of pathogens. Thus, the GAP Plan is a comprehensive and systematic way to account for all aspects of production and to deal with the potential risks associated with each aspect.

Contamination by microbial pathogens can only result, ultimately, from an external environmental source at some point from production to food preparation. Nonetheless, as with all fruits and vegetables consumed without a cooking step, the best approach to maintaining the wholesome nature and safe consumption of edible horticultural products is to be aware of the potential risks and to systematically identify and establish management practices that minimize the chance of external and internal contamination at every step from growing to selling. There exists an immediate need for direct marketers to take a proactive role in delivering this same message to the public in order to assist them with safe food handling and preparation.

Based on the overall consumption of fresh produce, illness definitively associated with contamination that occurs prior to food preparation is a very low probability event. However, it is equally clear that outbreaks linked to fresh produce from various production areas, including small-scale operations, have occurred and have impacted large numbers of individuals across many states and into Canada. While most individuals can recover from foodborne illness without complications or the need for medical attention, some individuals like the very young, the very old and those who may be otherwise immuno-compromised may suffer complications, including those resulting in death.

In addition, the rise in opportunities for ag-tourism and ag-enterprise may expose the youngest members of at-risk populations to pathogens during farm visits that include petting zoos and direct animal contact. These are important and fun educational opportunities and can be safely operated with proper attention to sanitation and hygiene. However, the fact remains that hundreds of children have become ill, many severely, by acquisition of bacteria, such as E. coli O157:H7, during farm and petting zoo visits.

There are many resources available to assist growers, shippers, handlers and minimal processors in becoming informed of microbial food safety issues and Recommended Management Practices for prevention and risk reduction (some are listed below).

Key Principles of GAPs

1. Once contaminated, removing or killing pathogens on produce is very difficult.
2. Prevention of microbial contamination at all steps from production to distribution is strongly favored over treatments to eliminate contamination that may have occurred.
3. Documenting of implementation of prevention programs and food safety awareness training for workers at all levels of the agricultural and packing environments are key signatures of a credible food safety program.
4. Wherever water comes into contact with fresh produce, its quality may directly determine the potential for persistent pathogen contamination.
5. Properly composted manures or municipal biosolids are not a source of microbial pathogens on fresh produce.
6. It is not possible, or may not be permissible, to eliminate all animal influences from production fields. However, steps to minimize their presence or activities should be determined.
7. There is no substitute for awareness, training, and constant reinforcement of the importance of personal hygiene and sanitation as critical to sustainable business and employment.
8. All surfaces and implements that touch fresh produce must be treated as food contact surfaces
9. Well-designed and operated packing areas or facilities have the potential to contribute to the reduction of pathogen contamination. Lapses in attention to detail have the potential to amplify localized contamination, broadly redistribute pathogens or create opportunities for pathogen contamination during handling.
10. The quality of postharvest water that contacts fresh produce during cleaning, grading, cooling and application of surface treatments is widely recognized as the essential control point for fresh produce.
11. Attention to cleanliness and sanitation have the potential to maintain the integrity of a pathogen-free product during transportation and distribution. Lapses in sanitation have the potential to amplify localized contamination, promote internalization of pathogens into products and broadly redistribute pathogens.

Resources to get started

On-Farm Food Safety Self Audit and
Resource CD-ROM
http://vric.ucdavis.edu
http://ucgaps.ucdavis.edu
http://www.sfc.ucdavis.edu/docs/foodsafety.html

Food Safety Begins On-the-Farm Brochure and
Resource Materials (English and Spanish)
http://www.gaps.cornell.edu

Overview of Good Agricultural Practices
Final Guidance: Guide to Minimize Microbial
Food Safety Hazards for Fresh Fruits and
Vegetables (FDA 1998)

http://www.foodsafety.gov/~dms/prodguid.html

Animal Production Marketing for Survival

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The Animal and Egg Production Food Safety Staff (AEPFSS) is a part of the Food Safety and Inspection Service (FSIS). The AEPFSS is here to provide you with educational information to help in your animal production decision-making process. AEPFSS and UPR have no regulatory authority on the farm, but FSIS does regulate slaughterhouses in the sale of adulterated livestock and poultry intended for human food. In July 1996, the PR/HACCP final rule came about. The hazard analysis critical control point (HACCP) system depends on prevention and less on after-the-fact detection of adulterated product. It places food safety responsibility squarely on the slaughterhouse.

This change called HACCP has an impact on the farm because slaughterhouses want assurances from producers that the animals they buy are safe. We know the quality of animal food products begins with the quality of animal care. With HACCP, local and global marketplaces are now demanding that the farmer consider food safety at the animal production level. In order to survive and remain competitive, understanding and applying food safety principals at all production levels are becoming necessary.

There are two main reasons why food safety on the farm is becoming a survival strategy. First, market forces are causing packinghouses to request assurances from producers that the animals purchased for slaughter are healthy and free of residues. Second, an upsurge in consumer awareness of food safety issues demands increased industry attention at the animal production level. In response to these new concerns, the animal producer must consider developing a survival strategy that is in tune with the new economy. This survival strategy should identify food safety risks and find solutions to current problems by using the latest cutting-edge technologies. Some of these technologies consist of (HACCP) principles, quality assurance (QA) programs, and certified safe animals as a part of a farm or ranch animal production program. The total concept is a HACCP Compatible QA-Certified Program.

First you need to develop a strategy. I suggest that producers partner with consumers in food safety. Here's why. Americans enjoy the safest and most abundant food supply in the world, but the Centers for Disease Control and Prevention (CDC) say that in the United States each year there are 76 million reported cases of foodborne illnesses. An estimated 323,000 of these are severe enough to require hospitalization and 5,000 cases result in death. That's what's known, however, many cases of foodborne illness go undetected. Consumers want safer food. The consumer wants to buy meat, poultry, seafood and eggs that are safe, free of pathogens and residues. By partnering with consumers and thinking in terms of safe food, your strategy begins to unfold.

If food safety is going to start on the farm, you will need a program that is scientifically based, increases productivity and is ethically and morally sound. So let's look at HACCP Compatible QA-Certified Programs. OK, I know that is a really bureaucratic term, but that's the language that is being used. Let's break it down and see what you can use. It breaks down into four principles: risk assessment, HACCP principles, quality assurance programs, and a way to produce certified-safe food.

Risk

Risk, very simply, is the chance that something bad can happen. Identifying risks or hazards is the first principle of HACCP. I will be discussing this in a moment. Just a note, FMD is not a food safety hazard, but the HACCP principles can be used for more than food safety.

For a risk assessment for food safety, ask yourself three questions. What can go wrong, how likely is it to happen, and how bad will the outcome be? For example, if you raise cattle, BSE is something that can go very wrong as a food safety risk. But the chance of it, at least in the United States, is still very low. The reason everyone is concerned is if it does occur, it's going to be bad.

HACCP

This is a plain language approach:
Principle I: What can go wrong?
Basically, this is a risk assessment.
Principle II: Where do we prevent the problem? (Buying feeds or new animals, mixing feeds, giving medication to your animals.)
Principle III: How much can be allowed? (There are limits and guidelines for residues. There are no standards yet for pathogens.)
Principle IV: How do you detect the problem? (Reports back from the slaughterhouse, identifying your animals and comparing them to your records.)
Principle V: What actions do you take? (Require assurances from your feed and animal supplier, review feed mixing and medication procedures, make sure you followed withdrawal times.)
Principle VI: Keep records (This is the backbone of any successful preventative system.)
Principle VII: Reports on progress (See where you are improving, certification may help here.)

Quality assurance programs

A quality assurance (QA) program allows each producer to set production standards. These are goals that the producer wants to meet, such as growing a quality animal to a finished market weight in a certain number of days. Then, QA programs, by a paper trail of actual production, allow the animal producer to figure out how well an animal did when it is compared with the goals or production standards. QA focuses on the quality of feeds, management and the animals presented for retail markets. Once in place, the producer should see an increase in the quality and efficiency of production practices and, perhaps, even a reduction in production costs.

QA and HACCP focus on preventive measures by using Critical Control Points (CCPs). Remember, a CCP is where you prevent the problem. Planning is the key to success to both QA and HACCP. A goal of QA and HACCP programs is to help animal producers supply healthy livestock and poultry free of pathogens, disease and residues. Residue avoidance is a significant part of animal production QA programs.

Certification

To most buyers and consumers, "Certified by…" is a mark of quality. There are a number of advantages gained by establishing a production and management system that meets QA standards. A QA-certified program for food safety provides producers with the following:

- Proper use of drugs and medicated feed.
- Records that assure purchasers of good production practices.
- Reduced residue violations.
- Reduced risk of pathogens.
- Improved production efficiency and quality.
- Increased food safety awareness and market assurance.
- Opens opportunities in niche and international export markets.

To find out about certification, check with animal producer organizations (AEPFSS has a listing) and also check with your state veterinarian or equivalent in Puerto Rico. This is a very cutting edge area. A 100 percent certified food safe herd is not possible yet, but you can have a certified residue-free herd that will meet current market standards.

A certified QA program is verified by an accredited third-party professional. This person is often a veterinarian, extension staff member or agricultural educator—and an ally to the producer with a genuine interest in establishing and maintaining the safest, most efficient production practices possible.

HACCP compatible QA-certified CCPs

- Establish a valid veterinary-client-patient relationship. Producer and veterinarian work as a team to establish and implement proper animal care and health management practices.
- Implement and follow proper animal care and husbandry procedures. There are some general animal care and husbandry practices that must be followed by producers seeking QA certification. These guidelines typically cover codes of practice, handling, equipment, human contact, facility considerations, quality of food and water, loading and transportation.

- Establish a herd health management plan. How does an animal producer provide top-notch health care to an entire herd? The establishment of a flock/herd health management plan is the place to start. The details of this plan include everything from simply observing the herd (along with the veterinarian) to slaughter checks.
- Practice responsible use of animal health products. Residue avoidance is an important goal for all animal producers. That's why the proper storage and use of drugs and medicated feeds are an essential element in QA programs.
- Maintain detailed and accurate medication and treatment records. A valuable QA tool is a well-designed and properly used system for identifying and tracking all animals treated by drugs or medicated feed.
- Animal Identification. Identification and source verification are becoming standard practices. Packers and companies are demanding value-added beef, pork, poultry, etc., from their producers. Before retailers and consumers will pay a premium for value-added product, they want to know certain things about the product. They want to know where the animals came from and how they were managed. They want to know if they find a problem with any of the product that they can work with their suppliers, identify the source and correct the problem.
- Complete a quality assurance checklist annually, get certified, and recertify every two years. While these may seem time-consuming, the process actually provides the producer with objective professional advice on production practices, help save money, discuss nutrition programs and new animal health care products with veterinarian, review and identify opportunities for improvements in production facility design and operation.

Summary

A HACCP compatible QA-certified system of animal health management will produce food quality and food safety for the consumer. It will work best when you:

- Develop a producer, consumer strategy.
- Determine your risk (perform a risk anaylsis).
- Apply HACCP principles.
- Establish a QA program.
- Consider certified-safe food.

Working together, animal food producers, veterinarians, animal producer organizations, colleges and universities, and federal and state regulatory agencies can develop, educate and implement HACCP compatible QA-certified programs designed to ensure both food quality and food safety. To a public that is demanding safe food, these programs are excellent marketing tools.

Producing and Marketing Speciality Flowers and Plants

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There is a universal appeal to specialty cut flowers. The trick is to be ahead of the crowd. To do that, a grower must create his or her own niche. What is the right combination for the grower to have a successful operation? Information sources are also vital to any innovative enterprise. To stay ahead of the curve a grower must find new plant material on a regular basis and constantly improve upon current crops.

Opportunities for Meat Goat Production and Marketing

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Abstract

The plight of small-scale and underserved farmers and ranchers with respect to their declining numbers as well as the declining numbers and acreage of their land holdings is well documented. Most small-scale farmers and ranchers cannot effectively compete with large and corporate farmers and ranchers in the traditional cattle, hog and poultry markets. They are advised to seriously consider meat goat production as an alternative industry. The demand for meat goats continues to rise while imports of the same continue to decline each year. Also, local production does not meet demand. Farmers do not need hundreds of acres of land to operate a goat farm. Goats can coexist with cattle because each uses different forages. Goats can be utilized in clearing brush and weeds on the farm. However, the usually part-time, small-scale farmers and ranchers lack the knowledge, skills and abilities (KSA) to run a goat business. To fill this void, Langston University's E. (Kika) de la Garza Institute for Goat Research has two projects aimed at equipping the small-scale farmers and ranchers with the necessary KSA to take advantage of this upcoming niche market. The objectives of the two projects: "Summer Institute Promoting Farm Security and Diversification among African-American and Native American Small Farmers" and "Enhanced Goat Production Systems for the Southern United States" are highlighted.

Introduction

Small-scale farmers and ranchers are an important part of the food and agriculture industry, producing quality food and agricultural products (National Commission on Small Farms 1998). Many small-scale farmers and ranchers have quit farming and most of those remaining farmers and ranchers have contemplated quitting because of lack of making a profit. A disproportionately large number of small-scale farmers and ranchers experiencing difficulties are minority farmers and ranchers. African-American and Native American small-scale farmers struggle to remain in agriculture and to pass on their agricultural heritage to their descendants. The current agricultural production system does not favor the smallholder and this group of farmers is quickly disappearing, especially minority farmers. Many socially disadvantaged farmers have expressed a desire to investigate alternative agricultural enterprises, especially meat goat production. The number of African American farmers declined from 925,710 in 1920 to 18,816 in 1997. This figure represents a 98 percent decline in the number of African American-operated farms from 1920 to 1997. In contrast, Caucasian American-operated farms declined by only 63 percent in the same period. (U.S. Department of Agriculture 1999a, Rural Coalition 2002; U.S. Department of Commerce 1968). In Oklahoma, the number of African American farmers and ranchers declined from a peak of 13,403 in 1920 to 722 in 1997 (U.S. Department of Commerce 1968; U.S. Department of Agriculture 1999b). Similarly,

farmland acres owned by African Americans have been irreversibly slipping away. Nationally, African American farmers have lost more than 27 million acres of privately owned farmland since the 1960s (Public Broadcasting Service 1999).

Most small-scale farmers and ranchers operate only one enterprise, such as tobacco in Kentucky, cow-calf in Oklahoma and Texas and potatoes in the Mississippi valley. They need to diversify their farm operations in order to make a profit and stay in the business of farming or ranching, because an enterprise that does not realize a profit cannot be sustained. One of the alternative enterprises, which has great promise for small-scale farmers and ranchers, is meat goat production and marketing. This is a niche market small-scale farmers should explore and capitalize on.

Trends

Statistics show that the demand for goat products, especially goat meat, is increasing rapidly in the United States. The number of goats slaughtered at the federally inspected facilities from 1977 to 2001. The number increased from approximately 50,000 in 1977 to more than 550,000 in 2001.

Whereas the United States used to export goats in the late 1980s and early 1990s, it has become an importer of goats. Two major suppliers are Australia and New Zealand. A decline in the amount in 1999 shows how world supply can affect the amount that can be imported. When Australia experienced a drought, the number of goats that could be exported was much lower than before.

Goat imports cost the U.S. farmer about $13 million a year. This is where the potential lies for small-scale farmers and ranchers to fill the gap. The United States is increasingly becoming a nation with populations that utilize goat meat as their meat of choice: immigrant populations from Latin America, Africa, Asia and the Middle East.

Why meat goat production?

As indicated in the preceding section, meat goat production is a viable and sustainable enterprise for small-scale farmers and ranchers. It is an appropriate niche market for small-scale farmers and ranchers who want to diversify their operation. It doesn't compete with cattle for forage. In the world of highly fluctuating beef prices, the price of goat meat has always been rising. Of course, past performance does not guarantee future earnings, but because small-scale farmers by nature utilize only fewer acres of land, meat goat production is more sustainable.

What Langston University is doing

Small-scale and part-time farmers are increasingly becoming interested in goat production. However, they do not have the knowledge, skills and abilities to effectively manage and succeed in remaining in this industry. Langston University, in cooperation with others, is building the knowledge, skills and abilities of small-scale farmers so they can manage their goat farms and ranches. It has had two projects. One has just been completed, called "Establishment of a Summer Institute Promoting Farm Security and Diversification among African American and Native American Small Farmers" (the Institute). This was a partnership among Langston University's cooperative extension and outreach programs, Heifer Project International (HPI) and Kerr Center for Sustainable Agriculture. The institute trained farmers in four different areas of the state of Oklahoma in eight practical workshops. Whole-day, hands-on workshops covered the following topics: fencing and housing, acquisition and selection of stock, marketing and record keeping, feeding and nutrition, herd health and general management concerns, breeding and kidding management, internal parasite control, and fitting and showing for youth. The workshops were very successful. A manual will be developed and participants were awarded certificates of attendance or certificates of accomplishment if they passed the final test. As a result of attending the workshops, farmers and ranchers were eligible for a grant or animals from HPI.

The second project is "Enhanced Goat Production Systems for the Southern United States." As a regional project for 1890 institutions, this is a multistate and multidisciplinary effort sponsored by the U.S. Department of Agriculture's Initiative for Future Agriculture and Food Systems (IFAFS). The purpose is to improve the compatibility of goat production systems with available resources. The project has three objectives develop a vehicle to appraise compatibility of available resources and production systems; develop appropriate goat production systems based on compatibility with presently available resources and production conditions, and evaluate changes in resources or production conditions necessary for employment of alternative, preferred systems; and disseminate

and provide training in use of the developed decision-support vehicle.

Scientists from Langston University, Virginia State University, Fort Valley State University, Prairie View A&M University, North Carolina State University, Louisiana State University, National Animal Germplasm Program and Appalachian Farming Systems Research Center are cooperating on this effort. The scientists have been evaluating existing production systems and conditions to determine suitable appropriate and alternative systems with regard to existing resources.

The scientists will develop a database that can be electronically accessed by interested farmers and ranchers. Model inputs include animal characteristics, such as weight at maturity, rate of maturation, growth curve and body composition; milk production (peak production potential, lactation curve, available lactation capacity and secretion curve); reproduction (seasonality of estrus and ovulation rate); fiber growth (genetic potential, age, photoperiodicity and degree of maturity); resistance to internal parasites; feed intake (animal physiology, gut capacity, fees availability and feed quality); and metabolism (nutrient partitioning and tissue mobilization).

Model outputs will include yearling weights, births per doe, sale weights per doe, kids sold per doe, biological efficiency, body weight, feeds intake, average daily gain, milk production, and fleece weight.

An Internet Web site is being developed for the goat simulation program detailed in the IFAFS project so that researchers, small-scale farmers and ranchers, extension specialists, county agents, and students will be able to access the simulation program worldwide in real time and with the latest enhancements (Figure 4, http://www2.luresext.edu/sim/sim.pl).

Conclusion

Potential exists for small-scale farmers and ranchers to be engaged in meat goat production. Goat production and marketing provides a special niche for small-scale farmers and ranchers. It does not compete with cow-calf operations, has an increasing number of potential consumers and, in the near future, provides a sustained income potential. Efforts being undertaken at Langston University, 1890 institutions and other institutions will even make this business more manageable.

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Entrepreneurship: The Key to Small-Scale Farm Survival

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Main problem:
1. Small farms are at a disadvantage to larger farms:
   a. Cannot compete in terms of volume.
   b. Cannot recognize economies of scale.
   c. Not recognized as being "efficient."
2. Small farms do not always have access to the technologies that have "improved" modern food production.

Solutions:
1. Small-scale farmers begin to closely evaluate the needs of consumers that are not currently being met.
2. Small-scale farmers begin to fill in the gaps that have been created by large-scale agriculture.

Key elements:
1. Partnerships
2. Thinking beyond the typical range of farming
3. Education

Partnerships:
1. Extension agents and specialists
2. Small Business Development Center Network
3. University Entrepreneurship Centers (DSU)
4. Food industry specialist

Thinking beyond typical farming:
1. Growers
   - Those who are concerned mainly with growing raw products.
2. Processors
   - Those who are concerned mainly with processing raw product into a value-added product.
3. Buyers/purveyors
   - Those who purchase products (raw and/or processed) to sell to others (includes wholesalers and retailers).
4. Marketers
   - Those who are concerned mainly with connecting as closed to the consumer as possible to maximize revenue.

Education:
1. Workshops and seminars
2. Tours of markets, processing facilities, entrepreneur kitchens, etc.
3. Consumer awareness

Success and Survival: The Small Farm Success Project

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1. "Researching and developing new market opportunities for small farmers," Lydia Oberholtzer, the Henry A. Wallace Center for Agricultural and Environmental Policy at Winrock International (loberholtzer@winrock.org)
2. "Developing sustainable and profitable crop rotation strategies," Charles Kauffman, Accokeek Foundation (cskauffman@accokeek.org)
3. "Financial strategies that enable small farms to remain viable through the use of an entrepreneurial Web site," Dale Johnson, University of Maryland (dj9@umail.umd.edu)

Introduction

A coalition of nonprofit organizations, Cooperative Extension Services and USDA-Agricultural Research Service (ARS) in the Mid-Atlantic region is dedicated to helping small-scale and emerging farmers improve their financial success. With funding from the USDA's IFAFS program, the coalition developed an initiative entitled, "The Small Farm Success Project," to help farmers: effectively use consumer research and direct marketing techniques; develop sustainable and profitable crop rotation strategies; and adopt financial strategies that enable farmers to remain viable. The coalition includes Maryland Cooperative Extension, Future Harvest/CASA, Accokeek Foundation, Wallace Center for Agricultural and Environmental Policy at Winrock International, USDA Beltsville Agriculture Research Center, Pennsylvania Association for Sustainable Agriculture and Pennsylvania State Cooperative Extension.

Researching and developing new market opportunities for small farmers

The marketing component of the Small Farm Success Project has focused on four main activities: development of case studies and profiles that examine the successes and key challenges of innovative marketing methods in the mid-Atlantic; the offering of marketing education through workshops and demonstration/field days; the creation of a Community Farm Initiative (CFI) in southeastern Pennsylvania; and the awarding of small grants to producers and groups in the mid-Atlantic for marketing activities.

The studies and profiles focus on innovative marketing activities being undertaken by producers in the mid-Atlantic; marketing issues regarding Community Supported Agriculture (CSA); producer-only farmers' markets in the three-state area of Maryland, Pennsylvania and Virginia; and other marketing issues for small-scale farm operators. Numerous marketing workshops and demonstration days have been held by the project's collaborators in the mid-Atlantic to share this information.

Community Food Initiative (CFI) in southeastern Pennsylvania was created and based on a similar model in Southwestern Pennsylvania. This initiative is starting or supporting innovative marketing activities in a 10-county region of southeast Pennsylvania, which includes Philadelphia, and is guided by a steering committee of stakeholders in the region and led by the Pennsylvania Association for Sustainable Agriculture (PASA).

Finally, the Small Farm Success Project has offered more than 35 grants to individuals and groups in the mid-Atlantic to start and support innovative marketing activities.

Rotation schemes in high-value cropping systems in the mid-Atlantic

The production component of the Small Farm Success project is focused on cultural practices for small farms where sustainable agriculture methods are used. The high population concentrations throughout the region provide many direct market opportunities for farmers. In addition, the mild climate is conducive to the production of a wide variety of crops over a long growing season. One of the goals of this project is to develop models for crop rotation schemes on small acreages used for diversified high-value crops. At the outset of the project, we determined that we

would document the rotation schemes currently used by small-scale farmers in the region. Farmers were questioned about how they design rotation schemes to manage nutrients, control weeds and reduce the pressures from insects and plant diseases. Over the long run, we want to learn where research is needed and then design trials to help farmers find solutions to their problems. During the first year of the Small Farms Success project, surveys were conducted among diversified small-scale farmers across the region. We learned that no recurring patterns for rotation schemes were evident, even among the most successful farmers. It became evident that pragmatic farmers must improvise and respond to seasonal weather patterns, even if they have already made detailed plans for their rotation schemes.

Concurrently, we are observing, documenting and modifying methodology at Accokeek Foundation's Ecosystem Farm, which was established in 1991 as a model demonstration farm where vegetables, herbs and flowers are produced and marketed locally. Over the past 11 growing seasons at the Ecosystem Farm, we have made changes in rotation schemes based on our ability to establish cover crops; seasonal rainfall patterns or lack thereof; acquisition of appropriate farm implements; labor availability; and changing market-demands. Our goals are to modify rotation schemes to optimize year-round production of high-value crops; minimize costs and off-farm inputs; maximize use of natural processes for nutrient and pest management; and maximize the quality and quantity of the farm's productivity.

Financial strategies that enable small farms to remain viable through the use of an entrepreneurial Web site

To improve farm efficiency and profitability, particularly of small and medium-size farms, farmers need easy access to good management information and tools that will help them make decisions in all aspects of the business, including strategic and tactical business planning, marketing, record-keeping and financial analysis, enterprise selection, and production. The small farm success entrepreneurial Web site will provide farmers with a variety of online and downloadable business management tools and farm management information. It will be an easy-to-use clearinghouse for this vast and diverse body of information and tools currently available to farmers. A myriad of publications, seminars, workshops, courses and computer tools are available from government, universities and private sources, but farmers have difficulties in hunting them down and developing a comprehensive and dynamic business plan that will truly help them become successful. The Web site will help them with this process.

The majority of farmers in many states now have computers and a many farmers who have computers also have Internet access. Many farmers also have access to the Internet through computers at county Extension offices and from Extension educators who have the ability to help them use the Internet. Through the Internet, we now have the ability to efficiently provide farmers access to all the business management tools and information they need. This "farm entrepreneurial Web site" will be a definitive source and link of farm management information and tools on the Web.

Growers Going Online

Eric Gibson
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The Internet has been called the fastest growing technological phenomena in history, achieving a level of acceptance with the public in a matter of a few years that took much longer for radio or television. With the Internet becoming more and more a part of modern life, lots of farmers are wondering if and when they should go "online" for agricultural purposes. Many were initially excited about the idea of selling products online.

Unfortunately, some farmers have been swept up by the gold rush mentality of the Internet, swallowing the line from promoters that they will be "marketing to the world and won't be able to keep up with all the orders." Few farmers have made a quick fortune selling edibles over the Internet, yet they've found lots of good reasons to make the Internet one of their essential farming tools.

In fact, like many other examples of new technology, the Internet may be used in very different, unexpected ways than people had first envisioned it, and the new ways may be, in fact, more exciting and useful than the original conceptions.

One striking example of how the Internet may be used for local, direct marketing by small-scale farmers is with Community Supported Agriculture (CSA) operations. According to industry analysts at Peapod, which bills itself as America's largest Internet grocer, home shopping may represent as much as 8 to 15 percent of grocery volume by the year 2005. "Online shopping is rapidly becoming the biggest thing that's happened to the grocery business since the shopping cart," Peapod's Web site at www.peapod.com proclaims.

As an example, for most CSA farmers, management can often be the single biggest challenge to their operation. As one CSA grower expressed it, "If you discover at the last minute that one of the baskets is missing a zucchini, it means a trip out to the zucchini patch to get another zucchini." For one innovative Northern California CSA farmer, the answer to the management riddle lies in a highly sophisticated computer database that he says is much too complicated for him to design and maintain—he farms out both these tasks to his customers in a typical CSA "skills for veggies" exchange. With back-and-forth e-mails, one of his computer-savvy CSA customers keeps track of customer orders, when customers will need to put a "vacation hold" on orders for a few weeks, or order something extra for a family celebration, etc.

The same farmer also sells at farmers' markets and some customers send him e-mails asking him to set-aside special orders so they won't have to arrive early at the market.

I have found many, many exciting examples of small-scale farmers using the Internet:

- Marketing: Use the Internet to increase sales through farmers' markets, roadside markets, CSAs, PYO, agritainment, mail order, selling to restaurants or grocery stores, etc;
- Production: Going to Web sites or e-mail discussion groups to research seeds, trials, pest control, equipment, weather, etc.;
- Web site: Setting up and promoting farm products;
- New uses: Using digital photography to identify pest or plant disease.

Eric Gibson is the author of "Sell What You Sow!" and co-author of "The New Farmers' Market," as well as the upcoming "Grower's Guide to the Internet." Find information about these books at www.nwpub.net.

New Trends in Farmers' Markets

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USDA—Agricultural Marketing Service
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2000 Farmers' Market Director Survey of Market Managers

Procedures

- Questionnaire mailed to each identified market manager
- Telephone follow up to nonresponse
- Unable to contact about 10 percent
- Bad/no phone numbers
- Bad/no address
- Bad/no contact person

Specific objectives

- Sales by market, vendor, and purchases by customer
- Farmer demographics
- Customer demographics
- Market administration & operations
- Physical characteristics

Customer growth/customer spending

- $17.30 per week per customer
- $306 per year per customer

Sales per vendorweighted by vendor

- 00.0238 percent $100,000+
- 99.9762 percent <$100,000
- 79.8685 percent <$10,000

Vendor Sales

- 24 percent–$1 to $1,000
- 39 percent–$1,001–$5,000
- 17 percent–$5,001–$10,000
- 11 percent–$10,001–$25,000
- 4 percent–$25,001–$50,000
- 4 percent–$50,001 +

Farmer growth/self sufficient

- 82 percent are self-sufficient
- 18 percent are not self-sufficient

Who Supports Markets

- 33 percent–local government
- 17 percent–state/federal government
- 12 percent–chamber of commerce
- 12 percent–other nonprofit
- 14 percent–not specified
- 26 percent–other

Market administrators/ producer only markets

- 75 percent producer only
- 25 percent allow non producers

WIC Acceptance

58 percent accept WIC

Gleaning

- 25 percent glean
- 75 percent do not glean

Who Shops at Markets

- 74 percent–White
- 14 percent–Black or African American
- 1 percent–American Indian or Alaskan Native
- 5 percent–Asian
- <1 percent–Native Hawaiian or Pacific Islander
- 6 percent–Other Race

Hispanic customers

- 7 percent–Customers are Hispanic
- 41 percent–Managers reported Hispanic equal Other Race

Future reports

- Producer only
- Markets with a paid manager
- Number of farmers/customers
- Region
- Volume of sales

2002 Farmers Market Directory

- 3,138 farmers markets nationally
- 25 states reported increases
- 19 states reported no change

Farmers' Market Growth 1994–2002/ Farmers' Market Promotion Program Goal:

- Establish, expand and promote farmers markets
- Farmers Market Promotion Program

Eligible entities:

- Agricultural cooperative;
- Local government;
- Nonprofit corporation;
- Economic development corporation;
- Regional Farmers' Market Authority; or
- Other entity as the secretary may designate.

Farmers' Market Promotion Program Objectives:

Increase domestic consumption of agricultural commodities by improving and expanding or assisting in the improvement and expansion of domestic farmers' markets, roadside stands, community-supported agriculture programs and other direct producer-to-consumer market opportunities; and Farmers' Market Promotion Program; develop, or aid in the development of new farmers' markets, roadside stands, community-supported agriculture programs and other direct producer-to-consumer infrastructure Marketing Services Program.

Contact:

www.ams.usda.gov/directmarketing
www.ams.usda.gov/farmersmarket
www.ams.usda.gov/tmd/MSB/msb.htm
www.ams.usda.gov/tmd/fsmip.htm

Grant Writing Overview

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Background
Process
Application
Review of grant proposals
Rating of grant proposals
Substance: What makes a good grant proposal?
The outcome
If funded, what happens next…
If not funded, interpreting the results

Background

My own experience with the USDA "Community Food Projects" grant process

Application process:

Review application thoroughly

- Due dates
- Review of grant proposals
- Review criteria
- Review by panel members
- Role of a panel manager

Ratings of grant proposals:

- Outstanding
- Excellent
- High priority
- Very good
- Medium priority
- Good
- Low priority
- Fair
- Some merit
- Poor
- Do not fund

Substance: What makes a good grant proposal?

- First impressions do count!
- Full proposal is only reviewed by three panelists.
- They provide the overview to the rest of the panelists.
- Make proposal:
  - Easy to read—Avoid jargon
  - State clear and concise objectives
  - Use timely information
  - Be clear about your project/program

Proofread your proposal:

- Have other colleagues who are familiar with your work or work with you review the proposal.
- No typos please.
- Follow the proposal guidelines step-by-step.
- "Single blind" review process.

What makes a good grant proposal?

The "Rational and Significance" of your project:

1. Proposal should be "issue" rather than "model" oriented. The reviewer should be able to see how the project components fit together to creat a systems approach.
2. Link your project to the goals of the Community Food Project and other USDA goals. Do not try to "make your project fit" the grant guidelines or Request for Application.
3. Do your proposal "homework."
4. Clearly outline the project and intended work to be accomplished.
5. Clearly state your intended outcomes.
6. Prepare a timetable of events.
7. Clearly state your collaborators and their relationship to your organization and the work to be accomplished.
8. Include "Letters of Support" from collaborators. Have them clearly identify their relationship to the project, matching and/or in-kind funding, and other pertinent information.
9. Prepare a timetable that includes the work to be done, how it will be accomplished, expected outcomes and by when. Make sure it agrees with your overall project narrative and your budget.
10. The budget should be clear and complete.

11. Do not over budget! Ask for what you need.
12. The budget narrative should match your timeline, project narrative and your matching funds. It should be clear to the reviewer how the money is being spent and how all of the pieces fit together.
13. Having a strong evaluation statement is important. Explain who will be evaluating, their strengths and what criteria you will use to measure your project's success.

Key questions:

- Why should we fund this proposal?
- Why are you, your organization/agency and collaborators the right choice for this work?
- How will this funding make your project more self-reliant?

The outcome

If funded…quick news is good news. Follow-up on administrative requests and requirements quickly so that your paperwork is complete and funding can be released for your project.

If not funded:

- Carefully review the panel summary.
- Call USDA program director for information.

The outcome

Try to figure out what box you fit in:

- Good topic/but not good fit
- You're not in the game
- In game, but not quite there…revise and resubmit
- Cavalier/trust me proposal

Summary

- Insights to the review process
- Tips on good grant proposal writing
- Interpretation of the outcome
- Incourage you to be active in the process

Overview of Agroforestry Practices for Woodlot Owners

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USDA National Agroforestry Center, Western Office
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The USDA National Agroforestry Center is located in Lincoln, Neb., with satellite offices in Ft. Worth, Texas, Minneapolis/St. Paul, Minn. and Spokane, Wash. It is a partnership between the U.S. Forest Service and Natural Resources Conservation Service. It is staffed with professional foresters from both agencies to develop/deliver agroforestry technology to natural resource professionals and conduct research on the design/installation of agroforestry practices for environmental, economic and social benefits.

Agroforestry is the integration of agricultural and forestry practices into land-use systems that conserve and develop natural resources, while increasing economic diversity at both the farm and community level. The trees/shrubs established in agroforestry practices are working trees that have a job to do. Agroforestry does not replace production agriculture. Trees/shrubs are integrated into the production system for specific or multiple purposes.

Agroforestry practices include alleycropping, silvopasture, forest farming, riparian forest buffers, windbreaks and special applications.

Alleycropping—Annual/perennial crop grown between high-value tree or shrub crop. Annual income derived from crop, long-term income from tree/shrub crop. Examples: corn/soy beans/forage grass grown between black walnut or Christmas trees.

Forest farming—Cultivation of high-value specialty crops under a forest canopy (planted or natural), which is modified to provide the correct microclimate. Examples: ginseng and mushrooms grown under hardwood stand.

Windbreaks—Linear tree/shrub plantings designed to reduce wind erosion and much more. Examples: protect crops, livestock, farmsteads, and communities. Reduce odor and pesticide drift. Provide snow control on roads and working/living areas. Many agricultural areas of United States still in need of windbreaks.

Riparian forest buffers—Natural or planted woodlands adjacent to water. Designed tree/shrub/grass plantings can protect water resources from nonpoint source pollution. Eastern Kansas study showed importance of trees along streams. During the year 2000 floods, single tree and forestlike conditions adjacent to streams prevented streambank erosion. Significant streambank erosion occurred in crop and grass cover adjacent to streams.

Silvopasture—Combines timber and forage production. Trees generate long-term return, livestock generate annual return. Silvopasture can be accomplished starting from pasture or forest. Fire is a constant threat to our forests. It can cause severe resource damage in overcrowded and high fuel-load stands. Fire hazard is greatly reduced in silvopasture systems. Using EQIP and FLEP programs within the 2002 Farm Bill to reduce fuel loads and fire hazard would be wise. Silvopasture is a good agroforestry option for this purpose.

Special applications—Specialized tree plantings that provide environmental benefits. Fast-growing trees like hybrid poplar and willow can utilize excess water and nutrients (waste) coming from communities and confined livestock operations. They can also produce wood, fiber, and fuel products in short rotations of 15 years or less.

Much technical and reference information can be obtained on all the agroforestry practices by accessing the National Agroforestry Center's Web site: www.unl.edu/nac.

Using Trees To Clean Dairy Waste

Bob and Karla Sextro
Joe Harner
Extension Engineer, Kansas State University
Jana Beckman
Coordinator
Kansas Center for Sustainable Agriculture and Alternative Crops

Bob and Karla Sextro have worked with Kansas State University Research and Extension, the Kansas Department of Wildlife and Parks, the Kansas Forest Service and the USDA SARE program to build a system that filters water from their 100-cow dairy using a living waste filter system. The system cleans the dairy's wastewater using four holding cells and a tree and grass filter. The trees and grasses remove nutrients from the water and use them in growth.

The living waste system works in place of a traditional lagoon system and incorporates existing tree plantings on the farm. The only equipment needed to manage the system is a manure spreader.

Reduced equipment costs were offset by higher costs of building the system but the Sextros received grants and cost shares to help balance the expense of implementing the system.
The filter works by scraping manure from the cow barns into a pit with a self-moving gate that expands as more waste is added to the pit, which can hold 90 days worth of manure from the dairy. The old waste system required hauling manure about once a week.The gate compresses liquids from the waste. The pit is estimated to squeeze 70 to 80 percent of the water from the waste. That water enters the first cell of the filter system.

Wash water from the milking parlor is also piped to the first cell. It then flows into a larger second cell. When the second, shallower cell reaches a trigger level, water discharges into a third cell. Rainfall causes water from the third cell to spill into the filter, where nutrients are taken up by plants. When water exits the filter strip, it is collected in a fourth cell, where it is held until rain triggers a rise in the water level. The water then spills into a channel through which it joins runoff from the watershed.

In addition to its effectiveness in filtering excess nutrients from wastewater, the Sextros have appreciated the aesthetic value of their filter system. They have seen more songbirds, quail, pheasants and deer. Domestic ducks and, occasionally, wild ducks, reside along the cells. The Sextros have planted black walnut, pecan and fruit trees and had gooseberries this year. More trees are planted every year to add to the filter and replace trees that do not make it through the winter.

Certified Sustainable Forest Management

Kent Prather
Producer
Sustainable Woods Cooperative
Lone Rock, Wis.

All of us want to increase the economical value of our forest. Most of us understand that a well-managed forest does just that. However, less than 10 percent of forest owners are actively managing their land.

Why is that? It is because of fear, distrust and lack of information both in the area of education and services. Every forestland owner has a story or has heard one about a logger or timber buyer who was turned loose on their land and now regrets it.

Still others simply don't know what they could be doing to improve their forest land and therefore do nothing. I was one such forestland owner once upon a time.

There are other benefits to a well-managed forest:
1. A healthy ecosystem
2. Higher water quality
3. Improved wildlife habitat
4. Cleaner air
5. Increased recreational value
6. Aesthetics

The emerging solution to the problems of fear and lack of education is sustainable woods cooperatives and Forest Sustainable Council (FSC) forestry management standards.

At Sustainable Woods Cooperative, Lone Rock, Wis., we have partnered with two FSC-certified consulting forestry companies. The resource managers provide our members with a number of services, such as:
1. Writing management plans
2. TSI (timber stand improvements)
3. Marking timber for sale
4. Managing timber sales/logging operations
5. Reforestation
6. Prairie and oak savannah restoration
7. Low impact logging, which includes horse logging
8. Burns—both prairie, savannah and oak forest restoration

An additional benefit to the co-op member is that once their forested land is placed under management of the resource manager, they may achieve certification as a FSC well-managed forest.

Why FSC? Because of its principles and criteria of forest management. These forestry standards were developed by landowners, professional foresters, timber companies, and representatives of business, environmental and community organizations.

At SWC, Lone Rock, Wis., we have found that by becoming a part of the FSC program it has given us greater credibility, which has led to believability and trust with our members and consumer customers.

A cooperative can play a very large role in educating its members. Many issues, such as sustainable forestry management, ecological enhancement, and nonwood forest products, can be topics.

At SWC, we have a bimonthly educational paper, "The Oak Openings" to address some of these issues.

We partner with other organizations like the Nature Conservancy, the Woodland School, WWOA and others that have an interest in education, by providing:

1. **Workshops:** For the last two years we've had a shiitake mushrooms workshop. This is a hands-on event in which hundreds of small-diameter logs are inoculated with spores and then passed out to interested members. A year later these logs bear a gift of mushrooms for all to enjoy.
2. **Field days and walk abouts:** This is when an experienced member shares his or her knowledge with other members, usually on their land. Our resource managers also lend an educational hand in these as well.
3. **Seminars:** Knowledgeable speakers are invited to talk about any number of issues regarding good forestry or land management. The cost of these programs are shared by the members.

By providing these services and programs, fear and distrust are replaced with credibility, control of process and landowner empowerment. The educational benefits convert lack of information to any number of forest owner's management objectives. The forest owner sustainable woods cooperatives are the means to the well-managed forest ends. The benefit is a higher-valued forest for the forest landowner and society.

Horses and Mud: Oregon's Experience with Water Quality and Small Horse Farms

Garry Stephenson
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Oregon State University Extension Service
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Oregon small-acreage horse owners are a large but typically underserved group compared with other livestock owners. According to Oregon State University estimates for 2001, there are more than 120,000 horses in Oregon. In animal units, there are more horses than dairy cattle, sheep or hogs.

Many agriculture and natural resource professionals feel that this population has a tendency to overstock, overgraze and exhibit other poor land-management practices. With the horse's high output of manure and the tendency to store manure and urine-soaked stall waste uncovered and outdoors, manure management is also a great concern. With western Oregon's high annual rainfall, these management issues coupled with the high population of horses suggests they are likely significant contributors to nonpoint source pollution of surface and groundwater from manure, urine and sediment.

Oregon is currently making a significant effort to improve watershed health and enhance salmon recovery. In addition, the federal government is imposing stricter regulation of livestock operations. There will be a continued tightening of regulations related to livestock operations and water quality.

Small acreage horse farm owners are, for the most part, not aware of these government initiatives to improve water quality and the potential impacts it will have on their operations. Additionally, mud is a health issue for horses and the nemesis of their owners. This provided an opportunity to create a set of management practices that improves water quality as well as the disposition of horse owners—a win-win situation.

Program goals

The primary goal of this program was to educate small-acreage horse owners regarding impacts horses have on the environment and how to mitigate these impacts through implementing sound management practices.

The core of the program was designed as an integrated set of management practices that will keep soil and nutrients on the farm, as well as cycle nutrients from the horse through compost onto the pasture and back to the horse as forage. Traditional Extension approaches to problems have often focused on offering specialized bits of information that landowners must integrate themselves. This program was offered as a package that could be adapted to the circumstances on each farm.

Program design and delivery methods

Based on a the success of a previous pilot program, an Environmental Quality Improvement Program (EQIP) Educational grant was obtained through the USDA Natural Resource Conservation Service (NRCS) to underwrite a comprehensive educational program. The result was Horses and Mud: A Conference on Rainy Season Management of Small Horse Farms that took place in November 1999.

The program was meticulously designed to introduce participants to watershed functions, water quality issues, pasture management, mud and manure management, composting and the state and federal agencies that are available to offer assistance.

Eight key management practices were identified to utilize as educational goals and to evaluate the effectiveness of the conference. The management practices selected represent a range of complexity from low to high financial and/or management inputs. It is not necessary or expected that all landowners adopt all of these management practices. Specific farm circumstances determine the best selection of these and other practices.

The eight management practices are:

- Keep animals off wet pastures.
- Create a sacrifice area or all-weather paddock.
- Install rain gutters on farm buildings.

- Use buffer strips around the sacrifice area and near streams.
- Graze pastures to correct height.
- Rotate grazing.
- Cover the manure pile.
- Compost the manure.

More than 140 people attended the conference and an additional 200 attended condensed programs at three rural sites.

Program evaluation

Both short-term and long-term evaluations were conducted. Short-term evaluations involved soliciting comments and numerical ratings following the conference. For instance, evaluations indicated its 140+ participants gave the conference an overall rating of 4.7 (5 point scale). Comments from participants included:

"Your Horses and Mud Conference yesterday set the tone for a complete change in our nonexistent practices in dealing with manure. My husband and I came home fired with ambition, and put a few things in practice that very afternoon."

Twelve months after the conference, a mail survey was administered during the winter of 2000/2001. The survey used the Dillman Method for mail surveys (Dillman, D. A. 1978. Mail and Telephone Surveys—The Total Design Method. New York: John Wiley & Sons). A total of 257 of the 343 surveys mailed were completed and returned for a response rate of 75 percent. The survey collected information on the adoption of farm management and conservation practices, communication mechanisms used by horse owners and demographic information.

Demonstrated impact

Both the qualitative and quantitative results from the long-term evaluation indicated high adoption rates.

Qualitative results (open-ended responses from participants) include:

- *"This conference was exceptionally helpful. Last winter we were totally mud free! Our horses were extremely healthy—no rain burn, no mud fever, and their hair coats were very healthy. Our vet was amazed at the over-all conditions of the animals compared to others. Our fields are in much better condition."*
- *"I moved my manure pile far from the pump house and stream."*
- *"It was a very constructive event and gave me incentive to put into practice what I was leaning toward implementing, only I did it more quickly. Even though it was a financial sacrifice to me, I can always make more money but I cannot always reclaim the environment."*

Quantitative results

The survey also measured adoption of the eight management practices covered during the conference. The table below shows the adoption rates by landowners who learned about the management practice at the conference and implemented it on their property.

Management Practice	% Adopting
Created a sacrifice area for use during the wet season	70%
Kept horses off pastures during the wet season	63%
Installed rain gutters on barns	57%
Composted the manure	55%
Covered the manure pile during rainy season	54%
Used grass or vegetation buffers around sacrifice areas	45%
Rotated grazing	37%
Managed pastures for correct grazing height	28%

These results are impressive. Nearly 50 percent of participants (who were not already using the management practice) adopted six of the eight practices after attending the conference. More than 50 percent adopted five of the eight practices. These long-term results from participants indicates the willingness of this population to change how they manage their farms.

Summary

This program demonstrates that a thoughtfully produced curriculum that targets a specific rural audience with accessible information and well-defined educational goals and can have very high adoption rates by landowners and significant positive impacts on the environment. Small-acreage horse farm owners now have a well-developed guide for reducing mud and manure runoff. The success of this program illustrates that well-conceived and targeted educational programs can be highly successful in stimulating landowners to change their management practices.

Livestock and Poultry Environmental Stewardship: An Educational Program for Producers

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Introduction

On May 5, 1998, Secretary of Agriculture Dan Glickman stated that animal waste is "the biggest conservation issue in agriculture today, bar none" at the National Summit on Animal Waste and the Environment sponsored by Senator Tom Harkin (Lugar and Leahy, 1995). Livestock and poultry production can negatively impact water quality. In light of these environmental issues, greater regulation has resulted at all levels of government in the United States. A 1998 U.S. survey of Concentrated Animal Feeding Operation (CAFO) regulations in 35 states found that 31 states are experiencing controversy, 30 states have increased incidence of conflict and media attention and 19 states have proposed legislation within the past year (Edelman and Warner, 1998). A recently released U.S. Department of Agriculture (USDA) and Environmental Protection Agency (EPA) Unified National Strategy for Animal Feeding Operations plan calls for expanded federal regulatory efforts to address this issue (USDA/EPA, 1999).

A growing number of states require mandatory education or certification of livestock and poultry producers on manure management and compliance issues. In 1998, 10 states required mandatory training programs for managers of animal feeding operations and/or manure applicators (Edelman and Warner, 1998). Additional states have implemented mandatory certification programs since that time. Land-grant universities through their Cooperative Extension Programs provide leadership for state certification programs.

Voluntary educational programs will also be critical to addressing environmental issues within the animal feeding industry. The Unified National Strategy for AFO's states that "voluntary and regulatory programs serve complementary roles in ensuring protection of water quality and public health." The strategy further suggests that "through an aggressive environmental education and outreach effort, USDA and EPA believe that awareness of possible problems can be heightened and producers will be able to identify practices that may be contributing to water quality problems" (USDA/EPA, 1999).

A call for proposals was made for the USDA/EPA National Agriculture Compliance Assistance Program, which was intended to encourage educational programs that would be designed to foster the animal feeding industry's compliance with environmental regulations. To respond to this project opportunity, a national team of land-grant universities and Natural Resources Conservation Service experts was assembled to develop a proposal entitled "Livestock Environmental Issues Curriculum Project." This proposal was accepted and funded in late 1998.

The project's mission statement is: "This project will deliver a national curriculum and supporting educational tools to animal feeding industry information providers throughout the United States for the purpose of supporting producer certification and education programs designed to encourage environmentally sustainable animal feeding systems." This project has been entitled "Livestock and Poultry Environmental Stewardship (LPES) Curriculum to emphasize the major overall goal of environmental stewardship.

Materials and methods

To complete the intended outcomes, the project's cooperators have been assembled into three functional teams based upon the three outcomes of this project. Those teams include an author team, a review and pilot team and a resource access team.

A critical challenge for the project has been to include discipline and regional diversity in the project team. Individuals representing engineering, agronomy and animal science from across the United States have been included in the project team.

Another challenge for the national curriculum has been be its ability to span the variations in manure management facilities, livestock and poultry species, climatic, and regulatory and compliance related requirements. The review and pilot team provided the regional and species-specific review and pilot testing necessary for the curriculum. Responsibility for informing the producer about compliance issues specific to individual areas will be a prime responsibility of local information providers involved in presentation of local classes. The national curriculum includes tools within each lesson that will assist the information providers in the identification of common compliance issues, their relevance to a local situation and whether or not the producer has achieved compliance. Local information providers will need to supplement this discussion with a review of state specific rules and regulations.

Results

The LEPS Curriculum has 26 lessons organized into six modules; introduction, animal dietary strategies, manure storage and treatment, land application and nutrient management, outdoor air quality and related issues. Each lesson within those modules includes a Microsoft PowerPoint-based presentation and speaker's notes.

Each lesson contains a regulatory compliance assessment tool meant to help producers and their Extension agents or other consultants identify common compliance issues and their relevance to the producers' operations. This tool helps producers and their Extension agents or other consultants identify common compliance issues and their relevance to the producers' operations. This tool helps producers determine if their operations are in compliance or what changes need to be made to assure compliance with current requirements.

The curriculum is available in the following forms:

1. Searchable CD containing 26 lessons in PDF format and PowerPoint presentations with presenter's notes.
2. 2-CD set of PageMaker files of all lessons, suitable for adaptation to state or regional needs.
3. Shrink-wrapped, three-whole-punched printed publication with cover suitable for use in three-ring binder.

To order these materials online, access MWP's Web site at http://www.mwpshq.org under Livestock and Poultry Environmental Stewardship Curriculum (LPES) materials. To learn more about the LPES curriculum, visit the curriculum Web site at http://www.lpes.org/.

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Building Collaboration: The Local-State-Federal and Public-Private Connection

In this panel, moderated by Ben Burkett, Mississippi Association of Cooperatives, Jackson, Miss., participants provided diverse and wide-ranging examples of public-private cooperation in program design and delivery and research.

Richard L. Wadleigh, Tribal Liaison, USDA-APHIS presented detailed information on American-Indian Agriculture, complete with maps and charts demonstrating the extent of tribal lands. His presentation underscored the importance of assuring that the voices of the American Indian and Alaskan Native people and Indian nations are made part of all discussions concerning small farms issues.

Lou Ann Kling, a retired farmer from Granite Falls, Minn. shared her experience with a local community and small farm collaboration that is building and strengthening farm based entrepreneurial enterprises in rural Minnesota.

A team of researchers including Anne Effland of the USDA Economic Research Service, Valerie Grim, of Indiana University, Bloomington, Ind. and Prunell Charley of the University of Arizona, Tucson, Ariz. shared their research findings on the experiences of African-American producers. Their personal interviews provided keen detail of how these producers see their operations and their view of the barriers they face. A program leader from Tuskegee University detailed the collaborative methods being used to reach minority producers especially in the area of marketing and to build links between community-based organizations and historically black land-grant institutions.

Selecting Equipment for the Small Farm: What's Out There Now

Ron Macher
Farmer
Clark, Mo.

Sustainable agriculture, which is based on low-input technology, offers an alternative to the current myth of: bigger is better. Our dualistic agricultural economy is dividing up into small farms and large farms with the midsize farms in the middle being squeezed out because of economics and technology. Sustainable agriculture uses only the machinery and tools that are absolutely essential to the farming operation in terms of labor and profitability. In talking about tools for the small farm in a sustainable way, we must consider the big picture: labor needed, when it's needed and how we can accomplish it. You need good-quality tools, and you must know when and how to use them, plus any limitations or advantages of one tool or technique over another.

Appropriate Technology for Small Farms

Teresa Maurer
ATTRA
Fayettevile, Ark

For 15 years, the National Center for Appropriate Technology (NCAT) has operated a national sustainable agriculture information service, called ATTRA (Appropriate Technology Transfer for Rural Areas), with funding from USDA's Rural Business-Cooperative Services (RBS) program. In this presentation and associated handouts, we will provide an overview of informational resources available for learning about techniques, tools and equipment appropriate for small- and family-scale farms. We will also summarize results from a few projects and innovative farmers in the United States who are developing, modifying or testing equipment that may meet specialized farm needs.

Appropriately Scaled Equipment for Farming

Eugene Canales
Ferror Tractor
Gridley, Calif.

I came to this business like many here in the West in the early 1970s as part of the back-to-the land movement. In 1971, I had decided to start a small farm and looked for a small tractor. At that time, no major U.S. tractor company made a small tractor. In California, the choices were from a handful of imports, all very recent arrivals. Ford offered a Satoh (Japanese), Leyland (England) and Ferrari, Goldoni and Pasquale (Italy). No doubt Kubota and a few others existed but were invisible to me here in northern California.

The market for this kind of equipment was small and "pocketed" and, hence, these machines were being marketed by a "counterculture" of dealers. The importer and dealers were new to the business; they were not traditional tractor dealers. Indeed, mainline tractor manufacturers banned sales of these new makes by their dealers. In any event, this rarity resulted in low, visibility and very regional distribution. Decades later, the situation is in general the same. Only Kubota has become main stream and national in scope.

In the 1980s and 1990s, all mainline U.S. tractor marketers added captive makes in lower and lower horse power versions to meet growing market for urban and suburban tractors. Really all these captives are Japanese-made, carrying John Deere, Case-IH and Ford colors and name plates. As large-scale farming centralizes and becomes ever more dominated by corporations with central purchasing often bypassing traditional dealers, these dealers are paying some attention to the new market category the "Sundowners." This new category includes grounds keeping and hobby farming as well as small-scale producers of agricultural products.

Thus, there are vast numbers and varieties of small tractors now on the market. The makes vary by region of the country but are available most everywhere. On the West Coast, every brand from the Orient and Europe can be found, while in southeastern United States Longs from Romania, Belasarus from Russia, Mahindra from India and Gray market Japanese used tractors are common because of their very low prices.

For the serious small-scale farmer, however, there remains a major gap. The cultivator tractor is gone, by the 1960s the Farmall Cub and Allis Chalmers "G" had gone out of production. Forty years later, they are still missing. The option of bringing them from Orient or Europe does not exist because they are not made there either. The demand is partly filled by rebuilding and recycling the shrinking remnants of what once was a very large production. One U.S. company struggles to provide a replacement. It remains largely invisible. The Saulkville tractor company produces a cultivator tractor roughly based on the famous Allis Chalmers "G." Despite 10 years of effort, they produce few tractors and remain largely unknown. Attesting to the difficulty of trying to build for an emerging market.

There is an emerging market for organic non-GMO feed grains to supply the fast-growing market for organic meat and for organic grains for artisan breads. The problem is that the last small pull-type combine went out of production in the 1960s also. The Allis Chalmers "all crop" with its 5 foot header would have fit this new market but is gone and is unlikely to be revived. The only domestic makers currently offering small-scale combines build for the research market where price is no object.

These research combines are built a couple at a time and end up costing $100,000 each. This niche will be filled by importing Japanese combines designed for small plots, but even here prices run $40,000 up. In all likelihood, this emerging market will need to go back to an older way of harvesting, reaping and binding and use of stationary threshers. The equipment is still common in Europe and although not exactly cheap it is more affordable than true combines.

The last point I will make here is that the viability of small-scale farming is more controlled by how marketing is organized than by what equipment is used. Co-operative marketing and processing are needed to convert low-unit-value commodities into value-added products. My experience is with Italy because most of what I sell is made in Italy by very small manufacturers

who can produce relatively small numbers of any given machine at a profit. The result is very small farm units in Italy remain viable with access to cleverly designed, well-made tools of all sizes. Equally important however is that Italians pay more for food and prefer local products catering regional tastes. Still another key element is a network of local processors in which a farmer can take his own grains to be milled and returned to him as flour or feed to sell in processed form or as a semi- processed product. In many areas, he can take his olives to be made into his oil; grapes into his wine; his goat's, sheep's or cow's milk into his own cheese and the like.

The revival of small-scale farming requires the simultaneous revival of the support services that have faded from our country side.

Mobile USDA Livestock Processing for Small-Scale Producers

Tom Schultz
Washington State University Cooperative Extension
Friday Harbor, Wash.

Background

The meat processing industry has become more consolidated in recent years, resulting in fewer locations where animals can be processed under USDA inspection. This has created a crisis for small-scale and limited-resource producers who are unable to transport small numbers of animals long distances for processing. The current industry system also makes it difficult to sell inspected meats in the communities where they are produced.

What began six years ago with a few farmers in San Juan County, Wash., who talked about how to increase profits of raising livestock has resulted in a mobile processing unit (MPU) that field slaughters livestock on the farm under USDA inspection. Partners in this project were a local community land trust, WSU Extension, a producers cooperative, a retail meat market manager, local producers and supportive nonfarming members of the public. The MPU is owned by the Lopez Community Land Trust, a nonprofit organization, and is operated by the Islands Grown Farmers Cooperative (IGFC), a new producers cooperative. The project goals were to strengthen small farm agriculture in our area by developing additional food processing facilities, and providing assistance with processing, marketing and distribution of products. Other goals were to make our island communities less dependent on imported food products, increase awareness to producers and consumers of humane and healthy livestock practices and increase access to high-quality, locally produced food.

Funding for this project came through a variety of sources, including USDA Rural Business Enterprise, Food Security, Food Safety, and Forest Service grants. USDA grants supported feasibility studies, training, and research and design activities. The Washington State Department of Agriculture provided support for testing and demonstrating the unit in communities around the state. Private fundraising has also contributed to paying off the cost of the MPU.

Getting products to consumers

By having access to local processing, producers can easily market their own meat products. Cut and wrap facilities that take carcasses from the MPU also must be USDA inspected or USDA exempt. Since there are more USDA cutting facilities available that can potentially take the carcasses, it has not been as critical to locate these services in our area.

There are a number of possible avenues for marketing and selling products. These are included but not limited to:

- Direct farm sales of fresh or frozen meat
- Farmers' market outlets
- Wholesale to meat markets, grocery stores and restaurants
- Using a marketing cooperative

Keep in mind that state and local regulations may apply to any direct sales.

Producers can also choose how to finish their animals, depending on customer demand. More customers today are looking for grass-finished and "naturallyraised" meats, believing they have increased health benefits.

On-farm butchering of livestock may also reduce the stresses of shipping animals to packing plants long distances in confined spaces. Stressed animals can lower the quality of meat.

Specifications of the MPU

This goose-neck-type trailer is 33 feet overall, 8.5 feet. wide, 13 feet. tall from the ground, 11 feet. from floor to ceiling and was custom built by Featherlite Manufacturing in Iowa.

Pulled by an F450 diesel flatbed truck, this trailer contains three sections: processing, refrigeration, and a separate area for electrical, water and dry

storage. Pickup and trailer together are 49 feet long and have a combined GVW of 32,000 lbs. Maximum cooler capacity is for 8-10 steers or equivalent amounts of other types of livestock (e.g. 40 lambs or 20 hogs).

The unit has a 10 KW diesel generator and holds 300 gallons of water. Processing rate for lambs is about 20 animals per 8-hour day (6 hour processing, 2 hours set-up and clean-up). Cost for the unit is approximately $150,000. This includes the costs for project coordination and testing.

The MPU was originally intended to serve island farms in San Juan County, Washington. However, shortly after it was built, other producers in neighboring counties became interested in using the unit as well. Since that time, producers from nearby counties have joined the IGFC. A family owned cut and wrap facility in adjacent Skagit County is being leased by the Islands Grown Farmers Cooperative to process carcasses from the MPU. The unit is operated by one full-time butcher who is assisted by the farmer.

The MPU represents the first USDA inspected meat processing facility in our county in nearly 40 years and is the first of its type in the nation. For more information, contact Bruce Gregory, President, IGFC at (360) 378-2309, e-mail: mbfarm@rockisland.com; or Tom Schultz, WSU Extension Agent, (360) 378-4414, e-mail schultzt@wsu.edu.

Value Adding on Persimmon Hill Farm

Earnie Bohner
Farmer
Persimmon Hill Farm
Lampe, Mo.

We began Persimmon Hill Farm a little more than 20 years ago with blueberries, blackberries, raspberries, shiitake mushrroms, a few apples, gooseberries and shiitake mushrooms. With our first crops of blueberries and shiitake mushrooms, we quickly found out that we needed to improve our position in the market. A farmer with no other direction to go with fresh produce has little option other than to take whatever price is offered by the buyer. Early on, we found that even as simple a process as packaging and freezing produce helped us have a little more control of our marketing efforts. At this time, we still use freezing as an excellent way to add value to our products. Now we also use it to less busy and able to do a more involved value added transformation. We are then able to sell extra produce in a value-added form in the future. Currently, the value-added products we produce and carry on our farm include:

- seven flavors of berry jams
- three flavors of berry flavored BBQ Sauces
- two flavors of blueberry syrups
- more than seven different kinds of cobblers and pies
- five different shelf stable shiitake mushroom products
- two kinds of butters
- blueberry lemonade
- blueberry thunder muffins
- blazons
- Persimmon Hill Farm's own Berry Cookbook
- one growing kit for hobby mushroom growers
- eight gift boxes with assortments of the above

It is my opinion that value adding provides a farm with the following benefits:

- As previously stated, it provides a grower with a better position when selling his produce as he/she is able to have an alternative to taking the offered price.
- Value adding provides a grower with a mechanism to increase profit per pound of product.
- Value adding aids in keeping labor busy on a year-round basis so that good workers are retained.
- Value adding allows a grower to utilize labor resources, self and other workers, at an off-season time, which turns that extra labor into profits at a later time.
- Value adding allows all produce to be utilized, even seconds, so that waste can be cut to zero.
- While value adding has been a benefit to our farm, it is important for a grower to consider possible negative factors as well.
- Value adding requires a grower to become involved with a complete new body of knowledge to become efficient.
- Value adding requires a grower to have more skilled employees capable of functioning in the food-processing operation.
- Traditional farming functions through a predictable sesonal work cycle, which requires significant hard work at planting time, as well as at harvest time. But it also allows a rest time during the off-season. Value adding has a tendency to provide work through that natural rest time. Time management is important, not only daily but a time for rest is important as well.
- With additional work to do, additional workers require a grower to aquire better management skills.
- Value adding requires significant equipment expenditures.

- Value adding requires significant building or renovation of buildings so as to be consistent with federal, state and local health department codes.

- Value adding requires significant additional marketing, merchandising and sales skills that are not necessarily intuitive to growers

- In that the work involved in value adding is not limited by a natural cycle, said work continues even through seasons busy with cultural practices.

- Value adding also brings up issues regarding product liability, which often is not a great deal more expensive than on farm liability but is an issue that has to be considered

In summation, we believe at Persimmon Hill Farm that the benefit of value-added products far outweighs the liabilites and it not only improves our farm's bottom line by increasing product profits but it also helps make our farm a more attractive destination for guests.

Impact and Benefits of Food Quality Protection Act for Small Farms

W. Eugene Thilsted, PhD
Agriculture Initiatives Coordinator
U.S. Environmental Protection Agency
Dallas, Texas

Introduction

The Environmental Protection Agency (EPA) is responsible for several regulatory issues involved with pesticides. These include, but are not limited to; registering pesticides for use in the United States, setting labeling and other requirements to prevent "unreasonable adverse effects," and establishing maximum levels of pesticide residues (tolerances) allowed in food.

Food Quality Protection Act

The Food Quality Protection Act (FQPA) of 1996 amended the Federal Insecticide, Fungicide and Rodenticide Act and the Federal Food, Drug and Cosmetic Act, while mandating several issues for the EPA. One such mandate is a single, health-based safety standard for pesticides in food. A single, health-based safety standard provides a reasonable certainty of no harm and eliminates long-standing problems posed by multiple standards in raw and processed foods. The EPA is required by the FQPA to review all tolerances within 10 years of its passage in Congress. This means that 9,728 tolerances for approximately 400 pesticides must be reviewed by 2006. This criteria mandate for this review is 33 percent by August 1999 (which has been completed) 66 percent by August 2002 (which has been completed), and 100 percent by 2006 (will be completed). An acceleration of the review of new low-risk pesticides to replace older higher-risk pesticides (reduced risk classification)was also mandated by the passage of FQPA. Another mandate passed with FQPA includes the consideration of aggregate exposure to residues. These aggregate exposures are dietary, inhalation and dermal. The nonfood use routes of exposure, such as residential, lawn and garden uses of pesticides are also to be considered. Cumulative exposure for pesticides, with a common mechanism of toxicity (similar mode of action) is also mandated. Examples of pesticides that have a similar mode of action are organophosphates and carbamates insecticides. The second draft for the cumulative risk document for the organophosphates insecticides has been completed.

Cumulative Risk Assessment

The Cumulative Risk Assessment (CRS) has extensive input from CARAT (Committee to Advise on the Reassessment of Tolerances). This committee is and has sought input through commodity groups throughout the United States to participate in the transition from currently utilized pesticides to newer, more environmentally friendly pesticides. The CARAT workgroup will be working closely with almond, carrot, cotton, cranberry, peach, and walnut growers to review current pesticide usage and potential (integrated pest management) IPM approaches in the future.

The CRS will incorporated an extensive open comment period for public participation once the assessment is made. The CRS is based on common mechanisms of toxicity, i.e. cholinesterase inhibition. Grouped chemicals form a Common Mechanism Group (CMG). Chemicals within this group must be ranked according to their ability to produce the effect of concern (relative potency factor). The relative potency factor needs to select an index chemical-group member with the best database for all routes of exposure. The selection of a common endpoint and duration of exposure for which to compare potencies is critical. The estimation of dose-response curves and selection of a specific measure of response is also mandatory. Different exposure routes and exposure pathways will also be examined.

The cumulative risk assessment also has explicit determination that tolerances are safe for children. The CRS has consideration of special sensitivity and exposure of pesticides to infants and children. An additional safety factor of 10X to protect infants and children unless data shows otherwise is mandated by FQPA.

Impact to small farms

The FQPA could impact the operations of small farms in several ways. The reduction in the number of pesticides available for minor crops is one impact that might happen. A reduction in the number of applications that a particular pesticide may be applied to a specific crop is another impact. Pesticide labels and registrations may have modifications in the treatment to harvest intervals. A modification in the reentry interval of specific pesticides may also play a key role in the choice of a particular pesticide utilized on the small farm.

The retained uses of organophosphate pesticides, such as Chlorpyrifos, Diazinon, Acephate and Phosmet, may impact their use on small farms. Azinphos-methyl use may be time-limited. Field applications of organophosphate pesticides must be saved for the most critical times. The development of resistance to the organophosphate and carbamates should be delayed with decreased applications and would provide for extended usage when needed.

There will be a movement away from the usage of older, more established pesticides. Pyrethroid usage can cause expensive outbreaks of mites and aphids and have associated risks. The usage of Carbaryl may be decreased in the future due to FQPA and replaced by newer, reduced-risk insecticides. Mancozeb fungicides that have been utilized for a number of years may not be as available under the new registration guidelines. The use of azinphos-methyl may be reduced or eliminated on several crops grown on small farms.

Softer more environmentally friendly chemistries will become more prevalent in the determination of pest control parameters. These softer chemistries include such chemistries as biorationals and botanicals. Alternative strategies will complement chemical applications. These strategies could include chemistries such as insect growth regulators, pheromones/mating disruption, particle film technology, and biotechnology.

The future of small farms will have integrated pest management (IPM) programs, which will need to be flexible and incorporate a broad range of pest management solutions. Strategies for the future need to be developed. Partnerships with EPA, U. S. Department of Agriculture (USDA), University and Extension need to be expanded. Pest management strategic plans need to be developed for several pest control strategies. A working relationship with consultants and scouts need to be expanded to include EPA, USDA, university and Extension Services.

Benefits of FQPA for the Small Farm

The FQPA should have several benefits for the small farm operations. A modification and utilization of refined IPM approaches to pest control will take place. An improved cooperative working relationship between EPA, USDA, university, and Extension services will greatly benefit the small farm operation. The availability of more reduced risk, more environmentally friendly pesticides will be increased. A dedicated effort will be set forth to ensure minor use registrations and tolerances through InterRegional-4 Program (IR-4). The greatest benefit of FQPA will be a reduction in the risk associated with the registered use of pesticides being utilized for pest control.

Disclaimer: Opinions expressed may not necessarily reflect official agency position. Decisions and dates may be subject to change until final.

Impact and Benefits of the Food Quality Protection Act for Small Farms

W. Eugene Thilsted, PhD
Agriculture Initiatives Coordinator
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Dallas, Texas

The Food Quality Protection Act (FQPA) was passed in 1996. Several Environmental Protection Agency (EPA) mandates were created from FQPA. These include, but are not limited to a single, health-based safety standard for pesticides in food, review of all tolerances within 10 years (2006) (>9000 tolerances and >400 pesticides); accelerates review of new, more environmentally friendly pesticides to replace older riskier pesticides; consider aggregate exposure to residues (food, drinking water, residential use); consider cumulative exposure for pesticides with a common mechanism of toxicity; and determine that residues are safe for children (10 times safety factor).

FQPA will have major impacts that will effect small farm operations. Some of these impacts include: reduction of the number of pesticide options available for minor and major crop production pest control, reduction in regards to the number of applications that a particular pesticide may be applied, treatment-to-harvest intervals will be modified that may impact needed residual pest control, and modification in reentry interval for specific pesticides that will impact harvesting criteria.

FQPA will also provide valuable benefits for the small farm. The major benefit will be a reduction in the risk of the pesticides that are utilized on the small farm operations. Pesticide use and number of applications may not be reduced. However, there will be a reduction in the risk associated when these pesticides are utilized according to label directions. There will be modifications and utilization of refined integrated pest management (IPM) approaches to pest control. An improvement in the working relationships amongst EPA, U. S. Department of Agriculture (USDA), Cooperative Extension Service and grower groups will be realized. Reduced risk pesticides should be made readily available. A dedicated effort to ensure minor use registrations and tolerances will be in place.

Communicating Information to Agri-Entreprenuers About On-Farm Food Safety—Hawaiian Style

Jim Hollyer
Assistant Specialist in Agricultural Economics and ADAP Program Manager
Univesity of Hawaii
Honolulu, Hawaii

Since the February 1999 letter concerning on-farm food safety came to Hawaii produce farmers from Safeway Inc, one of the nation's largest food retailers, we have worked to reach out to Hawaii's 2200 produce growers with science-based best practices. The College of Tropical Agriculture and Human Resources, the Hawaii Department of Agriculture, and the Hawaii Farm Bureau Federation have teamed up to find ways to quickly disseminate the most recent information as soon as possible. Our first attempt was a frequently asked questions factsheet. Next we put up a Web site off our our Agricultural Gateway, www.hawaiiag.org. Most recently, we took the FDA's voluntary Good Agricultural Practices manual and transformed the content into a four-color poster. All 2200 produce farmers in Hawaii were mailed a copy. This poster has been designed to be used as a teaching tool for clients and their employees and as a daily reference tool. We concentrated on providing not only the best practices, but why they were important in the first place. By providing comprehensive content, a nontrained but educated outreach person could help clients through the content. We have also worked to get a number of people in the private sector and at the Hawaii Department of Agriculture to be certified third-party auditors. The things that the auditors would be looking for on a farm are the issues covered in the poster.

Improving and Enhancing Producer Food Safety

Ray Mobley
Florida A&M University
Tallahassee, Fl.

Food safety at the producer level has been an important area in successful producer operations. Recent developments in global disease patterns and nontraditional weaponry threats have increased the need to emphasize the importance of a science-based approach to food safety. Food-related illnesses affect approximately 75 million people per year and account for approximately 5,000 deaths. Science-based programs that employ all elements of the community and the food chain will increasingly become the standard. Programs that involve students, producers, academia, regulators, processors and food handlers in a collaborative manner must be implemented and training conducted in a user-friendly manner.

The farm-to-table approach to safety involves an identification and prevention strategy consistent with science-based programs employed at other levels of the food chain. Food safety is no longer recognized as an upstream slaughter/processor responsibility. Many of the foodborne hazards naturally occur on the farm or are introduced at the farm level. Therefore, producers are the first line of defense for successful food safety programs. They are also the first line of defense against intentional use of food animals and food products to cause mass injury or hysteria.

Food safety concerns entail a risk prevention and avoidance strategy. Good agricultural practices and quality assurance programs will continue to be major foundations on which to build an improved preventive program. Programs that include safety of feed, water, equipment, personnel and animal waste will have to be implemented. A good sanitation program is a key element in any sound food safety program. Animal and people movement on and off the farm will also need to be controlled. Identification of animals and premises will enhance rapid trace back and identification of suspect products. Application and storage of pesticides and other chemicals are concerns that should also be addressed in foundation food safety programs.

From a food safety perspective, producers must be trained to identify potential foodborne pathogens that can be transmitted by food-producing animals and devise a strategy to reduce, prevent or eliminate them from the animals. For example, it was recently demonstrated that goats could serve as a source of pathogenic E. coli, through fecal contamination. Therefore, fecal contamination will have to be controlled in goatherds.

Producer food safety programs should also include good record keeping and a sound culling program in which nonproducing and diseased animals are eliminated from the herd. There are disease entities in animals that can be transmitted to humans or other animals. These include scrapie in sheep and goat, bovine spongioform encephalopathy in cattle and anthrax. Although foot and mouth disease is not known to cause foodborne illness, it is an important animal disease because it causes severe debilitation leading to major economic and productivity losses. It is important for producers to be aware of abnormal signs and symptoms and work with appropriate health officials to contain any threat. There are programs in place to eliminate some of these diseases and due diligence by producers will greatly enhance local, state and national efforts.

On farm food hazards may include micro hazards such as Salmonella, E. coli, Listeria, Campylobacter and chemicals, such as pesticides used on field crops and on the animals, and antibiotic residues in animal products. Producers must recognize these hazards and develop programs to control them in a reasonable and prudent manner.

There has been reluctance over the years to embrace the science-based food safety program known as Hazard Analysis Critical Control Point (HACCP). However, where used in a reasonable and consistence manner, HACCP has been proven to be a workable food safety program. It has to make sense to producers and it has to be achievable. Key to the program's success is identification of potential hazards, determining risk and developing a workable control strategy.

As previously mentioned, good food safety is built on a good sanitation program. Elements of a sound sanitation program may include feed, water, waste disposal, proper use of pesticides and disinfectants, control of contamination from water runoff and manure. Other elements may include odor control and dead stock removal. The basics of a HACCP program are based on seven principles. These are:

1. Conduct hazard analysis.
2. Determine critical control point
3. Determine critical limits.
4. Establish monitoring procedures.
5. Determine corrective actions.
6. Keep records.
7. Verify that the program is scientifically sound and is working.

Several general elements that fit into a HACCP-based program include:

- Maintain a closed herd.
- Vaccinate annually and maintain herd health records.
- Control rodents, wildlife, weeds, domestic and wild animals and their access to livestock or animal feed.
- Follow medicated feed labels for proper use.
- Do not feed animal-derived proteins to farm animals.
- Avoid residue and microbial contamination.
- Inject medications in the least sensitive site, preferably in the neck.
- Use sterilized needles as much as practical.
- Give injections in a clean dry site on the animal.
- Do not transfer needles from animal to bottle.
- Work with veterinarian as to proper use of drugs and medication.

Programs based on HACCP principles will need to become the standard at the producer level. As the supplier of raw material, producers will need to work closely with their customers to ensure a coordinated food safety approach. The increased emphasis on homeland security and bioterrorism will drive the need for all elements of our food chain to use reasonable, well-conceived and executable programs. A coordinated and integrated approach will become even more important as we combat food safety and herd health hazards.

Building Regional Support for Small Farms and Ranches

Deborah Cavanaugh-Grant
University of Illinois
Greenview, IL

The meeting was called to order by Tom Parslow (chair of the North Central Region Small Farm Task Force (NCRSFTF)) at 8:05 a.m. Tom gave an introduction and brief overview/history of NCRSFTF. He then turned the meeting over to the incoming chair, Deborah Cavanaugh-Grant. A representative from each of the 12 states gave a brief report.

Deborah Cavanaugh-Grant discussed the regional collaborative small farm program. The NCRSFTF was given the opportunity to provide a proposal to the North Central Region Professional Development Program. The plan of work will outline the primary outcomes, approaches and activities of the NCRSFTF. One of the main activities will be a regional small farm workshop that will build on the March 2001 workshop that was held in Springfield, Ill.

Diane Mayerfeld provided an overview of the workshop that will be held in October/November 2003 in Columbia, Mo. Due to the short time period for the development of the proposal, a small group will develop it (Deborah Cavanaugh-Grant, Debi Kelly and Diane Mayerfeld) and will then send it out for review and comment.

During the meeting, a suggestion was made to develop a NCRSFTF publication (fact sheet) that would address small farm issues—why small farms are important, etc. Comment was made that we need to look at mid-size family farms too. This suggestion will be incorporated into the NCR SARE PDP proposal.

Deborah then asked the group about ways that we could rebuild the task force membership. In order for the NCRSFTF to function, we must have dedicate representatives from each of the 12 states. To date, there has been a core group that has participated, but several states have not been involved. Tom Parslow will be meeting with the ANR Program leaders in October and will discuss this issue with them. He will provide a report to Deborah. The first priority of the new chair will be to rebuild the task force membership.

A lively discussion ensued. Several items were discussed. There was a lot of concern expressed that there is no funding for the federal small farm program ($5 million was approved, but not appropriated). Suggestions included contacting "farmer" legislators and working with NGOs to "activate the voice of the countryside."

Emmanuel Ajuzie (Lincoln University) mentioned efforts to develop and support regional small farm centers. There were several comments made regarding the SARE program—need to review funded grants (that relate to small farm issues) and how small farm issues could be integrated into SARE. It was also suggested that the NCRSFTF get more involved in the SAWGs (Sustainable Agriculture Working Group).
We did not set the date for the next teleconference. It was decided that an e-mail would be sent to state contacts and other interested persons asking for available dates.

National Small Farms Conference Northeast Regional Support for Small Farms

Dave Smith
Cornell University
Ithaca, N.Y.
Kathy Ruhf
New England Small Farm Institute
Belchertown, Mass.

Is more networking and collaboration needed across states in the region

1. Yes— Know more about what is available and going on in the regions leads to more efficient use of resource.
2. Yes—Share what we are doing; ideas and approaches.
3. Yes—Capture resources; $, people, time, expertise.
4. Yes—Economize on time.
5. Yes—Develop and find resources in a coordinated manner.
6. Yes—Avoid duplication of effort and accomplish more given limited resources (people, time and $).
7. Yes—Share resources.
8. Yes—Create regional resources—beyond use in one state.
9. Yes—Broaden individuals' perspectives (how other agencies operate, function and approach the small farm sector).
10. Yes—To be heard as the northeast region; our own take on the region's small farm sector and its unique characteristics.
11. Yes—Sharing expertise in work with small farmers.
12. Yes—More bang for the buck
13. Yes—Find and use info, that is already out there.
14. Yes—Examples of what works and what doesn't; sharing info.
15. Yes—Share success stories; also what doesn't work; also funding opportunities.
16. Yes—Get more people involved.
17. Yes—Capture more fed $ for our region.
18. Yes—More and coordinated outreach to small farm sector.
19. Yes—Brainstorm and define the small farm sector in the northeast.
20. Yes but qualified—Already "maxed out" as individual.
21. Yes but qualified—Fully employed; not necessarily able to go in more directions.
22. Yes but qualified—Limited time; networking and collaboration require time commitments; can't be pulled away from current projects; already fully employed.

By what mechanisms could networking and collaboration be enhanced and expanded?

1. Access and use existing reports (research, extension, state and fed agencies and other organizations.
2. Develop a regional grant proposal.
3. Regional event for service providers on "off year" for National Small Farm Conference.
4. Develop the resources by sharing the work.
5. Inventory of who is doing what.
6. Evaluate proposals and projects for potential to benefit small farms.
7. Document project outcomes in terms of impact on small farms.
8. Strategy sessions to enhance northeastern voice in federal arena.
9. Follow up on recommendations already made by groups at national, regional, state and local levels.
10. As Sec of Ag for the Small Farm Advisory Committee Report.
11. Gather info. from the small farm needs assessments that have already been done.
12. Hold USDA accountable ("hold their feet to the fire").
13. Identify the "small farm players" in each state; includes but not limited to the USDA CSREES Small Farm Contacts.
14. Create a list serv(s).
15. Political/strategic vs. practical/resource issues. Two separate approaches?
16. Mobilize USDA-CSREES Small Farm contacts.
17. Share/link Web sites
    A. For service providers.
    B. For farmers.

C. Coordinate a northeastern regional or subregional small farm site
    1. Create a small farm typology that is specific for the northeast.
    2. Direct resource.
    3. Program planning.
    4. Influence policy.

What are the most important activities to undertake ASAP improve networking and collaboration?

- USDA-CSREES Small Farm contacts and other small farm leaders meet with state Food and Ag Councils (FACS).
- Directory of who is doing what. Challenge: Who will keep it current?
- Work with Denis Ebodaghe to clarify and enhance role(s) of USDA-CSREES Small Farm State Contact persons.
- Create a small farm typology that is specific for the northeast and link it with needs assessment for each category.
- Locate and share reports.
- Collect "factoids" on the importance of small farms in the northeast—economic and non-economic.
- Make sure small farms are fully counted in the 2002 census.
- Hold an "event" for service providers—new, stand alone and/or in conjunction with other events.
- Program development
- Planning strategies
- Networking.
- Develop a grant proposal to carry out this work.
- Regional small farm newsletter/list serv.

Where do we go from here? What? Who? When?

- Form a task group to develop a strategy/ plan for following up on these ideas.
- Dave Smith will convene the group
- Volunteers: Kathy Ruhf, Marion Bowlen, Stephan Tubene, Cathy Sheils, Vivianne Holmes, Adolfo Perez

1. Review report on the feasibility of establishing a northeast Regional Small Farm Research and Education
2. Need farmers on this group.
3. Consider revitalizing some/all of the group that did the feasibility study.

Beginning Farmer Programs

Kathy Ruhf
Director
New England Small Farm Institute, Mass.
John Hays
Vice President Policy Analysis and Development,
Farm Credit Council (D.C.)
Altfrid Krusenbaum
Farmer
Elkhorn, WI
Marion Bowlan
Executive Director, Pennsylvania Farm Link
Mark Falcone
Deputy Director, FLPLMD, USDA–FSA (D.C.)
Dr. G.W. Stevenson
Associate Director
Center for Integrated Agricultural Systems, University Wisconsin
Dr. Glenwood Hill
Fort Valley State University, Fort Valley, Ga.

With twice as many farmers over the age of 65 as under 35, we have a crisis in the making. Most of our next generation farmers and ranchers will run small farms and ranches, or will start with smaller operations. Who are our new farmers and ranchers and what will they need to succeed? New farmers and ranchers face significant barriers in access to land, capital, education and training, markets and community support. What programs and policies are in place, and what is needed to support the next generation of farmers and ranchers? Moderator Kathy Ruhf described a typology of new farmers, and their learning and assistance needs, based on research and focus groups in the Northeast. These findings are critical in designing new programs and services targeted to diverse beginning small farm and ranch operators.

Ruhf highlighted some of the important public policy achievements and challenges regarding farm entry and describing the critical need for professional development targeted to programs and services for new farmers and ranchers. Ruhf serves as the chair of the USDA Advisory Committee on Beginning Farmers and Ranchers and as project director for Growing New Farmers, a Northeast regional initiative funded by USDA.

Beginning farmers need to be able to obtain or control resources to be successful.

The Farm Credit System Foundation Inc., for which Hays is an officer, is in the process of writing the results of a national study on barriers to success faced by young and beginning producers. The survey results point to young and beginning producers reporting insufficient control of land resources. Many want to add value to their production but not join with others to achieve it. Many report having access to information but it could be more targeted. Most express the need for nontraditional sources of credit. The study's objective is to develop policy recommendations that address barriers to success. Preliminary findings from the study were shared during the panel and breakout sessions. Mr. Hays serves on the USDA Beginning Farmer and Rancher Advisory Committee.

The most effective programming responds to the real, expressed needs of beginning farmers and ranchers. Krusenbaum, a Wisconsin dairy farmer, spoke about his experiences entering and developing his farming career and will share his opinions about finding land, capital, education and social supports. Krusembaum grew up and studied agriculture in Germany before he set out on a career path in dairy farming, which included various internships and apprenticeships, and a four-year stint as a herdsman. He and his wife began farming on their own in 1990. Today

they operate a 330-acre grass farm, producing milk and beef. The Krusenbaums have been training interns for 15 years and remain committed to help young people start farming.

What are the major issues facing new farmers with respect to access to land and farm succession in the United States? Bowlan addressed the barriers to farm access and succession, drawing from her experience with land linking programs as well as from international research. She discussed approaches to farm access and succession, stressing the importance of nontraditional and gradual transfer models for both intrafamily as well as unrelated transfers and how they specifically relate to the small farm sector.

Bowlan described farm linking programs and the work of the National Farm Transition Network, new models and partnerships, the role of technical assistance providers and a casework approach to farm transfer. She talked about remaining challenges in farm tenure, succession and transfer, including insufficient transfer models, lack of skilled service providers and timely education of both entering and exiting farmers. Bowlan served on the USDA National Commission on Small Farms. Falcone discussed the federal government's response to beginning farmers' needs for capital and credit. Several USDA Farm Service Agency beginning farmer loan programs are responding to those needs. In addition, partnerships with state Beginning Farmer ("Aggie Bond") Programs offer joint assistance to new farmers. Falcone reviewed these programs as well as the issues and challenges that need to be addressed to improve them, such as outreach, coordinating with the private sector, borrower training and certain operational reforms.

Falcone serves as the designated federal official for the USDA Advisory Committee on Beginning Farmers and Ranchers. He discussed the committee's recommendations regarding USDA loan programs and the recent reforms and innovations in the credit title of the new Farm Bill.

Stevenson discussed the importance of social/community support systems for new farmers. Based on studies of Wisconsin dairy farmers and lessons from the Wisconsin School for Beginning Dairy Farmers, it is clear that the ability to access and generate social support networks distinguishes many of the successful dairy farmers from the less successful. Stevenson articulated different kinds of support—family and nonfamily social networks—and their role in fostering or undermining the launching and development of new farmers and ranchers. In family situations, specific topics include intergenerational issues and gender dynamics. Nonfamily support networks are particularly important for beginning farmers with nonfarming backgrounds, and/or who move to new areas.

Stevenson addressed the range of public and private support systems that can be generated. He also presented the notion of farming career paths, particularly the step between a farm internship and independent management of a farm enterprise, and the relationship between entering and mentoring or exiting farmers.

Building Regional Support for Small Farms and Ranches Report

Albuquerque, N.M.

Present:

Katherine Adam, Adoe Agbodjan, Timothy Bagomare, Sr., Keith R. Baldwin, Dorothy E. Barker, Nelson Brownlee, Iris Cole-Crosby, Tammara L. Cole, Nelson Daniels, James A. Davis, Henry English, Cindy Hagood, Charlotte Ham, Tasha M. Hargrove, James C. Hartsfield, Warren Howell, Lucy Huggon, Vernon Jones, Marcie Joyner, Ronald Kelley, Jeff Koch, Dan Lyons, Sr., Allen Malone, D. Chongo Mundende, Zaragoza Rodriguez, III, Salvador Salinas, Vidal Saly, Marion Simon, Kenneth W. Singletary, Kenneth Stokes, Francis O. Walson and Rolando Zamora
Chairperson: Daniel Lyons,
Recorder: D. Chongo Mundende

After introductions, members reported on what was happening in their respective institutions. Reports included a risk management proposal the Southern Region Risk Management Education Center and Prairie View A&M University were working on to assist low-income farmers with specialty crops.

The National Center for Appropriate Technology was engaged in several projects involving technology training and transfer.

Langston University had two programs to assist goat producers. The first concerned training for ranches on all aspects of meat goat production, and the other involved developing a decision support system that can be accessed through the Internet.

SARE was undergoing changes and yet not enough applications for the professional development program were being submitted. Members were encouraged to apply.

A need was expressed concerning the small farmers and ranchers using their land. In order for them to get involved in agriculture, they needed knowledge, skills and abilities regarding best management practices, cooperatives, and sustainable enterprises. Small farmers and ranchers also needed assistance in putting proposals together and especially markets.

A small incubator farm in Mississippi provided technical training to farmers who were given a piece of land for three years and assistance in vegetable production. A grant was obtained from Rural Business Administration to develop a farmers market.

South Carolina State University focused on technology transfer, especially Internet-based record keeping and development of data systems. Community computer centers were being created for personal and business use.

Discussions ensured on what the southern region should focus on. The following priorities were suggested. The list was prioritized as follows.

1. Agency collaborative efforts for cooperative education, training and development.
2. Direct marketing, including risk management education, consumer education and Internet marketing.
3. Technology/information transfer including demonstrations.
4. Youth development programs.
5. Resource directory for small farmers and ranchers.

Issues of Research and Small Farms

John O'Sullivan
North Carolina AFT State University
Greensborg, N.C.

Small farms are alive and well in the United States. Much of the agricultural asset base of the United States and significant production and marketing of many enterprises are managed by small farms. Small farms contribute significantly to the economic, environmental and social well-being of communities across America. Given the market-driven economy, new technologies, new corporate and government involvement in agriculture, small farms have many research questions that could be addressed by public-supported research partners. The research ought to get beyond images of mythical idyllic family farms—or at the other extreme—hopeless grinding poverty.

The Extension Dilemna: Where's Our Source of Applied Research

Jerry DeWitt
Iowa State Univesity
Ames, Iowa

Extension is historically charged with meeting the needs of diverse audiences in agriculture and natural resources. The growing numbers and rapidly changing needs of small farmers and ranchers challenge the land-grant system to provide timely and practical information and education. Present infrastructure and planning in many land-grants does not allow for adequate needs assessments, timely problem identification, priority setting, and applied and timely research for small farms and ranches. New research infrastructure, educational and information systems (both formal and informal) must be integrated into land-grant systems and relied upon to allow for more responsive interaction with small farmers and ranchers. New modes of client listening and responding must be developed and used by land grants. Existing models of practical research and education, such as SARE, NGOs, and the private sector, should be more fully integrated into land grant systems educational programs. Extension needs to play a key role in carrying the small farm and ranch agenda forward.

Summary
Insights to the review process
Tips on good grant proposal writing
Interpretation of the outcome
Uncourage you to be active in the process

Farm Stress Resources

Roger Hannan
Farm Resource Center
Chicago, Ill.

The nonprofit Farm Resource Center was founded in 1995 to take mental health care delivery back to a community setting for farmers and others through an outreach program. Extension agents, rural ministers, farm lenders, community mental health and Farm Bureau professionals provided ideas. This model program began in Illinois and has spread to West Virginia. Other states are investigating setting up similar programs. Hannan will discuss how the program was developed, what offerings are available to farm families under stress and how to set up a similar program in other states.

Strategies for Understanding and Dealing with Farm Stress

Iris Cole-Crosby, Coordinator
Small Farm Incubator
Alcorn State Extension Program
Kim M. Berry, Sociologist
USDA-Natural Resources Conservation Service

Farming is a way of life for farmers, but with it comes many uncertainties and factors that they have no control over, which produces stress. Stress is the way we respond to change. Technological advances has greatly changed the farm industry. Farming involves daily challenges that are stressful, such as equipment failure, unfavorable climate and weather conditions, weed and pest management, low yields, expensive inputs and low prices for commodities.

Stress is a contributor to farm accidents due to tiredness, hurrying and human error. According to the National Institute for Occupational Safety and Health, farming is one of the top 10 most stressful jobs. Stress has physical and emotional effects. Farmers can not eliminate stress from their lives, but they can learn how to manage it and its effects. Some strategies include: healthy diet, reducing caffeine, an exercise program, establishing a support system and allowing time for relaxation and enjoyment.

This is a joint effort by a Mississippi and North Carolina survey that polled selected farmers about their awareness of stress in their life and identified some of their high-stress periods. Four out of five farmers surveyed in North Carolina identified stress management as an issue that they wanted addressed. This paper will focus on tips for recognizing stressful periods and effective strategies for managing stress.

The important thing is to be able to recognize stress and identify the symptoms.

This is a list of some symptoms of stress: headaches, stomach problems, change in eating habits, change in sleeping habits, increase in blood pressure, angry outbursts, depression, irritability, increase in smoking or drinking, depression and poor decision making. This list is given for use as a checklist to assist farmers and professionals who work with farmers in identifying stressful periods.

Small-farmers are very independent and they view the situations they deal with as part of farming and have not made the connection to stress, so they do know they need help to manage their stress. For example, the long hours spent daily to take care of farm operations are seen as normal for farmers and they push themselves to get various tasks done before the rain or before the daylight is gone with little or no scheduled breaks. Small-scale farmers do not take vacations. because they do not think they can afford them.

Here are some strategies for managing stress in farming operations:

- Have a farm plan for planting, harvesting and marketing.
- Set realistic goals.
- Check out farm equipment and set aside time for regular maintenance.
- Clearly define roles and expectations of all farm workers.
- Deal with things and issues as they come up.

Here are some strategies to reduce farmers' stress levels:

- Eat a balanced diet, reduce caffeine and alcohol.
- Get adequate amount of sleep.
- Exercise is important, just walking 10–15 minutes three times a week.
- Spend quality time with family.
- Take short breaks between tasks.
- Develop a support system.
- Take on one task at a time.
- Recognize your limitations.

In conclusion, there is a need for understanding and dealing with stress. There needs to be a farm stress awareness educational effort for small-scale farmers to make them aware of the issues they face and their relation to stress management. There also needs to be training done for agriculture professionals who work with farmers so they can recognize and address the farm stress issues.

Write the Winning Proposal

Mickie Swisher
Associate Professor
University of Florida
Gainesville, Fla.

This workshop covered the highlights of writing winning proposals. The workshop focused on writing proposals for community-based projects and programs, the kinds of activities that are often important to not-for-profit organizations or local government agencies like the Cooperative Extension Service. The training took as its starting point the proposal review process–how proposals are evaluated by the people who serve on proposal review boards. Each aspect of proposal development was discussed from this perspective. The presenter covered three main topics in the session.

The first topic was "When to Write a Proposal." This discussion dealt with two major issues. The first is how to find an appropriate donor for different kinds of programs—how to match the interests and objectives of the donor with those of the proposer. The second issue was how to allocate human resources for proposal writing and project implementation, including the pitfalls involved when too many outside projects are undertaken.

The second topic dealt with the process of proposal evaluation. Participants examined how proposals are reviewed, including how proposal review panels are established and how the evaluation criteria determine the decisions that the panel can make. This discussion included a discussion of the relative importance of project goals and objectives, specifically how well they meet donor objectives, specific evaluation criteria and budget in the review process.

The final discussion was an overview of the major components in a proposal. The presenter provided an overview of the subject matter or content of each of the major sections in most proposals and provided examples of the kinds of mistakes that are commonly committed. Discussion centered on how an organization can develop the kinds of collaboration and cooperation needed to be able to effectively respond to the issues included in each part of the proposal.

Network Growing–A Successful Greenhouse Production Model on Small Family Farms

Thomas S. Handwerker and Daniel S. Kuennen
University of Maryland Eastern Shore
Princess Anne, MD

ABSTRACT
The University of Maryland Eastern Shore (UMES) initiated an economic development project to demonstrate the development of a Greenhouse Growers Network on the Eastern Shore. With financial invests from the W. K. Kellogg Foundation, Economic Development Administration, USDA and the State of Maryland, the concept targeted the critical commercial requirements and (infrastructure), financial and regulatory limitations that would have to be addressed to diversify farm income on small farms. Using a 2.5 acre greenhouse as the nucleus, the project's identified an existing bedding plant operation that contracted the first associate grower contracts in 2000. Each grower, building a 0.5 acre greenhouse, is provided technical assistance for the construction and operation of a modular system. Financing was arranged through Mid-Atlantic Farm Credit with support by the USDA Rural Business Cooperative Service. The network has been expanding with eight new facilities every year. Farm sales from network growers exceeded $2.8 million in the spring 2002 with a grower's cooperative being formed. The presentation addressed how other existing horticultural operations can expand using this model and provide a diversified agricultural industry in the region.

* * *

The University of Maryland Eastern Shore (UMES) initiated an economic development project to demonstrate the development of a Greenhouse Growers Network on the Eastern Shore. The concept targeted the critical commercial requirements (infrastructure) and financial and regulatory limitations that would have to be addressed to diversify farm income on small farms. The success of the project's outcomes is reflected in the growth of the network and the industry partner.

The project selected an existing bedding plant operation (Bell Nursery Inc., Burtonsville, Md.) as the industry partner as a result of an international bidding contract. In March 1999, the company was granted a lease on the new 2.5 acre, $3.2 million greenhouse facility located on the campus. In September 2000, the first associate growers were identified and construction completed on three, 0.5-acre facilities. In fall 2000, eight new growers were identified with production initiated in spring 2001. In fall 2001, eight more facilities were constructed for production in spring 2002. This rapid expansion was possible through the financial relationship between the project group, Mid-Atlantic Farm Credit and the Maryland Rural Development Office, USDA.

As a demographic description of the network growers:

In spring 2001, eight new, 0.5-acre greenhouses were completed and stocked.

Of the eight new growers; seven had never operated a greenhouse.

Of the eight new growers; five greenhouses are being operated by the women in the family.

Of the eight new growers: three had never owned a farm before.

Of the eight new growers: five decided to expand with another _ acre modular unit in 2002.

The capital costs of these turnkey greenhouse modules have improved every year. In 2000, estimates of $330,000 per house were competitively bid to $278,000. In 2001, the modular design was upgraded to include better environmental controls, power backup system and head houses but were completed under $242,000. In 2002, the upgrades included truck lifts, cart

storage, larger head house space, roof ventilation, zero-nutrient discharge technology and side-ventilation for lower operational costs. Capital costs were reduced to $205,000 for a 0.5-acre facility. Overall entry-level capital expenses have been reduced by 26 percent while including better and more sustainable technologies. Equity investment has been reduced to a 20 percent position for new growers needing a loan.

The company has reported greater sales revenues than in any other time since beginning the bedding plant operation in 1994, with 2002 sales topping $18 million. The company was listed for the first time as 99th in the Greenhouse Grower's Survey in 2000. In 2001, it had moved to 91st in sales. In 2002, it was listed as 64th in the nation. It was also recognized as the Greenhouse Grower of the Year by Greenhouse Grower magazine (December 2001) for its efforts and success in the network grower concept. The network has generated $2 million in community capital improvements just in greenhouse construction and has expanded into surrounding states.

The network grower concept has demonstrated that technology and technical assistance can be deployed in an assumable package. The new growers, benefiting from the expertise of existing growers, begin production in facilities that represent state-of-the-art technology and equipment. In spring 2002, several growers received plants within 24 hours of completing the greenhouse facility, harvested the first crop eight weeks latter and made the annual loan payment within 16 weeks of production.

The grower network is supported by a group of technical advisors: crop advisers, integrated pest management scouts, and nutrient management advisers provide proactive and real-time supervision during the production season. As new processes and technology are demonstrated, the grower network is provided details and requirements that meet quality-control standards. This is illustrated in the adoption of environmental technologies that minimize or eliminate groundwater discharge from the facilities.

Through a Rural Business-Cooperative Service grant to the Rural Development Center in cooperation with the Small Farm Institute and UMES in the Fall 2001, a group of growers formed the Greenhouse Growers Cooperative to assist in group purchasing and identification of additional grower opportunities. The cooperative members will focus on the expectations and realities of initiating a greenhouse production operation and how to diversify the contract opportunities in other horticultural industries or markets.

The UMES/Bell Nursery project has demonstrated the evolution of a successful greenhouse growers' network that expands beyond the traditional views of contract farming. It has also identified the roles and function of the various partnerships and how they develop the necessary community infrastructure to support the network. The project also illustrates a technology deployment methodology that demonstrates the proven instantaneous assumption of sustainable technology through a relationship that promotes sustainable, environmentally sound, profitable practices.

Risk Management For Small-Scale Farmers

Don West
CSREES, Moderator
Sharon Hestvik
RMA, Co-Moderator
Washington, D.C.

Since June, 2000, when the Agricultural Risk Protection Act of 2000 passed, both the Risk Management Agency (RMA) and CSREES have funded more than $5 million each to provide grants and enter into partnerships and cooperative agreements with public and private entities for the purpose of increasing the availability of risk management tools for producers and providing farmers and ranchers with training and information about the types of existing and emerging crop insurance products available. The priority is to reach out to 15 underserved states and commodities, including specialty crops. The goal of these partnering arrangements is to provide producers with training and informational opportunities so that producers will be able to use financial management, crop insurance, marketing contracts and other existing or emerging tools.

We hope to bring awareness to the projects that both RMA and CSREES have funded—in the western, southern, northeast and central Regions of the United States—to show you the innovative risk management tools and programs available for working with small-scale farmers and ranchers in your region.

Outline

1. **Overview of risk management strategies**
   Sharon Hestvik, Small Farms Coordinator, Risk Management Agency (RMA),
   Don West, CSREES
2. **Strategies for PNW Specialty Crop Growers**
   Jo Lynne Seufer, RMA
   Jon Newkirk, Washington State University
3. **Strategies for women in farming**
   Cindy Cruea, RMA Role of Women in Risk Management
   Deb Rood, University of Nebraska
4. **Risk management for targeted audiences**
   Ken Stokes, TX A&M University
   Alesia Swan, RMA

What is risk?

Risk is often viewed as the chance of something bad happening. Risk involves:

- Uncertainty (chance)
- An adverse outcome (bad)

In financial terms, risk is the possibility of financial loss.

Production Risk

When planting, a small-scale farmer does not know if there will be a drought, a flood or a bumper crop. The yield could be zero or the best there's ever been. The farmer faces uncertainty about whether or not something bad (crop loss) will happen. This risk is referred to as production risk.

Marketing risks

The price a small farmer receives for his or her crop is also uncertain due to volatile market conditions. Uncertainty in prices is marketing risk.

Financial risks

- Since yields and prices are uncertain, revenues in farming are not predictable.
- If revenues are not sufficient to cover all costs, then the small farmer loses money. This is financial risk.

Legal and human resource risks

- Small-scale farmers are also faced with legal risks which result from uncertainties with government actions.
- And human resource risks—problems with health or personal relationships that seriously disrupt their farming operations.

What is being done to help farmers manage risk?

- Congress supports educating all farmers about risk management strategies.

- Agricultural Risk Protection Act of 2000 (ARPA) provided $5 million in funds for both RMA and the CSREES for 2001 and subsequent years.

Under ARPA—partnerships

RMA is authorized by Congress to enter into partnerships with public and private entities to increase producers' knowledge of crop insurance and increase the availability of financial and other risk management tools for producers—with a priority to specialty crops/underserved states.

Risk management strategies

Thanks to Congress, RMA and CSREES are both partnering with the public and private sectors to provide innovative risk management education opportunities to farmers.

Goal of risk management training

The goal is to get the programs out to producers—so they can obtain knowledge, new skills in marketing their crops and the right tools needed to make informed risk management decisions for their operations.

RMA implementation

RMA partnered in 2001/2002 with 15 underserved/low-participation states (11 northeast states and Utah, Wyoming and Nevada) through cooperative agreements—these state departments of agriculture and universities worked with RMA to provide crop insurance training.

Specialty crops—partnerships

RMA also partnered with Florida, Michigan, Virginia, West Virginia, Utah and Washington to meet the risk management training needs of specialty crop producers.

RMA topics funded/partnerships

- Risk management for small farmers programs, Ocala, Fla.
- Survival strategies for PNW Orchard and Vineyard Growers, Washington.
- Virginia Organic Producer Meeting.
- What is Risk Management?–to National Young Farmers, Utah.

RMA civil rights and outreach funded projects

- Alabama A&M University
- Federation of Southern Cooperatives
- Hmong American Community
- University of California

What is new for 2002/2003?

RMA had Requests for Proposals—$2 million available and received—innovative projects from the private and public sectors—topics such as risk management training for growing organic, nursery, direct marketing and options training. RMA is planning to release additional Requests for Proposals for 2003 in fall 2002.

Cooperative State Research, Extension and Education Service (CSREES)

Don West
CSREES
Washington, D.C.

Under the Agricultural Risk Protection Act of 2000 (ARPA)

CSREES is authorized to establish programs under which competitive grants are made to qualified public and private entities—for the purpose of educating producers about the full range of risk management activities—CSREES activities.

Including—futures, options, agricultural trade options, crop insurance, cash forward contracting, debt reduction, production diversification, farm resources risk reduction and other risk management strategies.

CSREES implementation: Regional RME centers

- Northeast—University of Delaware, Don Tilmon, Director
- South—Texas A&M University, Ken Stokes, Director
- North Central—University of Nebraska, Doug Jose, Director
- West—Washington State University, Jon Newkirk, Director

Regional RME projects

- Northeast: Conference for Women
- Marketing, Alt. Enterprises, Financial Planning
- South: Limited-Resource Families
- Training Paraprofessionals reaching 4,500 families
- North-central: Risk Management Strategies for Farmers
- Marketing and Financial Strategies
- West: Master Marketer/Specialty Programs Specialty Crops, Marketing, Policy Crop Insurance

National projects

- RME for Small-Scale Farmers—North Carolina State University
- Resource Center for Women—University of Nebraska
- Farmer Advisory Assistance—Iowa Soybean Association
- AgRisk Library—Center for Farm Financial Management, University of Minnesota

Agriculture Risk Management Education Competitive Grants Program

- CSREES Requests for Proposals—Applications for 2002-2003 in process in regions—proposals should focus on delivery of educational programs to producers.
- Strategies for improved marketing, labor management or financial management are welcomed in addition to other topics.

RME Program Coverage

- Must reach "targeted audiences."
- Must be open to customer feedback and meet changing demands.
- Must include emerging specialty crop and livestock enterprises.
- Must continue to provide regional coverage of commodities/conditions.

Web sites of interest
- www.agrisk.umn.edu
- www.rma.usda.gov
- www.reeusda.gov
- www.usda.gov

Strategies for Pacific Northwest Specialty Crop Growers

Jo Lynne Seufer
Risk Management Specialist
RMA
Spokane, Wash.
Jon Newkirk
Director
Western Center for RME
Washington State University

Presentation's objective

- Provide an overview of the survival strategies for Pacific Northwest Orchard and Vineyard Families Project.
- Introduce education curriculum.
- Project funding/support.
- USDA/risk management agency's
- Civil Rights Division provided $21,000 in funding support.
- USDA/Washington State Farm Service Agency—provided an additional $20,000 and printing services.
- Washington State University–Staff, curriculum development and delivery time.

Project team

- Invited a diverse group of regional individuals together.
- Formed a clear set of goals.
- Established a collaborative plan; made maximum use of available resources.
- Defined how we can educationally help orchard and vineyard families.

Project objectives

- Help orchard and vineyard families be successful based on their personal goals.
- Develop risk management education to include learning materials and decision tools.
- Create a plan of action to help producers improve/apply their skills for their future in the highly stressful financial environment facing agriculture today.

Project objectives

Develop curriculum to focus on five primary areas of risk in agriculture: production; marketing; financial; legal and human resource risks.

Curriculum

Developing a framework that helps to answer the first of four questions: Where are we?; Where do we want to be? How do we get there?; How do we know when we've gotten there?

Where are we?

A holistic approach to evaluating the farm business, orchard resources, human resources family, health, effective partnerships, and communication markets

Why?

If you don't know where you are… it is hard to create the path for the future.

Agenda topics "A Holistic Approach"

The curriculum and workshop agenda integrates:

- Financial; orchard/vineyard market analysis and management
- Family strengthening; production and business planning
- Marketing; production risks
- Orchard/vineyard resources; goal setting; and coping with change.

Why do enterprise analysis?

Perform enterprise analysis so that you can compare returns, costs and profit per acre on each variety or block of fruit you grow.

Why make a family budget as part of the farm budget?

"Leaving what's left over for the family is a sure way to create stress and conflict within the family."

When times are tough

- One of the biggest needs in the family is communication and pulling together.
- One of the first things to go in times of financial crises is communication.
- Creating habits of good communication is important.

Women in Risk Management

Cindy Cruea
Risk Management Specialist
RMA, St. Paul, Minn.

Historic role

Describe the typical welcome for pioneer women who left the security of family and established communities to travel to harsh frontiers in search of the opportunity to have a farm or ranch on which to raise their families. Identify risk management techniques, such as canning or drying garden produce to protect against lean years; identifying local markets and supplying them with eggs, chickens or vegetables to offset unforeseen expenses; and networking with other women to build a support system to address physical and emotional adversity.

Increased involvement

- Advances in technology and the progressive development of community infrastructure eased farm women's lives considerably in following years, but it was not until the 1970s that we began to see a shift in the involvement of women on farms and ranches.
- The trend slowly changed—54 percent of farm women now have off-farm employment.
- In addition to shouldering more of the financial burden, they also became the partner who balanced the books, developed cashflows, tracked market trends and maintained farm records, which were so very important to emerging FSA and crop insurance programs.
- Study found that 40 percent of those questioned, work more than 13 hours a day, providing 80 percent of the household work, 75 percent of the bookkeeping, 21 percent of the field operations and 17 percent of the equipment repairs.
- Socially disadvantaged farmers, such as women and small farm operators in general, tend not to purchase crop insurance.
  - They tend to raise more livestock than crops.
  - They concentrate on specialty crops such as fruits and vegetables rather than field crops that up until the last few years have been the focus of many government programs.
  - They also have restricted access to land, capital and skilled labor and instead utilize family labor, roadside stands and pick-your-own outlets.
  - Operators of small farms are usually older than the general population of all farm operators, and women tend to comprise a higher percentage of those making the day-to-day decisions.
- Women's interest in agriculture increased.
  - Census of Agriculture figures depict a dramatic increase from 4.5 percent in 1970 to the latest figure of 15 percent.
  - The share of women in agriculture at land-grant universities today has increased dramatically and now ranges from 30 to 35 percent.
  - Much like early pioneer women, today's farm women are managing their risk by identifying and developing small niche markets for specialty crops and networking with others to develop support systems.

Risk Management Sources

- RMA is focusing on ways to work with disadvantaged farmers to provide risk management tools.
  - This process is a two-way street through networking, listening and learning from attendees to determine what works best for them and what they perceive their needs to be.
  - Farm women are experts in their field and know better than anyone that agriculture is not a spectator sport. Identify the need to develop a dialog with our hosts, featured speakers and other agricultural organizations that will provide an educational support base and help them to develop their abilities and find their voice.
  - Education, networking and leadership development are all significant risk management factors in maintaining the strength and ensuring the future viability of small farms.

Empowerment

Take heed to wisdom in Nelson Mandella's 1994 inaugural address when he stated that: "Our deepest fear is not that we are inadequate. Our deepest fear is that we are powerful beyond measure. It is our light, not our darkness that most frightens us. We ask ourselves, who are we to be brilliant, gorgeous, talented and fabulous? Actually, who are you not to be? You playing small doesn't serve the world. There is nothing enlightened about shrinking so other people won't feel insecure around you. And as we let our light shine, we unconsciously give other people permission to do the same."

Sources

Characteristics and Risk Management Needs of Limited-Resources and Socially Disadvantaged Farmers.

Robert Dismukes, Joy L. Harwood, and Susan E. Bentley: Commercial Agriculture Division, Economic Research Service, and Risk Management Agency, U.S. Department of Agriculture. Agriculture Information Bulletin No 733.

National Farmers Union release covering survey conducted by University of Regina.

Successful Farming, " Women in Ag": Cheryl Tevis, Farm Issues Editor.

Strategies for Women in Farming

By Deb Rood, Programs Coordinator, University of Nebraska–Agricultural Economics

Teaching Agricultural Women

Agricultural women have for a long time been an untapped educational audience. In truth, women are hungry for knowledge and skills in business management that might increase the revenue that comes into their operation. For years, women have been the silent partner, but a partner all the same, in agricultural operations. In many operations, their influence has made a critical difference to the success of their business.

More than 18 years ago, the University of Nebraska Cooperative Extension division of the Department of Agricultural Economics made a concerted effort to involve women in education management program, Managing for Tomorrow. It was then that we realized that women are a very powerful force in agriculture, but that they needed the opportunity to learn more about risk management. Women often view risks differently than their spouses, just as they often approach marketing decisions from another perspective. Their involvement in management decisions often results in a better approach to risk management.

For the past 17 years UNL has coordinated the Women in Agriculture: The Critical Difference conference that focuses on women who make the critical difference on their farms and ranches. The conference has become an annual event that agricultural women from Nebraska and surrounding states look forward to attending. Agricultural women take on the roles of homemaker, marketer, manager, tractor driver, "gopher," record keeper, vice-president, president, nurturer or any combination of these. They are asked to make a variety of business and personal decisions in their operation. The Women in Agriculture conference offers 18 workshops that focus on the challenges that all agriculture women encounter, helping them improve the skills they need to become better managers and partners.

It is the goal of the Women in Agriculture conference to recognize and acknowledge the critical difference that Nebraska agriculture women make in their operation and to Nebraska agriculture. By enabling women to increase their skills, building their confidence to use those skills and motivating them to take action impacts not only the women but also their families, businesses and communitities.

Recently, RME and RMA have funded projects that will assist women in becoming active, informed and viable members of the farm family management team. The projects propose to increase the involvement and skills of agricultural women in farm/ranch business management, either as a member of a management team with their spouse or as the primary operator.

The goals for this project include acknowledging and expanding the role of women in management of farms and ranches; enhancing the effectiveness of agricultural women as business managers and partners; helping agricultural women identify risks in agricultural production and develop plans to manage those risks; and to encourage women to view risk management in a broader sense, including family and community.

Highlights of strategies for small-scale and limited-resource farmers and ranchers

By Alesia Swan, RMA Outreach Coordinator, Davis, Calif.

During the past year, RMA's Civil Rights and Outreach Program has done everything from providing funding for various projects to making presentations and actively planning and participating in numerous activities to assist small-scale and limited-resource farmers and ranchers. Just to give you an example of some of our involvements over the past year:

RMA sponsored programs, such as the University of California at Davis Multicultural New Farmers Program in Fresno. In collaboration with Minority Agricultural Producers and Prairie View University Cooperative Extension Services, we funded and hosted a Regional Survival Strategies for Small and Limited Resource Farmers and Ranchers Conference in Weslaco, Texas. RMA is also sponsoring a conference this fall, 2002 in Ventura, California Small Farms Conference.

The Outreach Program has also worked with and sponsored programs on a national scope, such as the Iowa Food Policy Council; the USDA Ag Forum; the California, New Mexico and Arizona Border Initiatives. In addition to providing funds for the Third National Small Farms Conference here today, and numerous workshops—on the East Coast RMA participated in such activities as the Federation of Southern Cooperatives Annual and Regional Conferences in Georgia and Alabama and the North Carolina A&T Small Farmers Week. In addition, we have sponsored such activities as Cornell Universities Small Farm Management Business Course offered in New York and Vermont, and the MidWest Organic Conference. Outreach has also worked with Tufts University in Massachusetts on the New Entry Farmer Development program. And we hosted a Train the Trainer Conference in Atlanta, Ga., in 2002. On the West Coast, RMA participated in the Southwest Indian Agricultural Association in Nevada and the California Women in Agriculture Conference in Fresno. RMA has 10 outreach coordinators located throughout the United States focusing on increasing the availability of risk management tools and resources for producers.

We are pleased to report that in June 2002, the Office of Civil Rights and Outreach posted a Notice of Availability of Funds in the amount of $1 million. From this Federal Register Notice, RMA received 78 proposals—requesting more than $8 million in funds. RMA is hoping that additional funds will be made available to cover this interest in the RMA outreach program.

These projects crisscross the country from Santa Fe, N.M. to New York to Gainesville, Fla. The projects are as diverse as the audiences they reach. Sometime in November 2002 and January 2003, RMA hopes to publish the next Notice of Availability of Funds. These proposals will place a great deal of emphasis on partnerships. Onward, hopefully into the far future, RMA will continue to provide not just pedals of hope, support and fairness, but the dollars and dedication necessary to ensure that small-scale and limited-resource farmers and ranchers are more than just a dream.

The southern region risk management education center

By Kenneth Stokes, Director, Southern Region Risk Management Center

What is it, and how does it impact you?

- Southern Region Risk Management Education Center
- National scope
- Four Regions
- National Coordinating Group
- Measurement/Evaluation arm
- National Ag-Risk Library
- South region structure
- 13 states, Puerto Rico and U.S. Virgin Islands
- 29 land-grant institutions

Southern Region Risk Management Education Center strives to:

- Ensure promotion of public/private partnerships.
- Ensure stellar RME opportunities are available to agricultural producers.
- Utilize and evaluate effective measurement techniques in order to identify and capitalize on the best RME tactics.
- Impact the behavior of the agricultural producer, following RME, in a positive way as a result of the education.
- Inform key audiences of program effectiveness to ensure continued financial support for risk management programs.

Who are the Southern Center's players?
SRRMEC's 12-Member Advisory Council:

- Six representatives of commodity and farm organizations
- Private sector risk management providers
- Two Extension Directors
- 1862 Land Grant and 1890 Land Grant
- Four educators
- 1890 Small Farm—2501; Southern Extension; Marketing Committee
- Southern Extension Management Committee and Southern Extension Policy Committee

SRRMEC's Competitive Grants

- FY 2001-2002 Competitive Grants ($400,000)
- Sent out a Call for Pre-Proposal January 2002
  - Received 32
- Advisory Council evaluated
  - Asked 25 for full proposals
  - Received 23 full proposals
- Advisory Council evaluated and will fund 16 "plans of work"
  - 22 of the 29 land-grant institutions received funding
  - 7 of the 1862 institutions and 6 of the 1890 institutions are administrators

SRRMEC reporting results

- Direct grants report to the Southern Center directly.
- Competitive grants report to Verification Program through the National Ag Risk Education Library.

What happens next?

- Applied and Approved for second year
  - $435,000 for second year vs. $1,185,000 for our first year
- Will participate in National Verification Project design
- Next round of Grants
  - Competitive
  - Date? What do y'all want?
  - P^3
- Participate
  - Participate in RME activities. Improve yourself, educate others, and provide feedback on what works and what doesn't.
  - Develop an innovative education idea, partner with others, and apply for a grant yourself.
- Promote participation
  - Encourage agricultural producers and related ag professionals to strengthen their risk management knowledge.
- Publicize
  - Let the right folks know that RME is working, and this is a good use of public funds.
- Serve as potential funding source for critical risk management educational initiatives, ones applicable to your audiences.
- Building resource materials for risk management education accessible through National Ag Risk Education Library.

SRRMEC marketing objective:

Maximize the success of and recognition for the risk management education activities of SRRMEC grant recipients.

Exhibit Abstracts

ATTRA—Appropriate Technology Transfer for Rural Areas

ATTRA is a service for U.S. farmers, ranchers and Extension specialists that provides free information on sustainable and organic agriculture, accessible through a toll-free telephone number and new Spanish language line and on the Web. The project is operated by the national nonprofit organization (NCAT), which has a program in sustainable agriculture, renewable energy and sustainable communities. Funding for ATTRA (Appropriate Technology Transfer for Rural Areas) is provided to NCAT by USDA's Rural Business Cooperative Services. More than 25,000 responses to questions and requests for information are provided through mailed publications and customized resource packets. Our staff of experienced specialists are also available for workshops and presentations, and our Web site has had more than 150,000 visitors in the first six months of 2002. Questions on the toll-free phone line are welcome! Our exhibit features samples of materials and a list of free publications on frequently requested topics.

For more information:
Teresa Maurer
ATTRA Project
P. O. Box 3657
Fayetteville, AR 72702

Small Farm Center—University of California

The University of California Small Farm Center is a unique institution in the land-grant system. It performs a number of important information services for the small farm community. The center serves as a template for other states and institutions considering the development of a small farm center. The center has pioneered the development of a number of innovative programs and products. Its impact has not only been felt in California but also, through its publications and electronic information systems, it now has a national and global reach. The exhibit will highlight many of the innovative programs and products of the center.

For more information:
Desmond Jolly
Small Farm Center
University of California
One Shields Avenue
Davis, CA 95616-8699

National Nonprofit Organization for Sustainable and Organic Ag Projects To Help Western U.S. Farmers

Through the offices in California, Montana and Colorado, NCAT helps farmers develop enterprises and skills for regional markets, increase farmers' organic literacy and conserve soil, water and wildlife resources. NCAT can also provide culturally accessible organic and sustainable farming information for Hispanic and Native American farmers. Here are three examples. First, the Southwest Marketing Network, formed with funding from the Kellogg Foundation, which assists family-scale, alternative and minority producers in New Mexico, Colorado, Utah and Arizona to enhance their regional markets and marketing skills. Second, the new National Organic Standards represent an unprecedented opportunity to access a growing market for farmers to understand required production practices and records. NCAT can help educate organic farmers, those interested in organics, and government extension personnel (CES, NRCS, etc.,) about production practices mandated by the new standards, and record-keeping that organic certification under the new standards requires. NCAT can also provide information to limited-resource farmers and others around the country about government programs that can help meet organic certification standards while conserving our nation's natural resources. Third, on July 15, 2002, NCAT opened a new Spanish language toll-free telephone number about organic ag topics.

For more information:
Jim Dyer, NCAT Four Comers Office,
2727 CR 134,
Hesperus, CO 81326

USDA-Agricultural Marketing Service

For more information:
Denny N. Johnson and Tim Payne
1400 Independence Avenue,
8W Room 2646-8
Washington DC 20250-0269

USDA-Cooperative State Research, Education and Extension Service-Small Farm Program

The goal of the Small Farm Program is to improve income levels and the quality of life of small-scale farmers and ranchers through partnership efforts with the land-grant university system and other stakeholders. The challenges entail more research tailored to the needs of small fanners; research-based information on marketing needs and alternatives; and scale-appropriate technology.

For more information:
Denis Ebodaghe or Alicia Simon
Stop 2215
1400 Independence Ave, SW
Washington, DC 20250

USDA-Economic Research Service

For more information contact:
Doris Newton, Robert Hoppe and Coco Clayton
1800 M Street, NW
Washington. DC 20036-5831

USDA-Foreign Agricultural Service

The FAS program helps U.S. exporters develop and maintain markets overseas for hundreds of food and agricultural products, from bulk commodities to brand-name items. For example, the Market Access Program (MAP), a cost-share program with nonprofit U.S. agricultural trade associations, agricultural cooperatives, nonprofit state-regional trade groups, and small businesses helps finance the cost of overseas marketing and promotional activities, such as consumer promotions, market research, trade shows and trade servicing. Export Credit Guarantee Programs encourage exports to buyers in countries where credit is necessary to maintain or increase U.S. sales, but where financing may not be available without such credit guarantees. FAS also provides assistance to exporters through practical marketing information and services to help them locate buyers. FAS maintains a worldwide agricultural intelligence network that covers changes in policies and assists U.S. exporters and also provides marketing opportunities. FAS enhances U.S. agricultural competitiveness by providing linkages to world resources and international organizations. Local state departments of agriculture also provide export assistance.

For more information:
Karl Hampton,
USDA-FAS,
14th & Independence Avenue SW
Washington, DC 20250

USDA-National Agricultural Statistics Service

The National Agricultural Statistics Service (NASS), "the Fact Finders for U.S. Agriculture," is the official source of comprehensive agricultural statistics in the U.S. Department of Agriculture. Having accurate, timely information available is not only important to tell the success story of American agriculture, but it also is vital to support the efficient handling of commodities in today's global market.

All NASS reports, including national, state and county data from the 1997 Census of Agriculture, can be access on the Internet at the NASS homepage at www.usda.2:ov/nass.

For more information about all NASS programs and products, call (800) 727-9540.

For more information:
Pat Joyce or Alfonzo Drain
USDA-NASS
1400 Independence Avenue, SW
Washington DC 20250

USDA-Risk Management Agency

Working Together to Preserve Family Farms

The Risk Management Agency (RMA) develops USDA's crop insurance policies, underwriting terms, and provides subsidization and reinsurance. RMA also coordinates a risk management education program to assist producers and agribusinesses in understanding and managing increased risks associated with production, financial, legal and human resources.

For more information:
Marie Buchanan USDA-RMA
1400 Independence Ave, SW
Washington, DC 20250

USDA-Food and Nutrition Service, WIC Farmers' Market Nutrition Program

The Food and Nutrition Service increases food security and reduces hunger in partnership with cooperating organizations by providing children and low-income people access to food, a healthy diet and nutrition education in a manner that supports American agriculture and inspires public confidence. Our service administers the 15 food assistance programs of the U.S. Department of Agriculture. These programs, which served one in six Americans, represent our nation's commitment to the principle that no one in our country should fear hunger or experience want. They provide a safety net to people in need. The programs' goals are to provide needy persons with access to a more nutritious diet, to improve the eating habits of the nation's children, and to help America's farmers by providing an outlet for the distribution of food purchased under farmer assistance authorities.

For more information:
Amy Wolfe Gunby
Supplemental Food Program Division
3101 Park Center Drive, Room 520 Alexandria
V A 22302-1500

USDA-Farm Service Agency

Stabilizing farm income, helping farmers conserve land and water resources, providing credit to new or disadvantaged farmers and ranchers and helping farm operations recover from the effects of disaster are the missions of the USDA Farm Service Agency .

For more information:
Jorge Comas
AG Stop 0511
1400 Independence Ave, SW
Washington DC 20250

USDA-Grain Inspection, Packers and Stockyard Administration (GIPSA)

GIPSA's programs assist small-scale farmers with grain, oilseeds and livestock. Technological advances, including biotechnology, are diversifying grain and oilseed quality. Value-added crops have the potential to create new market opportunities for small-scale farmers as end-users seek suppliers of unique quality attributes. GIPSA programs help foster these market opportunities for America's small farmers. For example, GIPSA is developing the testing technology needed to measure these new quality attributes to promote open and fair price discovery—a farmer must know the quality of his crop to negotiate or demand a fair market price. GIPSA is also developing a process verification system to facilitate the marketing of specialty crops. GIPSA promotes fair and competitive markets for livestock, meat, and poultry by enforcing the Packers and Stockyards Acts of 1921. The P&S Act requires prompt and full payment for livestock and poultry. Livestock buyers subject to the P&S Act are required to maintain a bond or bond equivalent to cover their livestock purchases. Livestock auction markets must establish and maintain a custodial (trust) account for payment to livestock sellers. Packer and poultry trusts established by the P&S Act give unpaid cash sellers of livestock and poultry growers and sellers first claim to trust assets in the event of nonpayment. The P&S Act and its regulations also require subject entities to weigh livestock and poultry accurately.

For more information:
Dennis S. Murray
USDA-GIPSA
1400 Independence Ave., SW
Room 4160 South Building
Washington DC 20250

USDA-Rural Development

The mission of the Rural Business-Cooperative Service (RBS) of USDA Rural Development is to enhance the quality of life for all rural Americans by providing leadership in building competitive businesses and sustainable cooperatives that can prosper in the global marketplace and to meet business credit needs in underserved areas. RBS accomplishes this mission by investing its financial resources and technical assistance in businesses, cooperatives and communities and by building partnerships that leverage public, private and cooperative resources to stimulate rural economic activity.

For more information:
Edgar Lewis and Mike McDow
Stop 3252, 1400 Independence Avenue, SW,
Washington DC 20250

USDA-Office of Outreach

This program is designed to reverse the decline of socially disadvantaged farmers and ranchers. The program's objective will be reached by encouraging and assisting socially disadvantaged farmers and ranchers to own and operate farms, participate in agricultural programs and become an integral part of the agricultural community .

For more information:
Jimmy Fuller and Charles Smith
USDA/Office of Outreach
AG Stop 1710
1400 Independence Avenue, SW,
Washington DC 20250

National AgrAbility Project: Promoting Success in Agriculture for People with Disabilities and their Families

Agriculture production is dangerous. The National Safety Council reports that 130,000 people working in agriculture experienced disabling injuries in 2000. Off-farm injuries, health conditions like heart disease or arthritis and aging disable tens of thousands more. Like their urban counterparts, approximately 20 percent of agricultural workers have disabilities that interfere with their work. Farm operators face challenges of rural isolation, caps in rural service delivery and inadequate access to agriculture-oriented assistance. Small-farm operators may even be more susceptible to a disability disrupting their way of life due to limited access to amenities that large-scale agricultural producers can afford (insurance, replacement workers, etc.). AgrAbility offers education and assistance on safe, affordable ways for people with disabilities who work in all forms of agriculture to maintain their businesses and rural lifestyles. USDA AgrAbility Projects have been competitively awarded to 21 Cooperative Extension Services at land-grant universities that have partnered with nonprofit disability organizations to provide education and assistance to agricultural workers with disabilities and their families. The National AgrAbility Project is a partnership between the University of Wisconsin Cooperative Extension and Easter Seals.

For more information:
Ivan Graff,
Program Specialist
USDA/CSREES/PAS
Processing and Engineering Technology
3414 Waterfront Centre, STOP 2220 1400
Independence Ave SW
Washington DC 20250-2220

On-Farm Food Safety

Produce buyers are beginning to require that their suppliers (growers) take steps to minimize contamination on the farm as a way of reducing liability. Right now, there are a few learning tools to help growers understand the changes they need to make to their farm. Our poster covers all aspects of current Good Ag Practices and provides an on-farm reference tool for growers to improve their operation in anticipation of a third-party audit of their business. This poster is part of a larger program to diversify Agriculture in Hawaii.

For more information:
Jim Hollyer
University of Hawaii Gilmore Hall 112
Honolulu, HI 96822

Sustainable Agriculture Research and Education Program

Since 1988, the Sustainable Agriculture Research and Education (SARE) program has been the USDA's primary means of studying and spreading the word about farming systems that are profitable, environmentally sound and supportive of rural communities. SARE, administered by USDA's Cooperative State Research, Education and Extension Service, works primarily through competitive grants and has funded more than 2,000 projects that help advance knowledge about sustainable practices. The Sustainable Agriculture Network (SAN) is the national outreach arm of SARE and is dedicated to the exchange of scientific and practical information on sustainable agriculture systems, using a variety of printed and electronic communications tools.

For more information:
Kim Kroll, USDA-SARE
& Andy Clark, Sustainable Ag. Network
10300 Baltimore Ave., Bldg. 046
Beltsville, MD 20705

USDA-National Agricultural Library

Located within the U.S. Department of Agriculture's National Agricultural Library, AFSIC specializes in providing information and information referrals pertaining to farming practices that strive to maintain agricultural productivity and profitability, while protecting natural resources. Topics include sustainable and organic crop production, alternative crops and exotic livestock, biological and cultural control of pests, composting, farmer-direct marketing and community supported agriculture. The center focuses on service to the small-farm community. Customers may reach AFSIC with requests via a Web site, by phone, mail or e-mail. Featured publications are available on the AFSIC Web site, or in hardcopy (free on request). AFSIC is supported, in part by USDA's Sustainable Agriculture Research and Education (SARE) program and a cooperative agreement with the University of Maryland, College Park.

For more information:
Library, Alternative Fanning Systems Information Center Mary Gold/Bill Thomas
AFSIC, National Agricultural Library 10301 Baltimore Ave., Room 132,
Beltsville, MD 20705

Profit and Cost of Production Calculation

Agri-entrepreneurs do not often calculate expected profits or costs because they typically require the use of math, calculators and computers. This poster, part of a larger program to diversify agriculture in Hawaii, can help calculate average cost of inputs for any product in seconds. Entrepreneurs who know their cost of production can make more informed business decisions.

For more information:
Jim Hollyer
University of Hawaii
Honolulu, HI 96822

Illinois Small Farm Task Force

The Illinois Small Farm Task Force is a coalition of farmers and state, federal, nonprofit and university personnel that work together to address the issues of small farms in Illinois and to determine a course of action for all those involved in small farm issues to recognize, respect and respond to the needs of small farms. The task force has sponsored numerous field days, workshops and conferences, including hosting the North Central Region Small Farm Workshop in March 2001.

For more information:
Deborah Cavanaugh-Grant
University of lllinois
P. O. Box 410,
Greenview, IL. 62642

Chicago Farmers

The Chicago Farmers was founded in the 1930s in Chicago, Ill. We are an urban rural group of people involved in agriculture that seeks to educate and inform the general public about farming and farm issues.

For more information:
Rich Schell
Attorney/Board Member P. O .Box 3
Des Plaines, IL 60016

State and Local Food Policy Initiative

The display will include information about state food policy councils, community-based food projects and direct marketing. “Legal Guide for Direct Farm Marketing,” “Farmers Markets: Rules, Regulations and Opportunities” will be available for your viewing.

For more information:
Neil Hamilton
Drake University Ag Law Center,
Drake University
Des Moines, Iowa

Kentucky State University-Small Farm Program

Overview and highlights of the research and extension efforts of Kentucky State University Land Grant Program. This exhibit will include a floor model display (lighted), with photos and description of Kentucky State University’s 1890 programs.

For more information contact:
Marion Simon
Kentucky State University
400 E. Main
Frankfort, KY 40601

New England Small Farm Institute

The NESFI has been serving small-scale farmers since 1977, with training, resources, support and advocacy. We will showcase our Small Farm Development Center. The center offers practical and business skills training, curriculum products such as learners’ and instructors’ guides, and one of the largest specialized library collections on small-scale and sustainable agriculture in the U.S. We specialize in small-scale, start-up and early-stage farm business development and in professional development of agricultural service providers who work with small farmers. We emphasize peer-guided program development, rooted in the real-life experiences of farmers, such as those who farm on our 400 acre, publicly-owned site. The institute’s exhibit received an award at the 1999 USDA Small Farm Conference.

The institute is a nonprofit organization located in Massachusetts. We serve farmers and professionals throughout the northeast.

For more information:
Kathy Ruhf
PO Box 937
Belchertown, MA 0 1007

Marketing and Regulatory Programs for Small Farms

Marketing and regulatory programs facilitate the domestic and international marketing of U.S. agricultural products and ensure the health and care of animals and plants, while improving competitiveness and the economy for the overall benefit of both consumers and American agriculture.

For more information:
Arnold Foudin
USDA/APS Small Farms Coordinator
Biotechnology
Regulatory Services 4700 River Road
Riverdale MD 20737

Women's Agricultural Network

The Women's Agricultural Network supports women and underserved individuals in successfully owning and operating agriculturally related enterprises. Established in 1997 through the efforts of the University of Maine Cooperative Extension and other agricultural agencies, it offers members opportunities for mentoring and networking and a safe environment to discuss issues and provides an information clearinghouse. Nine hundred members receive a monthly newsletter that informs them of educational programs, grant opportunities, member highlights, upcoming events and other relevant information. To meet the needs of its members, the network divides its program cycle into two seasons. During the "growing" season, from June to August, members are invited to participate in farm tours and various on-farm trainings. From September to May, the "meeting" season, members attend monthly meetings, fair and trade shows, conferences and educational events and workshops, where they can share, network and gain knowledge. The network empowers its members and prepares them to take on the tasks necessary to successfully operate their agriculture businesses.

For more information:
Vivianne J. Holmes and Heather S. Thomson
24 Main Street
Lisbon Falls, ME 04252

Johnny's Selected Seeds

Johnny's Selected Seeds is a mail-order seed producer and merchant located in Albion, Maine. The company was established in 1973 by our founder and chairman Rob Johnston, Jr. Johnny's prides itself on its superior product, research, technical information and service for home gardeners and commercial growers. Our products are vegetable seeds, medicinal and culinary herb seeds and flower seeds. We also offer unique, high-quality gardening tools, equipment and accessories. Our Export Department ships seeds internationally, and welcomes your inquiry. Of course, we also ship throughout the United States. We sell both retail and wholesale, small to large quantities. Johnny's strongly supports the notion of a world where friends and families work to grow and share food. We participate in many community programs working towards that goal. Of late, it seems the public has much concern about the topic of genetically engineered (GE) seeds. We share that concern. Johnny's does not sell and has never sold, such seeds. Johnny's plant breeders utilize breeding methods that do not modify plant varieties with GE. We have issues with the environmental and food safety of GE plants. We question their fit with a healthy, sustainable agriculture. While we are not fundamentally against GE technology, we intend to continue to scrutinize the science and the resulting plant varieties. We urge the scientific and regulatory communities to do the same. Critical to this scrutiny are mechanisms to assure that commercialization of new GE crops is preceded by sufficiently deliberate and thorough study of environmental and health impact.

For more information:
Barbara Luce and Stephen Woodward
Foss Hill Rd.,
Albion, ME 04910

The New American Farmer

The New American Farmer is a collection of in-depth interviews with farmers and ranchers across America. The book, published by the USDA's Sustainable Agriculture Research and Education (SARE) program, includes diverse profiles that detail the effects of farming practices on profitability, quality of life, rural communities and the environment. By publicizing their stories, SARE demonstrates that sustainable farms and ranches are no longer few and far between. Instead, they are viable throughout American agriculture. The farmer profiles are also available on CD-ROM and on the Web.

For more information:
Kim Kroll, USDA-SARE
10300 Baltimore Ave., Bldg. 046
Beltsville, MD 20705

Small Farm Today Magazine

The *Small Farm Today Magazine* is specifically for small farms (179 acres or less and grossing $50,000 per year or less). Ron will have his book '"Making Your Small Farm Profitable," as well as many other small farm books about production, livestock and equipment. There will also be a display of back issues of *Small Farm Today* magazines for sale.

For more information:
Ron Macher
Small Farm Today Magazine
3903 W Ridge Trail Road
Clark, MO 65243

Food Processing Center

The Food Processing Center is a one-stop resource for programs and services almost as varied as food itself. The center is one place where you will find it all—a talented staff of business consultants and food scientists, technical facilities and an extensive network of industry contacts. Featured programs and service: The Food Entrepreneur Assistance Program—a nationally renowned program that assists entrepreneurs interested in marketing their family's secret recipe and producers considering adding value to an agricultural product. Agricultural entrepreneurs success stories. Surveys and studies conducted by the center as part of the North Central Initiative for Small Farm Profitability—a project funded by a USDA-Initiative for Future Agriculture and Food Systems' grant. Attracting consumers with locally grown product, supplying breweries with locally produced ingredients and the specialty cheese market. Marketing services—a broad spectrum of strategic planning, research and training services designed to develop and expand food businesses. Food product/process development and technical services—confidential technical assistance ranging from new product development to routine laboratory analysis. Pilot plants assist in the transition between lab bench studies and actual manufacturing of products in every major food group.

For more information:
Arlis Bumey
143 HC Filley Hall
Lincoln, NE 68583-0928

Allan Savory Center for Holistic Management

The Allan Savory Center for Holistic Management is an international, nonprofit organization that predominantly serves agricultural producers working with small farms and ranches. Through holistic management, these producers have been able to increase profits on an average of 300 percent, increase biodiversity and land health, and increase their quality of life.

For more information:
Ann Adams,
1010 Tijeras NW
Albuquerque NM 87102

Wilderness Flowers

The Santa Fe Family Farmers Cooperative will be presenting display/information on their cooperative of small New Mexico farmers and their innovative approach.

For more information:
Martin Connaugton, President
Santa Fe Family Farmers Cooperative
Wilderness Flowers
3 Roy Crawford Lane
Santa Fe NM 87505

New Mexico Cattle Growers' Association

For more information:
Caren Cowan
P. 0. Box 7517
Albuquerque, NM 87194

Meat and Poultry Inspection

For more information:
Art Marquez
300 San Mateo NE, Suite 1000
Albuquerque, NM 87108

HERO/Doña Ana and El Paso County Agricultural Assistance

We are a new program, which began in January 2002, and is funded by a USDA Office of Outreach 2501 Grant to provide assistance to socially disadvantaged agricultural producers in both Doña Ana County, N.M. and El Paso County, Texas. We assist our producers in finding alternative markets for their goods, including forming cooperatives and utilizing community supported agriculture. We also assist in accessing operating capital through Farm Service Agency or through alternative lenders. We are dedicated to reducing the decline of small farmers and ranchers in our communities and to help them further integrate with our agricultural and business communities. Our producers are extremely varied in experiences and needs, and we work with them individually and in group meetings to assess their needs and provide training to improve their success rate as producers.

For more information:
Lucia Bond
P. 0. Box 7901
Las Cruces, NM 88006

Socorro Consulting and Engineering LLC

We custom design an Anaerobic Digester for dairy farms. Anaerobic digestion is the science of taking livestock manure and processing it into a usable form of energy. The manure is collected daily and placed into the digester. The manure takes about 25 days to travel through the digester where the bacteria breaks down the manure into methane, CO_2 and trace gases. The process is a continuous flow through the digester. The methane gas is collected and used to run a gas generator system that produces electricity. The electrical production is more than enough to operate the dairy and the excess electricity can be sold back to the utility company. The by-product of the digester is changed into an inorganic fertilizer, which may be used in the dairy itself as bedding for the cows or sold as a high-quality fertilizer. The gas engine produces enough hot water for all the dairy uses in cleaning and wash down. The digester is EPA, DOE and USDA approved. Discharge water is pathogen free and can be reused in the dairy. It reduces odor by 97 percent and reduces fly problems, because the manure is collected daily.

For more information:
Torn Campbell and Jerry Wi1bum
P.O. Box 990, Hereford, TX 79045
1421 South Avenue A,
Portales, NM

Bioneers

An annual gathering and membership community that explores practical and visionary solutions for restoring earth, including the cultural and spiritual, as well as biological. One of our four main projects, has the goal of providing economic development opportunities to indigenous and family farmers by linking them with progressive markets, bringing added value for biodiverse and ecologically cultivated crops. We are at the tail end of a collaboration with the Iroquois farmers to reintroduce their traditional white corn into commerce and we are currently working with African American farmers in the Southeast to develop an organic farming enterprise. We also produce small agricultural workshops, usually in northern California, with top

ecological growers to provide training for farmers and gardeners.

For more information contact:
Rosy Ward
Maria Rhodes
901 W. San Mateo Road, Suite L.
Santa Fe NM 87505

Milk Processing

We custom design a small milk processing plant for dairy farms. The raw milk is taken from the existing storage tanks and placed into a production tank where it is cooled until production starts. The processing plant is manufactured in Israel and is shipped, constructed and placed into operation by professional installers. Personnel are trained in the use of the equipment, and recipes for all products are supplied with the unit. List of equipment: raw milk storage tank, pasteurizer, cream separator, homogenizer, pasteurized milk storage tank, butter churn, milk filling and capping machine, cheese bags and drain trolley, cheese and yogurt filling machine, pumps, air compressor, cooling units, heating units, water chiller, and technical and technological documentation. This is a real value-added addition to any dairy farm regardless of size.

For more information:
Socorro Consulting and Engineering LLC
Tom Campbell, Jerry Wilburn, E. J. Campbell and Delbert Rector
P.0. Box 990, 4121 South Avenue A
Hereford, TX 79045

Anaerobic Digesters

We custom design an anaerobic digester for dairy farms. Anaerobic digestion is the science of taking livestock manure and processing it into a usable form of energy. The manure is collected daily and placed into the digester. The manure takes about 25 days to travel through the digester where the bacteria breaks down the manure into methane, C02 and trace gases. The process is a continuous flow through the digester. The methane gas is collected and used to run a gas generator system that produces electricity. The electrical production is more than enough to operate the dairy and the excess electricity can be sold back to the utility company. The by-product of the digester is changed into an inorganic fertilizer, which may be used in the dairy itself as bedding for the cows or sold as a high quality fertilizer. The gas engine produces enough hot water for all the diary uses in cleaning and wash down. The digester is EPA, DOE and USDA approved. Discharge water is pathogen free and can be reused in the dairy. It reduces odor by 97% and reduces fly problems because the manure is collected daily.

For more information:
Socorro Consulting and Engineering LLC
Tom Campbell, Jerry Wilburn, E. J. Campbell and Delbert Rector
P.0. Box 990, 4121 South Avenue A
Hereford, TX 79045

Santa Fe Family Farmers Cooperative

The Santa Fe Family Farmers Cooperative is a group of family farmers from northern New Mexico and southern Colorado. These farmers have joined together to form a marketing and distribution cooperative. In addition to sales, and retailers and restaurants, the cooperative has initiated a Fresh Produce Club based on the Community Supported Ag (CSA) model. This model features direct sales to the consumer. CSAs encourage consumers to develop personal relationships with local farmers and take a personal interest in where their food comes from. CSAs also encourage the consumer to become educated in several issues, including health benefits and nutrient content of fresh produce, organic food production, economic issues facing small farmers, community benefits of supporting local farmers and land stewardship and sustainability.

For more information:
Sarah Grant
Santa Fe Family Farmers Cooperative
P.0. Box 1487
Santa Cruz, NM 87567

USDA-New Mexico Farm Service Agency-Farmer Programs and Farm Loan Programs

For more information contact:
Daniel S. Abeyta
6200 Jefferson Street, NE
Albuquerque, NM

P&M Plastics

P&M Plastics and P&M Signs, located in Mountainair, N.M., has developed a fully functional pilot-scale facility to produce a durable wood/plastic composite, called AltreeTM, from woody residues and recycled plastic. Our display will tell the story of how our product is made, its attributes and what it can be used for.

For more information:
Phil Archuletta,
John Youngquists
202 East Broadway
P.O. Box 567
Mountainair, NM 87036

Regulate and Promote Organic Agriculture

The NMOCC was founded in 1990. It was one of the first state organic certification bodies. The five-member commission that heads the agency is appointed by the governor from the ranks of certified organic farmers. The NMOCC is accredited by the USDA under the National Organic Program. The mission of the NMOCC is to regulate and promote organic agriculture in New Mexico by providing competent and reasonable-cost organic certification, public education, market development and marketing assistance, technical assistance and consumer protection. As the market for organic products continues to show double-digit, yearly growth, many small farmers are looking at the organic market to provide more stability than traditional markets. Consumers of organic produce are more interested in where their food comes from, and often consciously choose to support small farms. Health concerns and questions about sustainability are also prompting many small fanners to turn to organic production.

More than 950 of the producers certified by the NMOCC are small-scale farmers, and the agency has a fee structure and staff that makes organic certification accessible to small producers.

For more information:
Joan Quinn
New Mexico Organic Commodities Commission
516 Chama, NE, Room D,
Albuquerque, NM 870108

North Carolina A&T State University-Cooperative Extension Program

For more information:
Mary Mafuyai-Ekanem
P.0. Box 21929
Greensboro NC 27420-1928

Agricultural Alternatives—Pennsylvania State University

To meet the educational needs of small-scale and part-time farmers, Penn State's College of Agriculture Sciences, with support from the USDA-Extension Service, has developed a set of 50 publications called "Agricultural Alternatives." They help producers evaluate potential enterprises by providing unbiased information about marketing, production requirements, cost of production, and resource needs. Each publication also has a list of references, trade and marketing association information, and mailing and Web site addresses where more information can be obtained. The project has developed leaflets on alternative enterprises, including accelerated lambing, aquaculture, asparagus, beef back grounding, beef cattle feeding, beef cow-calf, beekeeping, bell peppers, bison, bobwhite quail, broccoli, cantaloupes, cucumbers, dairy beef, dairy goats, dairy heifers, earthworms, eggs, elk, emus, fallow deer, feeder lambs, high brush blueberries, holiday lambs, horse boarding, meat goats, milking sheep, onions, ostriches, partridges, pheasants, potatoes, pumpkins, rabbits, red deer, red raspberries, rheas, snap beans, spring lambs, strawberries, sweet corn, swine, tomatoes, veal and watermelons. Other publications include enterprise budget analysis, drip irrigation for vegetables, financing small and part-time farms, fruit and vegetable marketing and irrigation of fruits and vegetables.

For more information:
Jayson K. Harper
Department of Agricultural
Economics & Rural Sociology
Pennsylvania State University,
University Park, PA 16802-5600

Pennsylvania Farm Link

With the mission of "creating farming opportunities for the next generation," PA Farm Link provides regional workshops, information and assistance, referral and one-on-one consultation for farm entry and exit. The organization holds passing on the farm workshops, new and beginning farmer workshops and direct marketing workshops, targeted at beginners. Individuals new to farming can enroll in a state and nationally certified beginning farmer apprentice program. Landowners who want to transition their farm to the next generation or who can provide an opportunity to get started in farming are linked with those who want to enter or continue their career in farming. Business plan training assistance will be offered in the near future.

For more information:
Marion Bowlan
2708 A North Colebrook Road
Manheim PA 17545

Tennessee State University-National Extension Leadership Development Program

The National Extension Leadership Development (NELD) program is a rigorous leadership development experience of the Extension Committee on Organization and Policy, a committee of the National Association of Land-Grant Colleges and Universities. The committee consists of a series of four seminars plus an international experience. Interns are nominated by their institution director/administrator. The committee's purpose is to provide leaders with the vision, courage and tools to deal with changing social, political, economic and environmental climate; enhance the pool of executive leaders available to the Cooperative Extension system; and help leaders examine Cooperative Extension's organizational, discipline, and programming structures to meet new and emerging needs. The committee began in 1987 with a grant from the Kellogg Foundation. It is currently funded by institutional assessments and organization support. Thirty-eight states have supported interns and 180 have graduated. Tennessee State University is currently hosting Classes VIII and IX. Class VIII has 23 interns, representing 15 states, and the District of Columbia is holding its 3rd seminar in Albuquerque. Class IX nominations will begin in spring 2003. The NELD experience includes a mentorship program, leadership development reading list and individual and group projects. Leadership assessments, bimonthly conference calls and quarterly newsletter.

For more information:
Brenda McCoy Hunter
Tennessee State University
Nashville TN 37209

Tennessee State University—Small Farms and Integrated Pest Management Program

For more information:
Roy Bullock, Richard Winston,
Finis Stribbling, James Reeves,
Tom Burrell, I. V. Jackson,
John Ferrell, T. W. McQuire
3500 John A. Merritt Blvd.
Nashville, TN 37209-1561

Heifer Project International

For more information:
Rigoberto Delgado
6500 Boeing. Suite L-212B
El Paso TX 79925

Utah State University Extension—Ag Environmental Management Systems (AEMS) Program Web Site

The site is a clearinghouse for providing the latest information about how the operators of agricultural enterprises can improve their operations and interactions with air, water and land resources; improve pollution prevention; and become effective in their regulatory compliance. Perhaps the most powerful aspect of the Web site is our recently developed enterprise information system that provides the livestock and poultry industry with efficient, accurate access to the latest information about manure management methods and tools. The Ag Environmental Management Information System (AEMIS), is based on the national Livestock and Poultry Environmental Stewardship (LPES) Curriculum materials that address the issues of manure management and environmentally sensitive methods of on-site reuse and recycling. The AEMIS, a decision support tool of the Ag Environmental Management System process, brings together and stores information in a relational database, enabling the information to be efficiently and accurately retrieved through Web-based technologies that include a navigation system, a query builder and a keyword search engine. While building the query, users can traverse through all of the curriculum materials to cocreate the information they need. The keyword search engine contains a more specific search tool that allows users to specify a search keyword. After scanning the entire database, the search engine displays every title of topics that contain the keyword. By clicking on a title, the entire test on that topic is displayed and the keyword highlighted. Thus, users are quickly presented with all available information on the topic. Finally, AEMIS helps users organize information and find alternatives for setting objectives, determining actions and reviewing options and evaluations.

For more information:
John Harrison
USU Extension Specialist
Agricultural Waste Management
ASTh Department, COA
Utah State University
1498 N. 800 East
2300 Old Main Hill
Logan, UT 84322-2300

Utah State University-Agricultural Waste Management Program

For more information:
Gary Straquadine,
ASTh Department, COA
1498 N. 800 East 2300 Old Main Hill
Logan, UT 84322-2300

USDA-Ag Marketing Service—Fruit and Vegetable Programs

University of Wisconsin-Extension and the U.S. Department of Agriculture have pioneered a new online multimedia approach to reaching small farmers with limited English-speaking ability. Basic training is offered through voice-narrated slide shows that are easily accessible online and on CD-Rom. Thirty Hmong-language slide shows are currently accessible online at the University of Wisconsin-Extension Hmong Task Force Web site. Topics include horticultural production, community gardening, farmers' markets and small business. Extension agents and other trainers can use CD-Rom versions for group meetings. The intent is to develop multimedia training that is simpler to create and more flexible than videos. Voice files and slides can be updated and reposted to the Web site. Collaboration with agricultural agencies and extension services in other states, expanding the number of slide shows and working in additional languages, particularly Spanish, are all currently being explored. To demonstrate and publicize the slide shows, the exhibit will include a notebook computer with speakers, a display board and printed handouts. The exhibit will provide an ideal venue for seeking opportunities to collaborate with other agencies in attendance at the conference and to explore multimedia outreach options.

For more information:
Don Hinman
2991 Huntington Grove Square
Alexandria, VA 22306

Washington State University Small Farms Program

The Washington State University Small Farms Program was established by the state legislature in 2000 in response to citizen requests. This program has the unique mission of developing research and educational programs at WSU, the state's land-grant university, targeted specifically to the needs of the state's small-scale and urban farmers and to build capacity for locally based, community food systems through consumer outreach. To date, this program has hired five staff members and developed a broad base of funding through several different state and federal sources in addition to the initial legislative allocation. To meet farmer informational and educational needs, ongoing university courses and workshops in agricultural entrepreneurship, sustainable small-scale farming techniques, and farm internships have been designed and implemented. In addition, the WSU Small Farms Program has created professional development opportunities for extension and other agricultural professionals in direct marketing, agricultural entrepreneurship and organic agriculture. Small farms research and demonstration plots have been established at research and extension centers and on area farms to examine cover cropping systems, soil fertility management and alternative pest management. Finally, the program has organized interdisciplinary, multiagency research teams to study direct marketing systems, farmers' market management, organic farming practices and to conduct food system assessments.

For more information:
Marcy Ostrom, Director
WSU Small Farms Program
7612 Pioneer Way F
Puyallup, WA 98371

National Farm Transition Network

The National Farm Transition Network supports programs that foster the next generation of farmers and ranchers. The network programs provide a range of services, including clearinghouse or directory services that match beginning and retiring farmers; educational programs support services, such as retirement and estate planning; credit access; beginning farmer training opportunities; mediation; and technical assistance. More than 20 states have programs. The network's coordinating office is at Iowa State University Extension. The exhibit is a tabletop display with displays available for distribution.

For more information:
Gwen Garvey
P0 Box 8911
Madison, WI 53708-8911

Farm Link Program

A coalition of 30-plus organizations, agencies, and institutions, in Wisconsin have been working together for several years to promote educational opportunities in the area of farm succession. Activities target beginning, changing and exiting farmers in Wisconsin. Activities range from small workshops to statewide conferences to Farm Progress Days theme tents. Numerous educational strategies are used and several publications will be available at the exhibit.

For more information contact:
Gwen Garvey
DATCP/Farm Link Program Coordinator
P0 Box 8911
Madison, WI 53708-8911

Poster Abstracts

Poster Abstracts

1. Characterization of Limited Resource Farmers' Participation in Cost-Share Programs in Alabama

Dr. Okuwdili Onianwa
Associate Professor
Alabama A&M University
Buddhi Raj Gyawali
Graduate Student
Alabama A&M University

The cost-share programs are designed to encourage farm operators' participation in conserving and protecting forest, wildlife habitats, soil fertility, and water quality through federal incentives and technical assistance (Nagubedi, et al., 1996, USDA, 2000). Despite the numerous benefits of cost-share programs and various government efforts to encourage participation through incentives, participation among small or limited-resource farmers in cost-share programs is low compared with large farmers (Nagubedi et. al.; 1996, Desmukes et al. 1997, Molnar et al.; 2000). The reason behind the lower participation could be the weak assessment of the socio-economic characteristics of small farmers (Ervin & Ervin, 1987).

The objective of this study was to examine the characteristics of limited-resource farmers in Alabama who participated in cost-share programs. Specifically, the study examined the socio-economic and demographic characteristics of the farmers.

The study analyzed data from 723 limited-resource farmers in Alabama. The limited-resource farmers in this study refer to farmers with less than or equal to $40,000 in gross sales per annum from agricultural activities. Using descriptive analysis and cross-tabulation, the results indicate that about 30 percent of the respondents participated in at least one cost-share program. Also, a majority of the participants were males, college graduates, retirees and owned larger acres of land.

This suggests that educated farmers, older farmers, part-time farmers and farmers with large acres of land are more likely to participate in cost-share programs.

The study concluded that the objectives of cost-share programs may not be achieved unless the strategies focus on increasing the participation of small-scale farmers who own less acres of land, are less educated, are full-time, and have limited resources.

For more information:
Buddhi Raj Gyawali
Department of Agribusiness
Alabama A&M University
P. O. Box 323
Normal Al 35762

2. An Economic Analysis of N Fertilizer Reduction in Corn Production under Nonirrigated Conditions in North Alabama

Barbara Joseph
Graduate Assistant
Alabama A&M University

Corn is one of Alabama's most important crops. Alabama farmers harvest more than half a million acres of corn each year, with small- and limited-resource farmers contributing a large percentage of that amount. Nitrogen fertilizer is required for good corn grain production on all Alabama soils. The cost of N is the largest single variable cost in corn production and is also the only element that produces large and consistent increases in corn yield. Consequently, to boost economic returns, N is often overapplied to achieve higher yields. However, the increased use of nitrogen has led to major environmental concerns. Today, many U.S. waterways remain partially impaired and the quality of drinking water in many states continues to deteriorate. The U.S. government, over the years, has spent billions on water-quality legislation and programs. However, despite these efforts, much more needs to be done to reduce or eliminate surface and groundwater contamination. This poster focuses on a possible mandated policy—an environmental policy to reduce nitrogen runoff from field crop production and its economic impact on small farms in north Alabama. Small-scale farmers' adoption of conservation practices depends significantly on the perceived costs of such practices. If these practices cause either returns or costs to become more variable, farmers will view the increased risk an additional cost. Farmers, whether large- or small-scale, tend to be risk-averse

and will apply more N than needed to maximize expected profits in order to reduce risk. In formulating policies, policymakers need to consider not only the environmental but also the economic implications. Consequently, the economic effects of a reduction in N use were evaluated for a representative small corn farm in northern Alabama. GPFARM, a farm/ranch decision support model, was used to determine the economic effects. The model incorporates climate and soil data in addition to management practices to simulate economic and science analysis for a farm/ranch management unit.

For more information:
Barbara Joseph
6405 Old Madison Pike, Apt 70
Huntsville, AL 35806

3. Small Farm Internships Networking

Katherine L. Adam
Agriculture Specialist
National Center for Appropriate Technology

Small farms in the United States need workers in order to succeed, and enterprises, such as vegetable and fruit production, can be quite labor intensive. Labor needs that used to be met by large families are now met by attracting youth over 18 (mainly college students and recent graduates) who want to learn the basics of small-scale food production and get closer to the land and to natural systems. The educational aspect of the experience ranges from hands-on learning to classes, conferences, visits to neighboring farms, and formal intern networks. Here are some examples:

- A graduate of Johns Hopkins University with a degree in physics wants to spend the summer working as a farm intern.
- A former Wall Street investment broker is finding new meaning in life by selling produce at a Maryland farmers market.
- College students from San Francisco spend time in meditation and vegetable production on a farm/retreat center near Muir Beach.
- Young people learn about production of alternative crops on farms deep in the Ozarks.
- A Midwest goat dairy teaches cheese making to its interns.
- A working ranch in New Mexico hosts youth interested in all aspects of cattle raising.

Of the small farms surveyed by THE COMMUNITY FARM, 54% obtained interns and apprentices through the Appropriate Technology Transfer for Rural Areas (ATTRA) listings, published since 1990. ATTRA's Web site is linked to other organizations that provide farm internship opportunities for youth. It takes practical intelligence and stamina to be an intern. Housing ranges from yurts to furnished apartments; stipends provide for bare necessities; most interns must provide their own transportation; the host farmer generally provides food.

Interns uniformly praise the experience for giving them an education they could not get in the classroom. They learn something about the geography, history, and culture of a different region of the United States, as well as the basics of small-scale food production and how to work cooperatively.

The poster: The poster will be a collage of color photos submitted by some of the 350 small farms on ATTRA's intern list, with some text. It will give a sense of the importance of small farm internships in reconnecting America's youth with America's small farm heritage.

For more information:
Katherine L. Adam
NCAT/ATTRA
P.O. Box 3657
Fayetteville, AR 72702

4. Direct Marketing of Vine Ripe and Organic Tomatoes

Benny Fouche
University of California Small Farms

Many small farms in California are near major metropolitan areas and have good access to specialty markets for vine ripe and organic tomatoes. Tomatoes in standard distribution channels are often picked green and shipped long distances. Usually the flavor of these tomatoes is poorly developed. Local growers can experience high demand and premium prices for full flavored "home-grown style" and organic tomatoes either by selling in farmers' markets, restaurants or to local grocery outlets. By selling premium produce, small-scale farmers can increase their potential revenues and maintain their economic viability in specialty crop markets.

Trials have been conducted for two years to determine the yield potential, flavor and customer acceptance of heirloom and other non-standard varieties. Field day presentations were held at these replicated trials and more than 38 growers received information on the production and market acceptance of vine ripe tomatoes and were able to incorporate the variety information into their production systems.

For more information:
Benny Fouche
UCCE
420 S. Wilson Way
Stockton CA 95205

5. Small Farm Program, University of California

Desmond Jolly
Small Farm Center
University of California-Davis

The Small Farm Program at the University of California, Davis has a unique land-grant configuration in programming for research and outreach education for small-scale and limited-resource farmers. The program has a relatively long history spanning nearly 25 years and came out of a specific historical and California context.

Developed in response to public advocacy in 1979, its purpose is to more effectively bring the assets of the land grant system to address the needs of small-scale and limited-resource farmers for applied research and education. The program's core competence was initially and remains research and outreach related to specialty and niche crops, but program initiatives have expanded to include issues and areas, such as new farmer training, risk management, pesticide safety, food safety and agritourism and ecotourism, as well as public policy education.

The poster describes the clients, methods, products and outcomes of the programs and projects. It can inform other participants as to innovative approaches used in our research and outreach in this statewide effort. The overarching goal is to enable small farms to attain enhanced viability by empowering users with cutting-edge information.

For more information:
Desmond Jolly
Small Farm Center,
One Shields Ave,
Davis, CA 95616

6. Production and Marketing of Hot Pepper: An Alternative Enterprise for Small Farmers

C. S. Gardner
Associate Professor
G. L. Queeley
Research Associate
V. Richardson
Assistant Professor/Marketing Specialist
T. Hylton
Farm Management Specialist

It is becoming increasingly difficult for small-scale farmers to maintain profitability through the production of traditional crops, such as corn, peanuts and tobacco. It is therefore imperative for these farmers to find alternative crops through which they could establish niche markets, avoid competition from large-scale farmers and preserve the profitability of their enterprises. Recognizing this fact, the Florida A&M University's Cooperative Extension Program set up demonstration plots to test the adaptability and market potential of Habanero hot peppers, which include the Scotch Bonnet, Caribbean Red and Orange Habanero. These peppers are known for their distinctive pungency and spicy flavor. Through market research, several markets were identified. Initially, farmers supplied local supermarkets and restaurants with fresh hot pepper on a weekly basis. As demand increased, an agreement was established with Florida Gourmet Foods, which purchased between 1,500 and 2,500 pounds of hot pepper per week. From 0.33-acre plots, 12 farmers harvested more than 1,300 pounds of hot pepper per week to meet this demand. Efforts are also being made to tap into the lucrative hot pepper markets in south Florida. The north Florida Cooperative that works in conjunction with Florida A&M Cooperative Extension services has just purchased seven refrigerated trucks to serve this purpose. In the future, farmers are expected to expand efforts to make value-added products, such as hot sauces, pickles, crushed pepper and pepper mash. This alternative crop exhibits good income generating potential for small farmers.

For more information:
Cassel S Gardner
215 Perry Paige Bldg.
South, Florida A&M University
Tallahassee, Fl 32307

7. Herd Health and Food Safety

Dr. Ray Mobley
DVM, MPH, DACVPM
College of Engineering Sciences
Technology and Agriculture
Florida A&M University

Food safety and herd health have been major factors in successful producers' operations. Recent developments in global disease patterns and nontraditional weaponry threats have increased the need to emphasize the importance of a holistic and integrated approach to health and food safety. Food-related illnesses affect approximately 75 million people per year, accounting for approximately 5,000 deaths. Science-based programs that employ all elements of the community as well as the food chain will increasingly become the standard. Programs that involve students, producers, academicians, regulators and other processors and handlers of food in a collaborative manner must be implemented and presented in a user-friendly manner. Florida A&M University is working collaboratively with other universities and health and food entities to provide current and understandable information and practices to its service population that will aid in maintaining animal health, food security and cost efficient production of food products.
As the lead agent for goat production and marketing, Cooperative Extension is also very active in providing leadership and guidance to producers in developing and sustaining goat herd operations throughout the state. The incorporation of student involvement is also a central focus leading to trained individuals that will continue to provide leadership to agriculture and this discipline.

For more information:
Dr. Ray Mobley, DVM, MPH, DACVPM
Associate Professor
Coordinator, Extension/Research Programs
College of Engineering Sciences,
Technology and Agriculture
202G Perry Paige South
Florida A&M University
Tallahassee, FL 32307

8. Linking the Farm to the Community through Locally Grown Farmers' Markets

Rob Gordy
Chairman
Sustainable Agriculture Committee
Meredith Barr
Steering Committee Chair
Cotton Mill Farmer's Market

Locally grown farmers' markets can serve many valuable functions in a community. Markets provide sustainability to local agriculture as well as function as effective farmland protection tools.

1. Sustainable Agriculture: From a farmer's point of view, a direct market can represent economic sustainability through increased returns. These returns can be recognized by the farmer managing 200 acres as well as one acre.

   By marketing directly to the consumer, the farmer is able to capture a greater percentage of the consumer's "food dollar," while still offering a fair price to the consumer. In comparison to wholesaling their product, where the grower receives only a small portion of the consumer's food expenditure, there can be a fourfold increase in income.

   In addition, many backyard gardeners need a local market for their extra produce. These individuals can often supplement their income and utilize small acreage to show a profit. They will also bring diversity to the market by providing products that are traditionally, not grown commercially in the region.

1. Farmland Protection: Markets provide consumer-to-farmer interaction opportunities that not only educate the consumer about the importance of farming to the local economy, but also educate about nutritious food and the dependence of our community upon agriculture. The interaction benefits both groups by establishing links for consumers to the land and their food, by educating the producer of consumer preferences and by fostering new consumer/farmer relationships.

The Cotton Mill Market in Carroll County, Ga., was established in 2002 through the direction of a locally led steering committee. The steering committee involved a cross-section of individuals in the planning process and has a success story in the making. In addition to the benefits related to sustainable agriculture and farmland protection, participating farmers have the ability to reach out to underserved and nontraditional clients as well as interact with local businesses. Cotton Mill Market vendors have been established to receive WIC (Women, Infants, and Children) vouchers—increasing their clientele as well as providing fresh, locally grown products to low-income families. In addition, a relationship has been developed with local restaurants. Regularly, local chefs come to the market and conduct cooking demonstrations using the fresh ingredients at the market. Farmers participating in the market volunteer samples of their products to the chefs for the cooking demonstrations. This relationship establishes a direct link to fresh, locally grown products and good food and nutrition.

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9. Alternative Careers for Idaho Farmers

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Program Coordinator
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Alternative Careers for Idaho Farmers (ACIF) is a two-year pilot program funded by a grant appropriation to the State of Idaho from the U.S. Department of Labor, Workforce Investment Act; and administered by the Cooperative Extension Service, University of Idaho. The university received grant funds starting July 1, 2001. The program was staffed, effective October 31, 2001.

Incumbent Farmer and Dislocated Farmer Options

The first option is designed to assist incumbent farmers who require training to implement more competitive and economically sustainable farming practices on their existing farm or ranch operations. Incumbent farmer training includes farm/ranch management education, training in alternative marketing methods and strategies, training in cropping systems and animal systems practices and methods and development of second careers. For dislocated farmers, the second option seeks to improve income from off-farm employment through post-secondary training, including college degrees, technical and professional educational programs and certificate courses, or student internships that provide on-the-job training.

Eligibility

Eligible farm and ranch families are those adults whose employment-based income at some date after September 22, 1999, have been derived from farming or ranching and whose labor has contributed significantly to the production of goods and services generated by a farm or ranch operated by themselves or members of their families.

Applicants establish financial need when limited resources are available to finance their education/training program for an alternative career or a second career to supplement farm income. Individuals must complete an assessment process. Individual Career Development Plans must demonstrate that the proposed education/training is necessary and will "more likely than not" result in an improved economic position for an individual. Once complete, the application is reviewed by the ACIF Board and staff for decision.

Program Outcomes (as of July 15, 2002)

ACIF staff has contacted more than 270 individuals since October 31, 2001. Forty individuals are currently receiving training or education from Idaho institutions in 18 fields of study. Thirteen people have completed the program in eight different occupations, and all are currently employed full-time or seasonally. As of July 15, 2002, $120,673.29 has been disbursed to enrollees, $388,459 is encumbered to support ongoing education and training commitments, and $513,466 is available to fund future enrollees. Of the 53 farmers or family members receiving financial assistance from ACIF, 25 are classified as dislocated.

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10. Conferences Acquaint Small Farmers with Alternatives

Dr. Jo Ann Robbins
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Educator–Crops and Horticulture

In south-central Idaho, 57 percent of farms are 179 acres or less in size (1997 Census of Agriculture). Furthermore, 36 percent of all farms are 50 acres or less. In 1997, 62 percent of all farm owners listed their principal occupation as farming. This means many farm owners farm to maintain a lifestyle or to supplement off-farm income. Small acreage farmers and larger farms needing extra income raise (or would like to raise) and market specialty crops or livestock.

To assist these farmers, five early spring annual conferences have been held since 1998. Conference topics aimed to help small farmers diversify their operations, widen their marketing options, and improve overall farm production and management. These conferences, organized by the University of Idaho Cooperative Extension System, had different cooperators each year including: the Idaho Department of Agriculture, Idaho Rural Council, KMVT Television, USDA Risk Management Agency, Western Region Sustainable Agriculture Research and Education Program, the North American Farmers' Direct Marketing Association, the Growers Market of Idaho Falls, Eastern Idaho Technical College, and the College of Southern Idaho. Grants to support the program were received from University of Idaho Critical Issues, Western Region Sustainable Agriculture Research and Education, and USDA Risk Management Agency.

Over the years, keynote speakers included Michael Abelman, small-scale farmer and author; Dan Guenthner, Wisconsin small-scale farmer; Vance Corum, direct marketing expert; John Ikerd, University of Missouri agricultural economist emeritus; and Eliot Colman, four-season farmer and author. Local farmers, marketers, business owners and university and college educators have spoken on topics, such as equipment for small and specialty operations; marketing your business and product; specialty crops and specialty or value-added products; rules, regulations and taxes; farm and business management; and general crop production.

Attendance ranged from 100 in 1998 to 50 in 2001. Forty percent of attendees have come to two or more conferences. A conference evaluation, administered yearly, had an overall 48 percent return. Among the ideas attendees planned to put into practice were: keeping pesticide application records, using drip irrigation, becoming certified organic, and using and expanding farmers' markets.

Idaho Cooperative Extension will continue this yearly activity for small farmers. External funding and cooperators will continue to be important. Topics for future conferences, as suggested on the annual evaluations, include storage and handling of products, organic management, meat production and sales, grants and programs available, and more on viable specialty crops and products.

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11. Cultivating Success in Small Acreage Farming and Ranching

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Sustainable Ag Coordinator
University of Idaho

Cultivating Success is a new community-based education program focused on sustainable small acreage farming and ranching. It was developed as a collaborative project between University of Idaho, Washington State University and Rural Roots (a nonprofit organization of Inland NW small acreage farmers).

Cultivating Success focuses on quality education in the food and agricultural sciences and provides students with a program that is experiential on farms, mentored by farmers and ranchers, interactive with agricultural professionals and applicable towards career goals.

Cultivating Success offers a unique combination of experiential learning and community-based education. Graduates will bring their on-farm experience and systems approach to food and agriculture to bear in their future endeavors as farmers, ranchers, agricultural professionals and consumers. Those entering the policy arena will have a solid understanding of the sector in which they are working.

Cultivating Success certificate program, currently in its pilot year, includes a series of four courses and an on-farm apprenticeship. Each course focuses on "real world" experience and features farmers and professionals as guest instructors. Courses offered as part of the Cultivating Success curriculum include:

- Science, Society and Sustainable Food Systems I —An introductory course on sustainable food systems that provides global perspectives and local examples of food system issues.

- Principles and Practices of Small Acreage Farming and Ranching—A production-based overview of successful, sustainable small acreage farming and ranching enterprises.

- Agricultural Entrepreneurship—A business planning and market development course using experienced practitioners from the community and region.

- On-Farm Apprenticeship—A 270-hour, on-farm apprenticeship with a trained farmer-mentor who provides hands-on experience in the student's area of interest.

- Sustainable Food Systems II—This sustainable food systems course is designed for upper level students to enhance skills of teamwork, problem solving and working in complex systems.

Through this combination of community-based classroom education and hands-on experiences, students will gain an in-depth understanding of a selected farm or ranch enterprise including farm business planning, goal setting and innovative marketing strategies.

Curricula, instructional videos, distance education support systems and instructor training workshops are currently being developed and refined. Eventually, the program will be offered through other institutions of higher education in Washington and Idaho. At a national level, the program will provide a replicable model for innovative sustainable small acreage farming and ranching curricula design, program delivery, student experiential learning and instructor training.

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12. Living on the Land: Stewardship for Small Acreages

Cinda Williams
Sustainable Ag Coordinator
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Throughout the West, population dynamics are changing. As communities grow, land at urban fringes is being rezoned from large, agricultural enterprises to smaller, 1 to 40-plus acre parcels. This growing populace of small acreage owners often is not well versed in land management practices and at the same time, have potential for significant impacts on the condition of natural resources through their cumulative effects.

With funding from the Western Region Sustainable Agriculture Research and Education Professional Development Program, professionals from eight western states—California, Oregon, Washington, Utah, Idaho, Nevada, Montana and Colorado—teamed together to create the Living on the Land (LOL) curriculum. This curriculum is specifically aimed at the small acreage "lifestyler," the property owner who has purchased a small acreage property, not as a source of annual income, but as a way of life.

The LOL curriculum includes an instructors' guide and five modules entitled: Setting the Stage - Inventorying Your Resources; Your Living Soil; All Life Depends on Water; Love Your Grass as Much as Your Animals; and Don't Forget the Animals. A PowerPoint presentation, a lesson plan, instructor resources, handouts, Web sites, an evaluation and a post-class, mini-test accompany lessons with each module.

The flexible LOL curriculum can be used in numerous ways to meet the needs of varying program goals and audiences. One of the key strengths of the program is its ability to be customized to local needs, regulations, and conditions.

The LOL Team trained 47 professionals from eight western states in October 2001 on use of the curriculum. Participants included staff from Cooperative Extension, NRCS and Conservation Districts. All attendees received both hard copies and CD-ROMs of the complete curriculum. Since then, more than 650 compact disks of the curriculum have been requested and sent.

The response by natural resource professionals requesting and using the LOL curriculum demonstrates it is a major step in providing relevant and current information on land stewardship to a growing population.

The LOL team continues to promote and distribute the curriculum, recruit new trainers, and provide guidance on the use of the curriculum. The team maintains a database of the people who have received the curriculum and are conducting follow-up and impact surveys in 2002.

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13. Rural Enterprise and Alternative Agricultural Development Initiative

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Rural Enterprise and Alternative Agricultural Development Initiative (READI) is an Illinois program with a goal to expand income and job opportunities in rural alternative agricultural enterprises through a systematic program of research, outreach, technical assistance and education. The targeted areas include aquaculture, viticulture/wineries and alternative crops. The project is in its fifth year of funding from the Illinois Council on Food and Agricultural Research. The project has had a profound impact on the Illinois economy. The project tracks jobs created and retained, enterprises started and expanded, loans packaged, capital investment, etc. A Web site is maintained where fact sheets and other informational materials are posted: www.siu.edu/~readi

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14. Illinois Small Farm Task Force

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Chair, Illinois Small Farm Task Force

The Illinois Small Farm Task Force began in June 1999 with the goal of developing policies and programming that would serve to coordinate the efforts of the many agencies and organizations that have small farm activities. The members of the task force include farmers, state, federal, nonprofit and university personnel.

The task force focuses on these and other issues: the nature and scope of current activities in our state relative to small farm issues; access to the necessary research base, either at universities in Illinois or elsewhere; opportunities for cooperation with public and private sector agencies who play a role or have an interest in small farm issues; opportunity for obtaining educational resources from other states; developing coordinated programming opportunities; opportunities to attract funding for small farm education and activities; and educational programming the task force may develop with its own and other accessible resources.

We have accomplished many of our goals, including the funding of several grant proposals and the hosting of the North Central Region Small Farm Workshop, "Small Farms—A Renewed Opportunity" held on March 21-23, 2000, at the University of Illinois, Springfield. This summer we are hosting a series of field tours. In November, we will be holding two workshops for educators, "A Time to Act: Providing Educators with Resources to Address Small Farm Issues," which will include sessions in each of these five areas: financing and credit, market access, farmer cooperatives and other marketing strategies, regulatory and government barriers, and available grants and resources.

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15. Factors of Success of Small Farms and the Relationship Between Financial Success and Perceived Success

Virginie Nanhou and Mike Duffy
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This study investigates the differences between successful and unsuccessful small farms. It also explores the factors affecting farmers' perceptions of success. Farm size was measured in terms of gross sales. A profit index (the ratio of gross profit to gross profit minus management return) was used as a measure of financial efficiency and a proxy for farm profitability.

A sample of 73 farmers, all members of the Farm Business Association (FBA) was used for the analyses. These farmers have been in either the high third or low third profit group at least five of the six years for the period 1991–1996. Their financial records were obtained from the FBA for the period 1991–1996. The farmers' socioeconomic data were obtained through phone surveys. The sample was divided in to four groups based on a combination of farm size and profit levels: small profitable, small not profitable, large profitable and large not profitable farms.

A variety of analysis methods were used. Descriptive statistics, mainly student t-tests, were used to achieve mean comparisons in order to identify farms' success factors and characterize small successful farmers. The student t-tests also were used to examine and compare the ranking of the farm objectives. Multiple regression was estimated to assess the magnitude, direction and significance of the effects of the main success factors identified through t-tests.

Results indicate that a farm's financial success (profitability) is negatively affected by the farmer's age but positively by farmer's education, crop yields, machinery and labor efficiency, percent of rented acres and percent of revenue from livestock. Small-scale farmers can be as efficient as large-scale farms in cost, production or financially.

Over half (57 percent) of the successful, small-scale farmers perceived themselves as being very successful, while only 29 percent of the unsuccessful farmers perceived themselves as being very successful. However, when asked if they would choose farming again as a career, 82 percent of the successful, small-scale farmers said "yes" and 76 percent of the unsuccessful, small-scale farmers also said yes.

Overall, it appears that managerial skills are an essential ingredient to farm success, especially for small-scale farmers with little margins left for errors.

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16. Alternative Pork Production

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Alternative pork production systems, including hoop barns, pasture farrowing and deep-bedded barns, offer low-cost options for young or part-time producers to enter swine production, or for any producer to complement another enterprise. They can be profitable even on a small scale. In addition to their other attributes, they offer the following advantages:

Pig handling—Pigs raised in these systems exhibit less tail-biting and other nervous behaviors. They usually appear more comfortable around people and are easier to handle.

Herd health—Some operations find reduced health concerns for their pigs.

Producer health—Many producers prefer open-air production. In addition, air quality is better than in confinement systems, and odors are greatly reduced.

Premium market—Pigs raised in these systems may qualify for premiums, especially if they can be raised without antibiotics.

(Co-authors who will not be present: Mark Honeyman, Associate Professor of Animal Science, Iowa State University; David Stender, Livestock Field Specialist, Iowa State University;

Mark Storlie, Livestock Field Specialist, Iowa State University)

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17. Adoption of Sustainable Agriculture on Rented Land

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Many managers of small farms are interested in implementing more sustainable practices on their farms. Organic production, pasture-based livestock production, direct marketing, and other value-added agricultural activities have raised net income on small farms across the United States. However, early adoption of sustainable practices has tended to be on land that is owned by the farm operator. In Iowa 54 percent of the land farmed is rented, and in much of the Midwest, the proportion of rented farmland is similar. If sustainable practices are to be implemented by farmers on rented land, their partnering landowners must understand the risks and benefits associated with these changes.

This project focused on identifying the barriers to adoption of sustainable agriculture on rented land, and developing training materials for agricultural professionals to help overcome these barriers.

Four focus groups were held with tenants, landlords and agricultural professionals to collect preliminary information on effects of land rental on adoption of sustainable agriculture. Information from these focus groups was used to develop questions for 25 one-on-one interviews with landowners and tenants based in one Iowa county.

Themes emerging from focus groups and interviews included: tenants are reluctant to suggest changes to the farming system or rental arrangement because they fear any conflict may jeopardize their lease; the uncertainty associated with year-to-year leases inhibits tenants' willingness to invest in sustainable practices; landlords and tenants vary in their perceptions and understanding of sustainable agriculture based on previous experience. Many assume sustainable agriculture is unprofitable; Extension professionals are perceived to lack technical expertise and the desire to provide effective assistance for sustainable and organic agriculture; and female landowners sense inequitable power relations with male tenants.

We are using two initial strategies to address these emerging themes. First, a clear understanding of the economic possibilities and risks of sustainable cropping systems is needed. Sample crop budgets for alternative cropping practices have been developed. In addition, alternatives to traditional crop share leases have been identified. These materials will be piloted with a landlord-tenant pair during the 2003 cropping year. Second, ways to improve tenant-landlord communication about management of property are needed. These topics were discussed among tenants and landlords at both the 2002 Practical Farmers of Iowa annual meeting and a summer field day. Both the economic materials and the information on tenant-landlord communication will be presented to Extension professionals and sustainable farmers during winter educational sessions.

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18. Machinery Link Connects Farmers

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Producers and Machinery Link owners
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Kansas farmer David Govert and his wife Sheila have created a business to connect farmers who use the same equipment at different times of year as a way to limit farm equipment expenses.

MachineryLink, based in the south-central Kansas town of Cunningham, was created based on the Goverts' own experience with sharing equipment. Govert said he shared a combine with a Nebraska corn farmer. When his neighbors saw how well the arrangement worked, they asked if the Nebraska farmer had neighbors who might be interested in similar arrangements.

The Goverts saw the need for networking among farmers and thought profitable relationships could be facilitated. The Goverts received a SARE grant in 1997 to see if their idea would work. MachineryLink is now incorporated and assists farmers throughout the United States and Canada.

The focus of the company is helping producers. MachineryLink offers a number of services. The Innovation Managed Lease Program is popular among farmers because it allows them to share a lease, but the company is responsible for transportation and repairs, and guarantees that each farmer will receive the machine on a specified date. The MachineryLink Website at http://www.machinerylink.com also has several free services for farmers. The site provides a used tractor price guide, a farm equipment cost calculator, an auction guide, research publications and an online marketplace. The marketplace service has about 16,000 listings. Govert has had business inquiries from across the United States, Canada and other countries.

MachineryLink is based on a simple idea. Instead of growing the farm to justify the equipment, network the equipment. MachineryLink allows better utilization of equipment without increasing the size of farms.

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19. Pooled Sales Add Value to Cull Cows

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As traditional small markets in rural southeast Kansas have closed, small-scale farmers and ranchers have had to look for innovative ways to market their livestock to larger processors.

Alan Jones, a Labette County livestock producer, hit upon one of those ways when he began helping ranchers in southeast Kansas pool their cull cows for sale to packers. Many producers in the area have about 30 cows and only need to get rid of a few each year. Prices for the pooled cows sold on a grade and yield basis to packers have sometimes been $5 per hundredweight higher than sale barn prices. Selling a load of cattle directly to packers, with lower transportation costs per animal, has resulted in higher profits for the cows.

The idea for pooled sales of cull cows came to Jones after three local packinghouses closed, leaving farmers and ranchers with fewer places to sell their cows. In 1999, with the help of a SARE grant, Jones organized the Cull Cow Pool.

Producers who have cows to sell call project manager Kim Harris. With the assistance of the National Farmers Organization, a packer is located to take the load. By setting up loads, the NFO can assure the packer of a set number of cattle on a specific date.

After initial loads of eight head, recent cull cow lots have numbered as high as 18. During the first six months of 2002, six loads of cull cows have been pooled. The pool is used most during the spring and fall when producers are culling old or open cows or cows with weak calves.

K-State cow-calf specialist Twig Marston states that keeping and feeding cull cows before marketing can be profitable. The cull cows are fed for a short period of time so that they can be marketed in the seasons where the price is higher.

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20. Using Trees as a Waste Filtration System

Bob and Karla Sextro
Producers
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Bob and Karla Sextro have worked with Kansas State University Research and Extension, the Kansas Department of Wildlife and Parks, the Kansas Forest Service and the USDA SARE Program to build a system that filters water from their 100-cow dairy using a living waste filter system. The system cleans the dairy's wastewater using four holding cells and a tree and grass filter. The trees and grasses remove nutrients from the water and use them in growth.

The living waste system works in place of a traditional lagoon system and incorporates existing tree plantings on the farm. The only equipment needed to manage the system is a manure spreader.

Reduced equipment costs were offset by higher costs of building the system but the Sextros received grants and cost shares to help balance the expense of implementing the system.

The filter works by scraping manure from the cow barns into a pit with a self-moving gate that expands as more waste is added to the pit, which can hold 90 days worth of manure from the dairy. The old waste system required hauling manure about once a week. The gate compresses liquids from the waste. The pit is estimated to squeeze 70 to 80 percent of the water from the waste. That water enters the first cell of the filter system.

Wash water from the milking parlor is also piped to the first cell. It then flows into a larger second cell. When the second, shallower cell reaches a trigger level, water discharges into a third cell. Rainfall causes water from the third cell to spill into the filter, where nutrients are taken up by plants. When water exits the filter strip, it is collected in a fourth cell, where it is held until rain triggers a rise in the water level. The water then spills into a channel through which it joins runoff from the watershed.

In addition to its effectiveness in filtering excess nutrients from wastewater, the Sextros have appreciated the aesthetic value of their filter system. They have seen more songbirds, quail, pheasants and deer. Domestic ducks and, occasionally, wild ducks reside along the cells. The Sextros have planted black walnut, pecan and fruit trees and had gooseberries this year. More trees are planted every year to add to the filter and replace trees that do not make it through the winter.

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21. Women's Agricultural Network of Maine—Creating an Island Farmers' Market

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Islesboro, an island located off the coast of Maine, is accessible only by ferry or boat ride. The island has hardly any tillable soil, which greatly limits its citizen's ability to grow produce. This requires consumers to travel via water and land to the nearest mainland market for fresh products.

A member of the Women's Agricultural Network approached the network's director and University of Maine Cooperative Extension educator for technical assistance and guidance in writing a grant to establish a farmers' market on the island. Because of this grant writing mentoring and support, the farmer applied for an Agricultural Development Grant from the Maine Department of Agriculture. The grant underwrites the formation of a cooperative of mainland farmers to operate a weekly, 10-week market on the island. The cooperative's farmers will alternately staff the market days but will take and sell produce from all the members in the cooperative.

The farmer received $2,000 from the grant. The cooperative's farm members will be bringing fresh farm products to Islesboro's citizens and summer tourists this summer. Based on farmer experiences at other Maine Farmers markets, they project summer gross sales of $12,000.

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22. Wood Pellet Bedding for Equines Demonstration

Donna Lamb
Piscataquis County, Extension Educator
Richard Kersbergen Waldo
County Extension Educator

Many horse farms report problems with the huge volume of manure that they have to dispose or spread. Some horse-keepers pay others to have their horse manure removed from the premise. Few if any have completed nutrient management plans.

The most recent New England Agriculture Statistics estimates that Maine has an estimated horse population of 17,000. This does not include most off-farm animals. The Maine Nutrient Management Training Manual estimates that horse manure and bedding is produced at a rate of 75 pounds or 3.7 cubic feet per animal unit per day in full confinement.

This document also estimates the average animal weight for horses at 1,000 pounds. If we estimate that horses are maintained in confinement 50 percent of the year, then the estimated volume of manure produced by equines in the State of Maine would be 116,344 tons or 425,157 cubic yards per year.

This project attempted to measure the different manure outputs from two different bedding materials. The traditional fresh sawdust bedding and a new pelleted wood product bedding was used.

The pelleted bedding material is extremely dry and can absorb more moisture than the fresh sawdust that was used in this project. While the cost of the pelleted bedding is more on an initial basis, individual situations must be considered to determine if it is more economical to use in an operation. For this project, it was calculated that the pelleted bedding would cost 40% more than the sawdust bedding on a volume basis.

Using the pelleted bedding produced only 2/3 of the volume of manure from the horse stalls compared with sawdust bedded stalls. Storage structures for manure could be significantly downsized if pelleted bedding was used. Horse-keepers need to determine the average

amount of bedding they use and manure they remove from stalls in order to accurately size manure and bedding storage areas. There can be a great variability in the amount of bedding used and manure removed from a horse stall depending on the gender of the horse and variations among the horse-keepers themselves.

The nutrients captured by the sawdust and pellet bedding materials were essentially the same. The difference in the materials was in the initial moisture level and the resulting decrease in the volume and weight of manure removed from the pellet bedded stalls.

This project was funded by the Maine Agriculture Center.

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23. Successes with Producers: Meeting the Diverse Needs of Farmers and Ranchers

Valerie Berton
SARE Communications Specialist

Educators face unique challenges when working with producers who lack economic resources, formal education and/or access government resources. These landowners, sometimes referred to as "limited-resource producers," can be found across the nation, from new immigrants to generations of the rural poor. Extension and education programs addressing producers who fall into those groups usually require different, innovative approaches.

Based on a 16-page informational bulletin, this poster authored by USDA's Sustainable Agriculture Research and Education (SARE) program is intended to be a resource for agricultural educators, heads of community development and agricultural organizations, government agency staff and others who want to better connect with and improve the lives of farmers and ranchers who remain hard to reach. It will feature nine brief success stories from around the country as a jumping off point for adapting innovative programs to varied areas.

The poster describes how-to ideas for educators, socio-economic characteristics/barriers to working with varied audiences, proven teaching methods and successful connection strategies. Success stories are linked to SARE-funded projects and include:

- Agroforestry training in the Appalachian mountains of eastern Ohio
- Kentucky State University's series of field days, which have introduced thousands of Kentuckians to sustainable farming techniques
- The New Entry Sustainable Farming Project of Lowell, Mass., which has helped beginning Hmong and Cambodian farmers obtain land and the skills necessary to grow and market vegetables
- The New Mexico Sangre de Cristo wheat growers cooperative, which shares equipment and comarkets organic flour at premium prices
- Appalachian Sustainable Development of Abingdon, Va., which has launched a project to teach farmers about sustainable agriculture, from environmentally sound growing practices to reaching high-value markets
- South Dakota's Center for Permaculture as Native Science's effort to bring market gardening to the Rosebud Lakotas
- North Carolina A & T University's program that assists farmers in developing sustainable hog production systems
- The Pembroke, Ill., farmers cooperative, which shares equipment and comarkets produce and poultry locally and to upscale Chicago restaurants
- California's Rural Development Center's work with Latino immigrant farmers

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24. New Cover Crops for Organic Vegetable Production in Maryland

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In 2001 and 2002, a screening trial was conducted of nontraditional, cool-season cover crops to evaluate their potential use on organic vegetable farms in Maryland. Organic farmers in the region specifically requested the research, although the results of this research will be applicable to many small vegetable farmers. Successful identification of new cover crops will help small farmers achieve maximum production and profitability (often on limited acreage), while maintaining environmentally sound practices.

All experiments were conducted on transitional organic land. The crops were selected for their ability to quickly produce a large amount of ground cover and biomass, their ability to fix considerable nitrogen (legumes), the success of mechanical suppression by cutting and the persistence of residue after cutting.

The cool-season cover crop screening included 20 species/varieties and was planted in September 2001. Treatments were arranged in a randomized complete block design with five replicates. Hairy vetch, crimson clover, and rye were considered standards for comparison. Mustard, tyfon, phacelia, rape, and both woolypod vetches (Lana and Naomi) were the nontraditional cover crops that were able to generate a significant amount of ground cover (>50 percent) before winter. Mustard and phacelia both appear useful as winterkilled covers that would allow the planting of early crops. The woolypod vetches both suffered winter injury and were not as vigorous as hairy vetch in the spring. Rape and tyfon could not be suppressed by cutting, but tyfon appeared able to suppress the germination of some weed seeds.

Growth of the nontraditional clovers was very limited in the fall. When they flowered in the spring, the sweet clovers (yellow and white), Dutch clover, white New Zealand clover, and berseem clover had achieved close to 100% ground cover. The sweet clovers appear to have the most potential for use as a cover crop for no-till systems, producing large amounts of biomass and a persistent mulch cover. The other clovers will require tillage for suppression.

The other species tested (bell bean, fava bean, garbanzo bean, Miranda pea, Austrian winter pea, and fenugreek) generated less than 50% ground cover and so do not appear as promising for this region.

Preliminary results from an on-going, warm-season cover crop screening trial will also be presented. In June 2002, the following nontraditional species/varieties were planted: blackeye peas, cowpea (Chinese red and Papago), crotolaria, forage soybeans, pinto bean, sesbania, chicory, lablab, and phacelia. Sudangrass and buckwheat were considered standards for comparison.

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25. Intensive Grazing Versus Conventional Confinement on Small Dairy Farms in Maryland

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Don Schwartz
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Extension Agent
Maryland Cooperative Extension

Development pressures on land values and environmental constraints are making it increasingly difficult to produce milk economically in Maryland. Expanding the farm or replacing depreciated facilities is not an option for most small dairy farms. Unless economical alternative methods of production are implemented, many dairy farms will cease operation.

Data collected from conventional confinement and intensive grazing dairy operations provides evidence that intensive grazing may be a profitable alternative to help small dairy farms stay in business. Maryland Cooperative Extension is conducting research and education programs to analyze and improve intensive grazing methods and to educate farmers about improving production. The Maryland Dairy Farm Business Summary analyzes financial data to compare confinement and intensive grazing dairy operations. Five-year running averages of income, expenses, and profit on a per cwt, per cow, and total per farm basis are used to evaluate the differences between the production methods. The average of years 1996-2000 shows the grazing operations generated a $1.37 per cwt, or a $195 per cow higher profit than confinement operations. While the grazing operations annually produced 2,100 lbs less milk per cow and averaged only 87 cows per farm, in comparison with 107 cows per farm on the confinement operations, the grazing operations generated a $9,547 higher profit per farm. This analysis is not a random sample. Farmers participate in the summary voluntarily and may not reflect the Maryland dairy industry as a whole. However, all farmers who volunteer are included in the analysis. They are not hand-picked.

Studies conducted at the Western Maryland Research and Education Center are determining the characteristics of various grass species for intensive grazing in Maryland. These studies include both plot work and grazing trials. Thirty-eight perennial varieties and 20 annual varieties are harvested under a simulated-grazing cutting frequency. The results from the annual variety plots are released at the end of each season. Results of the three-year, perennial trials will be released at the end of the 2002 growing season. The perennials are also replicated in paddocks grazed by pregnant Holstein heifers. Although perennial data has not been released, these trials have already been used to assist producers in selecting improved grass varieties.

Since 1996, bimonthly pasture walks have been conducted on dairy farms across Maryland, averaging 25 producers in attendance. These pasture walks provide a farmer-to-farmer discussion of practical alternative methods of production used to increase profitability under intensive grazing.

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26. Enhancing Sweet Potato (*Ipomoea batatas*) Production and Utilization in Mississippi

Patrick Igbokwe, Liang Huam, Franklin Chukwuma, Bernard Cotton, Juliet Huam, Veronica Igbokwe and Arkon Burks
Alcorn State University

A field experiment was used to determine the effect of conventional, transitional and organic cropping systems on 'Beauregard' sweet potato survival, growth, yield and mineral composition. Value-added products developed with the harvested crops were also evaluated for appearance, texture, flavor and consumer acceptability. The study was conducted on Dexter silt loam in the Mississippi Delta. Moisture application was by natural rainfall, whereas both fertilization and pest control varied with cropping system. After one year of study, cropping systems did not influence plant survival, vine dry weight, length, and diameter, jumbo and cull sweet potato weights, tuber size, tuber nitrogen and sulfur compositions. The overall sweet potato yield was highest for conventional cropping system and lowest for transitional cropping system, which was not different from organic cropping system. Root phosphorus composition was highest for conventional cropping system and lowest for transitional cropping system, which was not significantly different from organic cropping system. Root potassium was highest for organic cropping system but was not significantly different from conventional cropping system. Both root calcium and magnesium were highest for the conventional and transitional cropping systems and lowest for organic cropping system. The overall mean sensory evaluation score for developed products was highest for 'Sweet Potato Marbles' and the lowest for 'Fried Sweet Potato Fritters.' Up-to-date findings suggest that:

Beauregard sweet potato has the potential for becoming one of the top alternative crops for farmers in Mississippi. Conventional cropping system will favor the production of marketable sweet potato roots more than transitional and organic cropping systems during the first year of operation. Adequate soil moisture at transplanting and during the growth period may be essential for plant survival and yield of quality roots. High-quality consumer acceptable products can be developed with Beauregard sweet potato cultivar.

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27. Computer Training for Small and Mid-Size Farmers and Other Rural Dwellers: Closing the Digital Divide

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Ogbonnaya J. Nwoha, Ph.D.
Louisiana Tech. University
K.B. Paul, Ph.D.
Lincoln University

In the year 2000, a USDA-CSREES Capacity Building Grant titled "Enhancing Teaching through Computer Literacy Program for Small Farmers and Information Providers" was awarded to Lincoln University Cooperative Extension. The main objective of the proposal is to enhance information derivation through the Internet for purposes of agricultural marketing, production, and financing for small, midsize and limited-resource farmers. Initially, it targeted high school students who would participate in the train-the-trainer instruction at Lincoln University, agricultural professionals and small to midsize farmers. Interest expressed by other rural dwellers has led to the expansion of the project to all interested individuals within the project communities.

Project objectives have been achieved. Eight high school students have been trained and they, in turn, have trained farmers and other rural residents. Some of these high school students have enrolled at Lincoln University, which fulfills that component of the project objectives. Agricultural professionals and other individuals in the communities have received both beginner's training in and advanced applications of computers, depending on individual abilities and/or expectations.

The project has significantly improved the ability of Lincoln University to reach and enhance the quality of life of the farmers and rural residents in the target area, both economically and socially.

The poster presentation summarizes the project concept, the successes and challenges ahead in the three-year project. It provides a learning experience to Extension personnel who are responsible for computer literacy and e-commerce education.

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28. Back Forty Small Farm and Acreage Workshops Provide Answers for Landowners in West Central Missouri

Gary Lesoing
Regional Agronomy Specialist
Tom Fowler
Regional Horticultural Specialist
University Outreach and Extension,
University of Missouri

In 1999, The Back Forty (more or less) Small Farm and Acreage Workshops were initiated in West Central Missouri in Clay and Jackson counties in the urban and rural interface of Kansas City. The University of Missouri Outreach and Extension staff developed this short course to meet the needs of a growing population of rural clientele that would benefit from this type of program. Many people have moved out to the country from urban areas and need some necessary skills for rural living. Some of these people just want to raise their families in a rural setting in this type of environment. Others are retired and want to enjoy life in the country, while others are tired of the rat race in the city and are interested in making their land productive for themselves.

Since the inception of this program in 1999, 125 to 150 people have attended all or parts of these workshops. The primary focus of this course is to provide practical information and resources to people living on small farms and acreages. Most of these people do not know where they can go for assistance to questions and problems they may have concerning rural living. This program required cooperation from the Missouri Department of Conservation, the Natural Resources and Conservation Service, local Soil and Water Conservation Districts, along with University Outreach and Extension. Specialists from these organizations shared their expertise with participants on a variety of topics.

The program has been held in February and March, with classes held once weekly in the evening over a five- or six-week period. The course begins with a session about providing information on available resources from different government agencies and evaluating your own resources. The second session focuses on pond development and management. Subsequent sessions offer concurrent sessions on different topics. Subjects that have been presented include selecting equipment and fencing materials, conservation, raising beef or chickens, landscape maintenance, forage production, fruit and vegetable production and preservation, small livestock production and horse care and nutrition. The program has been modified according to the interests of the participants, based on evaluations of the course. Each participant also receives a resource handbook that contains guides and information addressing issues discussed during the workshops.

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29. High Tunnels for the Central Great Plains

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Ted Carey
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Dan Nagengast
Director
Kansas Rural Center
Dave Coltrain, Kim Williams
Rhonda Janke and Channa Rajashekar
Kansas State University

High tunnels are unheated, plastic-covered structures that provide environmental protection and control between that of the open field and a heated greenhouse. Significant benefits have been gained through season-extension for high value crops in intensive production systems. Widely used by small-scale farmers in the eastern United States, small-scale farmers are beginning to erect high tunnels in the Central Plains to increase profitability and reduce production risk. Performance of these tunnels is largely undocumented in the continental climate of the Central Plains States, which is characterized by rapid, wide temperature fluctuations throughout the year and persistent, strong winds.

Through a four-year project funded by USDA-IFAFS involving Kansas State University, the University of Nebraska and the University of Missouri plus grower-cooperators throughout the region, we are evaluating the productivity and profitability of selected high tunnel crop production systems and the microclimate changes within the tunnels. Specific projects include double cropping annual strawberry and vegetable production systems, organic and conventional leafy greens, specialty cut flowers, and extended production of warm-season crops.

Extension programs will be developed based on the results of on-station and on-farm trials. A range of educational materials about high tunnels will be developed and made broadly accessible through the Internet for use in floriculture, vegetable, and fruit production courses, extension programs, vo-ag schools, and as grower resources. This multidisciplinary regional project is pooling resources and expertise across institutional, nongovernmental and producer boundaries. Greater understanding of the structural and production issues associated with high tunnels in the central plains can increase production of high-value crops and the profitability of agricultural diversification to producers in the region.

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30. Minimizing Environmental Risk for Small Livestock Operations

Mick Reynolds
Project Coordinator
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Extension Engineer II

A demonstration project was initiated in 2000 to evaluate the use of alternative waste handling systems for small livestock producers, evaluate the application of low-water-stream crossings for cattle in pastures and demonstrate the decommissioning of lagoons. These projects were funded through a grant from the Nebraska Environmental Trust Fund.

Alternative Waste Handling Systems for Small Livestock Operations: Demonstration of wetlands and vegetative filters as alternatives to conventional runoff containment systems. To evaluate the feasibility and appropriateness of these systems, three livestock producers volunteered to install systems. The systems have been constructed and are being evaluated. The first demonstration site uses a three-cell wetland system and debris basin to capture and treat the runoff from a 295-head feedlot. Another demonstration site uses a rocked diversion to divert extraneous drainage that was keeping an existing terrace collection system from working properly for a small beef back grounding operation. Finally, a 90-head dairy operation is utilizing a concrete debris basin, concrete manure storage, pump station, wetland cell and filter strip to treat the runoff from an open lot and parlor wastewater.

Low Water Stream Crossings for Cattle: Demonstration and evaluation of using low water steam crossings made from concrete to minimize the impact cattle have to streams. Low-water stream crossings also can help stabilize stream banks and reduce stream bank erosion by giving cattle an all weather and easily accessible crossing. The installation and evaluation of two crossings will be shown.

Lagoon Abandonment: Earthen lagoons for treatment of swine waste have been a popular waste structure for Nebraska livestock producers. Many producers have exited the industry in recent years, leaving these structures idle and neglected. This project demonstrated the procedures and methods for correctly removing, land applying, and securing nutrients so that the lagoon no longer can impact the environment. The decommissioning of two lagoons will be shown.

Our experiences with working with small livestock producers will be discussed. The challenges and rewards of working with small livestock producers will be covered. Construction costs, environmental benefits and effectiveness of the different practices will be shown.

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31. Assisting Small Family Farms and Communities #1—Whole Farm Planning Using Holistic Management

Phil Metzger
USDA Natural Resources Conservation Service,
Seth Wilner
University of New Hampshire
Margaret Smith
Iowa State University
Steve Ritz
USDA Natural Resources Conservation Service

This poster is the first in a series of three posters elaborating on the theme of assisting small family farms in learning the Holistic Management decision-making process. This poster focuses on the northeast training program and the impact it has had on the participants in their work with small family farms.

The 2001-2004 Northeast Holistic Management Certified Educators' Training Program focuses on learning and facilitating Holistic Management decision-making, planning and monitoring processes. Participating in this program are individuals serving with Cooperative Extension Service, Natural Resources Conservation Service, nonprofit organizations and farmers. Participants meet for five-week-long intensive learning sessions throughout the course of the program. In addition, participants work with individual learning communities to facilitate learning the Holistic Management process. Members of learning communities include farmers and families, Extension, USDA NRCS, private industry employees and others.

The Holistic Management process begins by defining the farm, organization or family in terms of the people responsible for its management and the resources available to them. The next step is at the heart of Holistic Management, the holistic goal. This includes a quality of life statement (what they value most in their life), what has to be produced or be in place to realize this quality of life and how they envision their future as it pertains to their community, the environmental landscape and the people in it.

Decisions are filtered through seven testing questions that help determine whether an action will move them towards what they have described in their holistic goal. Holistic Management also includes Holistic Financial Planning, Holistic Grazing Planning and Holistic Land Planning processes that help practitioners organize and implement their efforts so they consider social implications and are profitable and environmentally sound.

The Northeastern U.S. Holistic Management Program is supported by funding through the Northeast SARE Professional Development Program and Cabbage Hill Farm. Project support is also provided by the Central New York Resource Conservation and Development Project; Consortium for Sustainable Agriculture Research and Education (CSARE); New England Small Farm Institute, Mass.; Sustainable Resources Inc., W.Va.; The Institute for Social Ecology, Vt.; New York and West Virginia USDA NRCS; Cooperative Extension Services of the universities of New Hampshire, Maine, Massachusetts, Penn State, Cornell and Iowa State.

Examples will illustrate the impact this training program has had on the 16 participants in their work with small family farms.

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32. Assisting Small Family Farms and Communities #2—The Northeastern U.S. Holistic Management® Training Program

Phil Metzger
USDA Natural Resources Conservation Service
Seth Wilner
University of New Hampshire
Cooperative Extension
Margaret Smith
Iowa State University
Steve Ritz
USDA Natural Resources Conservation Service

This poster is the second in a series of three that elaborate on the theme of assisting small family farms in learning the Holistic Management decision-making process. The focus of this poster is on the northeastern United States training program and the impact it has had on the participants in their work with small family farms.

The 2001-2004 Northeast Holistic Management Certified Educators' Training Program focuses on learning and facilitating Holistic Management decision-making, planning and monitoring processes. Participating in this program are individuals serving with the Cooperative Extension Service, Natural Resources Conservation Service, nonprofit organizations, and farmers.

Participants meet for five-week-long intensive learning sessions throughout the course of the program. In addition, participants work with individual learning communities to facilitate learning the Holistic Management process. Members of learning communities include farmers and families, Extension, USDA NRCS, private industry employees and others.

The Holistic Management process begins by defining the farm, organization or family in terms of the people responsible for its management and the resources available to them. The next step is at the heart of Holistic Management, the holistic goal. This includes a quality of life statement (what they value most in their life), what has to be produced or be in place to realize this quality of life, and how they envision their future as it pertains to their community, the environmental landscape and the people in it.

Decisions are filtered through seven testing questions that help determine whether an action will move them towards what they have described in their holistic goal. Holistic Management also includes Holistic Financial Planning, Holistic Grazing Planning and Holistic Land Planning processes that help practitioners organize and implement their efforts so that they consider social implications and are profitable and environmentally sound.

Funding through the Northeast SARE Professional Development Program and Cabbage Hill Farm Foundation supports the Northeastern U.S. Holistic Management Program. Project support is also provided by the Central New York Resource Conservation and Development Project; Consortium for Sustainable Agriculture Research and Education (CSARE); New England Small Farm Institute, Mass.; Sustainable Resources Inc., W.Va.; The Institute for Social Ecology, Vt.; New York and West Virginia USDA NRCS; Cooperative Extension Services of the Universities of New Hampshire, Maine, Massachusetts, Penn State, Cornell and Iowa State.

Examples will illustrate the impact this training program has had on the 16 participants in their work with small family farms.

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33. Assisting Small Family Farms and Communities #3—Holistic Management in Action

Margaret Smith
Iowa State University
Seth Wilner
University of New Hampshire
Phil Metzger and Steve Ritz
USDA Natural Resources Conservation Service

This poster is the third in a series of three and focuses on the impacts of Holistic Management on small farms and farm families that use this decision-making process.

The Holistic Management (HM) decision-making, planning and monitoring process can be applied to any "whole" under management; e.g. a family, farm, community organization, public park, or other organization. It was initially developed and is now ideally suited for land-based entities like farms and ranches. Small-farms can move toward sustainability by implementing the Holistic Management process. In doing so, small-farm owners and operators can simultaneously improve the quality of life of those working on the farm, the quality of the farm's natural resources, and the profitability of the business.

The impact on those practicing Holistic Management has been documented with case studies, interviews and surveys. Practitioners from California to Vermont to Florida report improvements in their family relationships, economic well-being of the family business, and increased biodiversity on their farms. A family in Washington reports: "We were in debt and getting deeper. There did not seem to be a way out. Our farm, which traditionally lost a great deal of money, is now profitable. Pasture productivity has also increased. The plants are healthier and so are the cattle. We're proud of what we have accomplished." An Iowa farm family practicing Holistic Management since 1992 has diversified its crop and livestock enterprises, increased the amount of land permanently seeded, and has increased their income. They work together on planning and implementing change. An Ohio farm family implementing Holistic Management in their business has moved from part-time to full-time employment on the farm, while grazing sheep and cattle. They have also seen increased undergrowth in their woods and increased vegetation and bird numbers on their stream banks by carefully planning their grazing.

In a survey of 25 Holistic Management practitioners (Stinner et al., 1997) that included both farms and ranches: 24 of the 25 farmers observed increased biodiversity since they began using Holistic Management; 80 percent reported increased profits from their land since practicing Holistic Management; 91 percent reported improvements in their quality of life because of changes in their time budgets; 52 percent reported decreases of up to 60 percent in labor requirements in their operations; and almost everyone interviewed reported observing improvements in the ecosystem processes on their farms.

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34. OASIS: Organic Agriculture Students Inspiring Sustainability

Constance L. Falk
Professor
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Christopher S. Cramer
Assistant Professor

In spring 2002, faculty members in the College of Agriculture and Home Economics established an organic garden operated as a Community Supported Agriculture (CSA) venture on the New Mexico State University (NMSU) campus. Supported by a USDA Hispanic Serving Institutions grant, this is the first organic garden on the NMSU campus, the first organic vegetable production class, and the first CSA venture in the Mesilla Valley of southern New Mexico. The objectives of the project are to provide students with a multidisciplinary experiential educational opportunity, investigate the feasibility of small-scale organic farming in the Chihuahuan Desert region and demonstrate it to the local community, trial vegetable varieties, demonstrate how the CSA system works, and provide a site where faculty can conduct research or student laboratory exercises in other classes. The students created the OASIS acronym, Organic Agriculture Students Inspiring Sustainability.

The response by the community to the project has been overwhelming and positive. We sold out the OASIS shares within a few days and amassed a long waiting list. In summer 2002, the OASIS Advisory Committee organized. One of its initial activities was to locate a local farmer who would be interested in growing organic vegetables using the CSA model and selling shares to the people on the OASIS waiting list. This process is currently underway.

In this poster, the garden, the class, the distribution and data collected (yields, water use, economics, distribution weights, successful varieties grown) will be profiled. In addition, we will present information on the process of extending the CSA model to a local farmer.

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35. Research for Small Farms and Ranches in North-Central New Mexico

Steven J. Guldan
Superintendent/Associate Professor
Charles A. Martin
Assistant Professor
Ronald H. Walser
Assistant Professor

New Mexico State University's Sustainable Agriculture Science Center at Alcalde serves north-central New Mexico. The great majority of the irrigated agricultural acreage in this region belongs to small-scale farmers and ranchers with less than 20 acres. Much of this land has been used for irrigated crops and pasture for hundreds of years. Forages are grown on most of the irrigated acres, but high-value crops, such as apples, chile, sweet corn and many other specialty crops, are also important in the region.

Since becoming a branch research station in the early 1950s, the Alcalde center has done research on various crops, including fruit trees, chiles, small grains, dry beans, Christmas trees, alfalfa and various other forages, flowers, potatoes, sweet corn, tomatoes, squash and medicinal herbs. Several projects have focused on relay intercropping annual green manures and forages into sweet corn and chile. In evaluating research topics and design, consideration is given to interests and socioeconomic constraints of local farmers and ranchers.

Forages have been evaluated over the years at Alcalde. Performance data of alfalfa varieties, for example, is continually in demand. Because many producers winter-graze and summer-hay alfalfa stands for an extended number of years, current variety testing includes this management aspect.

Testing of alternative, high-value crops that have the potential to provide large returns per acre are important for small-acreage growers. For example, medicinal herbs continue to grow in popularity nationwide, and north-central New Mexico has a tradition of using local wild-harvested medicinal herbs as home remedies. However, information on the cultivation of most medicinal herbs is very limited. Research on a number of medicinal herbs has become an ongoing activity at Alcalde.

Current apple research is evaluating early maturing varieties under two training systems. A major new effort in fruit research began in 2001 in which varieties and/or management systems will be evaluated for apples, apricots, cherries, plums, grapes, blackberries, raspberries, strawberries, and kiwi fruit. This new fruit research is being conducted under certified organic conditions.
In addition to crop production research, Alcalde is entering into agricultural water research. A current project seeks to characterize the interactions between surface water and groundwater between acequias (local irrigation ditches) and the Rio Grande. The amount of Alcalde acequia seepage and effects of seepage on water quality of shallow groundwater will be evaluated.

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36. *Anemopsis californica*, a Potential New Medicinal Crop

Charles A. Martin
Assistant Professor
Steve Guldan, Ph.D.
Experiment Station Superintendent

Anemopsis californica, (Nutt.) Hook. & Arn., in the family Saururaceae, is a herbaceous perennial native to riparian habitats of northern Mexico and the southwestern United States with reputed medicinal properties. Called by such various names as manso, yerba mansa, yerba de manso, lizard-tail or swamp root, it has traditionally been and continues to be used by indigenous and Hispanic cultures in its geographic range for medicinal and antiseptic uses. Ethnobotanical sources report it being used for the treatment of colds, chest congestion, stomach ulcers, and as a wash for open sores (Bean and Saubel, 1972; Swank, 1932). Manso has the potential to become a widely used herbal cold remedy in the rapidly-growing medicinal herb industry in North America, but because native plant populations are confined to riparian habitats, its availability for mass marketing remains limited unless it can be brought under cultivation. Estimates of the productive capacity from native manso stands have not been determined at this point since the amount of land area of riparian communities currently in manso is unknown. Even if this figure were known, native stands could be depleted or the species could even become endangered if over-harvested, so it is important that methods be developed to make manso a cultivable crop. Research is currently being conducted at the New Mexico State University Sustainable Agriculture Science Center in Alcalde, New Mexico, with the aim of determining the feasibility of cultivating this native plant under small-scale farming conditions typical of this region. Since most growers in this area use flood or furrow irrigation, this trial compared the survival and crown production of manso plantings on furrowed bed tops versus plantings on the bottoms of furrows at two different sites, one in a riparian zone and the other in an upland field.

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37. Cornell Cooperative Extension Plays Role Organizing Community Supported Agriculture

Joan Sinclair Petzen
Extension Issue Leader

The Franciscan Sisters of Allegany introduced the concept of community-supported agriculture to Allegany, New York, about 24 months ago. The group dreamed of starting a farm to provide local families of all income levels fresh local produce. They were excited but did not quite know where to start, lacking experience in agriculture and business management.

Following their first meeting, they contacted Cornell Cooperative Extension to help them learn more about agriculture. Never having heard about community-supported agriculture before, I did a little research and found Elizabeth Henderson's Sustainable Agriculture Research and Education financed book, *Sharing the Harvest*. It served as a guide to the development of Allegany Agriculture's Community Supported Agriculture (CSA). At the core group's second meeting, I found they needed assistance with organizational development, networking, business management, and farm production.

Organization

I assisted the group with identifying their goals and objectives, writing a mission statement and developing their organizational structure. A network of committees evolved with Cooperative Extension guidance to address obtaining farmland, budget and finance, marketing, and spiritual and social concerns. During the first harvest season, an ad hoc committee developed operating policies with Cooperative Extension's advice so the policies can easily be converted to by-laws for an independent organization once the pilot phase is complete.

Networking

Cooperative Extension identified experienced individuals for the farm operations committee, which evaluated and chose a site for the farm. These individuals provide guidance to the farm manager regarding daily operations and have collectively assisted with prioritizing farm capital investment needs.

Business Management

Examples of production schedules, budgets and brochures from Henderson's book were used as a template for developing the operating plan for Allegany Agriculture. The farm operations committee developed a job description, put feelers out in the local community and selected a farm manager for Allegany Agriculture.

Production

The assistance of an experienced Cooperative Extension Master Gardener was enlisted to answer production questions before their farm manager was hired. Cornell Cooperative Extension has continued to assist with insect and disease diagnostics and providing recommendations for organic control measures.

Allegany Agriculture CSA Up and Running

Today, in their second season of production, Allegany Agriculture owns 10 acres of gravel land. They have grown from 40 to 60 full shares, serving more than 80 local families and providing 20 percent of their produce to the needy. With growth next season to 80 full shares, the organization will become a financially self-sustainable farm operation. Cooperative Extension guides the process as a nonvoting member of the core group.

For more information:

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38. Whole Farm Planning for Small Farms—The New York City Watershed Agricultural Program Experience

John M. Thurgood
Cornell Cooperative Extension
Dan Flaherty
Watershed Agricultural
Program/Participating Farmer

Covering 2,000 square miles and serving 9 million people, New York City (NYC) has one of the largest surface water supply systems in the world. The water supply is protected through the NYC Watershed Agricultural Program (WAP) and nonagricultural initiatives. Maintaining New York City's high-quality drinking water and farm vitality are keystone program goals.

Since 1992, 322 farms (mostly small farms, the average dairy farm size is 80 cows and average crop acres per farm is 163, excluding two relatively large farms) participate in the program that has been developing and implementing whole farm plans (WFPs). Targeted potential contaminants are parasites, nutrients, sediment, pesticides and petroleum. In 2001, a smaller farm program was initiated for farms with sales of $1,000 to $10,000.

Keys to WAP success:
- Local leadership
- Voluntary participation
- Partnership
- Interagency cooperation

Local Leadership
Watershed farmers and agriservice professionals serve on the Watershed Agricultural Council (WAC), which provides WAP leadership. Local leadership has fostered farmer confidence and an 85 percent participation rate.

Voluntary
Farmers voluntarily participate in the WAP. Farmers are part of the whole farm planning team and implement and maintain best management practices (BMPs). Planning decisions are based on the farmer's objectives. Costs of operating and maintaining BMPs must be offset by economic benefits of BMPs.

Partnership
NYC provides majority funding for the program and pays for WFP development, engineering and BMP implementation costs (the U.S. Department of Agriculture also provides funding). The WAC is responsible for meeting whole farm planning and implementation goals. Farmers have committed to protecting water quality through their WFP.

Inter-Agency Cooperation
Self-directed, interagency teams develop and implement WFPs with participating farmers. Team members are from NRCS, Cornell Cooperative Extension, Soil and Water Conservation Districts and WAC.

Results
WFPs have been developed for 273 farms, 229 farms have commenced implementation, and 2,038 BMPs have been implemented at a cost of $8.4 million. Cost of WFP implementation per farm is $96,731.

The smaller farm program has developed 12 whole farm plans. Ten farms have commenced implementation. BMPs have helped new operations build infrastructure that has been beneficial for the environment and the farm.

Program effectiveness is evidenced by a paired-watershed study of a model farm that shows statistically significant reductions in phosphorus runoff. Improvements in the stream benthic community were also evidenced.

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39. An Assessment of Risk Management Education in Underserved Communities

Mary Mafuyai-Ekanem, Nelson Brownlee, Patricia Clark and James Hartfield

Naturally, limited-resources, part-time, small-scale, minority farmers and underserved communities face limited access to information and government programs. Many lack managerial skills, access to capital, markets, assets, income opportunities and the resources needed to improve their situations. North Carolina is farmers are dealing with structural and policy changes, commodity prices, legal, economics, disaster issues and quota reductions. These circumstances have left several without profitable alternative crops to replace tobacco. Farmers and ranchers are at greater risk and precarious situations and many are questioning their choice or rural life styles.

The poster will provide information about the experiences of integration of the risk management education (RME) program with underserved producers in rural North Carolina. The specific objectives are:

- To assess the RME needs of North Carolina's underserved producers;
- To evaluate factors influencing the underserved producers participation in RME programs in North Carolina; and
- To provide insights about RME programming efforts and effective delivery methods.

Data and Methodology:
Educational programs were designed to help farmers stimulate awareness, develop useful skills, enhance knowledge and encourage them to change their attitudes to experiment with new or modify existing practices in their farm or range. Multidisciplinary, multiagency and collaborative terms were used in program design, promotions, delivery and evaluations that included, but were not limited to, one-on-one group settings, direct mail, mass media and related method.

Data for this poster were collected from Risk Management Education evaluations conducted during training at different locations in North Carolina from 1998 to 2001. Economic models will be used to derive policy recommendations and training decisions for improving programs with underserved producers.

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40. The Ohio Pro Beef Alliance—Setting the Pace for Beef Producers in Ohio

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Beef producers in southern and eastern Ohio continued to experience rapid changes in the beef industry. The consolidation of the feedlot and packer segments of the industry will dictate that producers continue to become better managers and more conscious of their product to consumers. This can only be accomplished through better management and the utilization of feedback technologies. Ohio State University Extension has brought together a core group of beef producers from a five-county area to explore options to keep beef enterprises competitive in the face of these changes. As a result of these efforts, the Ohio Pro Beef Alliance Inc. became Ohio's newest cooperative focused on improving the profitability and viability of its members beef enterprises.

Asking producers to adopt new technologies and change management strategies without an educational process based on research-based information is not in the best interest to these producers. Agents in Ross, Pike and Pickaway counties addressed these concerns through a multifaceted educational process. Ohio Pro Beef Alliance Inc. with the direction and assistance of the Ohio State University Extension agents have implemented joint buying programs, adopted new management techniques and received premium prices through commingled sales of source verified, preconditioned feeder calves.

Ohio State University Extension initiated and facilitated an interest meeting for beef producers in a five-county area in August 1998. A core group of producers formed a committee to explore potential business entities best suited for beef producers. Working with USDA Rural Development, producers decided to form an agricultural cooperative. The Ohio Pro Beef Alliance. Inc. was officially incorporated as a cooperative in 2000.

The Ohio Pro Alliance continues to be a model for Ohio beef producers to learn about the benefits of cooperative development and innovative marketing options. Twenty-one members managing 1,600 cows in a five-county area have been recognized as leaders in the emerging concept of marketing alliances in Ohio.

Members have taken advantage of joint buying opportunities to save hundreds of dollars on their individual inputs purchases. Members marketing feeder calves received $5–$10 per hundredweight premiums above current market prices for that marketing week. These calves were bought straight off the farm with no shrink. Buyers of these precondition calves have nothing but positive comments about how well these calves have performed in the feedlot.

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41. Utilizing Partnerships, Technology and Innovative Programming for Rural Agri-Business Entrepreneurship

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Small farmers benefit from an innovative business-training program delivered in four rural locations simultaneously through distance learning technology. Results include lessons on partnerships for outreach and engagement, technology utilization, innovative programming and rural business entrepreneurship.

The Ohio State University South Centers teamed with three other organizations throughout Appalachia Ohio to offer NxLeveL "Tilling the Soil of Opportunity" to southern Ohio agricultural entrepreneurs. An instructor at each site assisted producers in writing a business plan for alternative agricultural ventures with the intent of helping them begin a new business, expand an

existing business and help them secure funding to accomplish these goals. All sites were linked by videoconferencing to improve access to information, experts and other resources. In addition to this distance learning technology, the program also included an interactive Web site and a listserv that enabled participants to communicate further with each other.

This project demonstrates how a collaborative effort, involving educational institutions, government agencies, small business consulting organizations and business/industry, can maximize resources to assist rural small farms in their efforts to be economically viable. This project represents more than a technology effort for distance learning. It broadly engages the resources of the university with the communities the university serves by using technology as one of several tools to enhance new learning, research and service partnerships. This model can be replicated in various regions and states to support individuals and communities as they thrive in the 21st century.

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42. Building a Research Stream to Assist Farmers Markets

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Since 1998, the Oregon State University Extension Small Farm Program has been building a stream of research that has assisted farmers' markets with evaluating management decisions, impacting public policy and monitoring growth.

The research has consisted of several mail surveys of consumers, farmers' market vendors and farmers' market managers, and in-depth analysis of many farmers' markets. This research focused on questions such as:

- Is there support for locally produced farm products?
- What is the role—economic and social—of farmers' markets in communities?
- Who are the farmers that sell at farmers' markets and how can we assist them?

Findings include identifying strong support for local agriculture, the role farmers' markets have in local economic development, and the nature of various farm businesses that sell at farmers' markets.

In addition, research at farmers' markets has yielded an important and useful method for gathering data at farmers' markets—Rapid Market Assessments. Farmers' market managers are utilizing this method to collect data at their own markets.

Technical reports are maintained at http://smallfarms.orst.edu/marketing.htm

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43. Mid-Columbia Small Farm and Acreage Program

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Over the last few years, there has been a large influx of urban residents into the Mid-Columbia area of the Pacific Northwest. These new residents typically purchase small acreages and are unfamiliar with rural life, agricultural issues and small farm management. To address the needs and concerns of area small farmers, OSU and WSU Extension agents in the five Mid-Columbia counties came together in the fall of 2000 to collaborate on the development of a Mid-Columbia Small Farms educational program. Their focus had three objectives: the development of regional educational programs and resource materials; establishment of the Mid-Columbia Small Farm and Acreage newsletter; and development of the Mid-Columbia Small Farm and Acreage Web page.

The first objective was the development of small acreage regional workshops, clinics and conferences. In 2001, the Mid-Columbia agents received a USDA SARE grant to help support the regional, small-farm educational programs. Educational programs offered to date focused on small acreage management; horse, sheep, beef and goat management and health; soil quality and health; land, irrigation and grazing management; weed control; watershed stewardship; tree and small fruit management; wind power development; and small woodland management.

The second objective included the development of a regional bimonthly newsletter titled *Mid-Columbia Small Farm and Acreage Newsletter*, sent out electronically and as a paper copy to eight Oregon and Washington counties. The purpose of the newsletter is to provide research-based information on such topics as management of livestock, pastures, horticulture, specialty crops, Christmas trees, woodlands, marketing, weed control, conservation, irrigation and economics. All the agents in the area contribute feature articles, technical and resource information to this effort. Local and state resource personnel, including weed control coordinators, NRCS and conservation district employees, private consultants, and other OSU and WSU educators and specialists, provide additional feature articles. Current circulation is more than 500 and growing monthly.

The third objective of the small farm educational program has been the development of the small farm and acreage Web site. This site contains the current electronic version of the *Mid-Columbia Small Farm and Acreage Newsletter* as well as archived feature newsletter articles and resources listed according to topics, which provide small acreage landowners, agency staff and others interested in small acreage issues with a readily available source of research-based information on a wide variety of topics. The Web page can be found at: http://osu.orst.edu/extension/wasco/smallfarms/listings.html

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44. Edamame Production and Marketing for Small-Acreage Growers in Pennsylvania

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Producing and marketing alternate crops may offer small-acreage growers an opportunity to develop potentially profitable niche markets. One such crop in Pennsylvania may be edamame, also known as edible or vegetable soybean. Edamame is popular throughout Asia and is now gaining popularity in the United States. Currently, edamame is imported mostly from China and Thailand. It is rapidly becoming a crop accepted by populations other than Asian subgroups, who have used edamame historically. It is nutritionally rich in several phytochemicals and is recognized as decreasing the occurrence of some cancers. Edamame production requirements are similar to grain soybeans, which are currently grown in Pennsylvania. In addition, profits have been made in other areas of the country from edamame production.

Funding has been secured from the Federal State Marketing Improvement Program to develop fundamental production techniques for small-acreage growers and to provide basic marketing information on perceptions, preferences and demand for edamame produced by Pennsylvania growers. Marketing studies will be conducted to research demand and consumer preferences for purchasing edamame and also the opportunity for marketing edamame to restaurants. The marketing phase of the study will begin in November 2002 and the production phase in April 2003.

As a preliminary study, a cultivar trial is being conducted to assess the best cultivars for production in Pennsylvania. The trial, containing nine commercial cultivars from five seed companies, was planted at the Russel E. Larson Agricultural Research Center, Rock Springs, Pa. The cultivars were selected based on ease of obtaining the small quantities of seed required by small-acreage growers. The study was arranged in a randomized complete block. Twenty-foot plots of each cultivar were planted per block. Field data to be collected includes percent germination, total and marketable yields, weight and number of beans per pod and general insect and disease notes. In addition, a sensory evaluation will be conducted to determine which cultivars are the most palatable. While the study is in progress, some interesting findings can be reported. Final germination in the field was 50%. The exact cause for this is unknown; however, other researchers have also reported low germination rates. Wireworms are being investigated as potentially boring into the seed rendering the seed unviable. Other pests observed include cucumber beetles, Japanese beetles and leafhoppers. These insects were not managed because damage was below action levels developed for grain soybean production. This study will be repeated next year.

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45. Small Farmer Outreach Training and Technical Assistance Program in Puerto Rico

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The Agricultural Extension Service of the University of Puerto Rico implemented the Small Farmer Outreach Training and Technical Assistance Program in 1997. The goal of the program is to improve farm income of the Farm Service Agency borrowers through better management practices and financial analysis.

We offer training of five sessions to each group of farmers, which include aspects of credit, record-keeping, farm economic analysis, employer responsibilities, human resources administration, marketing strategies, and how to compile the Farm and Home Plan. The sessions are complemented with exercises and group discussion. Farmers receive a certificate after performing the requirements of the training. Nine hundred sixty (960) small farmers have participated in the program during the last five years. The recipients also receive technical assistance on farm management practices from our county agents and extension specialists.

Through the program, the small farmers have obtained a clear understanding of the role of FSA credit programs and have been more active in the FSA services. They have increased farm income, improved farming practices, established farm business records, are using new technology, and a group of them organized a farmer market place to sell their products.

The poster shows a sequence of the Small Farmer Outreach Program in Puerto Rico and how farmers have improved the administrative techniques.

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46. Farm and Ranch Economic Health: Examining Shifts in Selected Indicators Using USDA's Agricultural Economics and Land Ownership (AELOS) Survey Data

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Introduction

The U.S. Census of Agriculture has collected information used in publishing the Agricultural Economics and Land Ownership (AELOS) Survey since as far back as 1890 (http://www.nass.usda.gov/census/aelos88/general.htm). The AELOS provides detailed information on agricultural farm and ranch land acquisition and ownership, capitalization and debt, financing, and use of inputs by farm operators, landlord debt structure, operator assets and debts, and operator source of income for each state. Using a two-stage, mail-out/mail-back methodology, a systematic sample of operators and landlords complete a questionnaire used for gathering information published in the survey.

Objectives of Poster

Using information from the above-referenced survey, this poster examines changes in selected variables for the 11 years between 1988 and 1999, the latest year of data from the AELOS. Some of the variables compared include market value of agricultural products sold and measures of income for states and by operator characteristics, net farm-related income (including government payments) and off-farm income by state and by operator characteristics.

Data and Methodology

In 1988, 43,625 operators were selected for the Agricultural Economics and Land Ownership Survey (AELOS). About 43,000 private landlords identified by operators participated in the survey. While public landlords (federal and state government units, railroad companies, Indian reservations, and other public landlords) are not requested to fill out the survey, the acres rented from them were extracted from completed operator questionnaires. In 1999, the latest year for the AELOS, 42,328 operators were sampled. A total 10,629 questionnaires were discarded either because they were refusals or inaccessible. Of the 68,319 landlords sampled for the report, about 1,141 landlords were public with about 34,158 considered as good reports. Finally, information was collected and recorded for 67,178 landlords. Other data, such as net farm-related income including government payments by operator characteristics, was also examined. Descriptive and quantitative analysis of data will be conducted using Excel Spreadsheet, Statistical Package for the Social Sciences (SPSS) and Minitab software.

Discussion

In 1999, there were 1.96 million farms with off-farm income of $120 billion in the United States compared to $42 billion from 1.40 million farms in 1988. In 1988, about 1.19 million farms with off-farm income had market value of agricultural products sold of less than $99,999 with 204,075 with value of products sold of $100,000 to $999,999 compared with 1.68 million farms with less than $99,999 in values sold in 1999 and 262,101 farms with $100,000 to $999,999 value of agricultural products sold. In 1988, only 5,067 farms had sales in the $1 million-plus, a number that grew to almost four times in 1999 to 19,623. Detailed analysis of data provides basis for policy recommendations.

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47. A Profile of Successful Small Farms in Tennessee

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Small farms, which are diverse, represent an important segment of the agricultural sector and rural communities. These farms are many in number contributing to agricultural output and controlling substantial assets, notably land. The Small Farms Commission defines them as those with gross farm sales of less than $250,000. The Economic Research Service (ERS) developed a typology that classifies small farms into five subgroups, based primarily on the amount of income derived from farming and value of asset owned. The proportion of each subgroup will vary depending on the state. Data from the 1997 census of agriculture shows that small farms account for 91 percent of total farms in the United States The figure for Tennessee is 97 percent.

Over the years, small farms have been facing a number of challenges that continue to affect their viability. The issue has been increasingly important given growing globalization, new regulations and technological changes. Data for this poster was collected through a mail survey administered to 200 randomly selected small farmers in middle and west Tennessee counties covering various issues including production, management, marketing, finance and operator characteristics. Seventy-four completed surveys were received. This represents a response rate of 37 percent. In the survey, farmers were asked to classify their operation into one of the following categories: “Not Successful,” “Somewhat Successful,” and “Very Successful” on a continuum. The purpose of this poster is to develop a profile of successful small farms in Tennessee based on responses to the survey. This could provide some insights about the key issues affecting success.

Analysis of the data shows importance of the following for success of small farm operations: production strategies based on diversification, cost and input controls; marketing strategy aimed at achieving the highest possible level of profit; and financial plan based on good record-keeping of farm operations and assets as well as other aspects. Descriptive statistics and charts will be used to summarize key findings. The results are expected to be useful for policy makers, farmers, extension personnel, researchers, government, and nongovernment groups working with small farmers.

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48. Bovine Mortality Composting in Northern Utah

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Northern Utah supports a thriving dairy industry, 47 percent of Utah's 90,000 cows, with more than half of the farms milking fewer than 200 cows (1998 Utah Agricultural Statistics). Unexpected animal mortalities occur occasionally and force difficult decisions regarding carcass disposal. In this region, mortality disposal options include burying, rendering, incineration, and composting. While there are advantages and disadvantages to each method, composting may provide the greatest benefit per cost to the producer; and represent only moderate impacts to the environment.

Our objectives were to develop methods of bovine mortality composting that would perform effectively within northern Utah's arid climate and be acceptable to local dairy operators from an economic and labor perspective.

We established 10 mortality compost trial replicates, five using wheat straw and five using coarse sized softwood sawdust. Adult Holstein mortalities were placed on 30.5–45.75 cm (12–18 in) of dry co-composting material, covered with an additional 45.75–61.0 cm (1.5 to 2 ft) of material, and watered to a moisture content of 60% by weight. Temperature and pile decomposition characteristics were recorded daily along with ambient conditions. After 15 and 23 weeks, each replicate was opened, photographed, characterized as to carcass decomposition, aerated and recovered.

Within two weeks of cow placement, interior temperatures of sawdust piles reached their operating peak near 60°C (140°F). Straw piles reached 48.8°C (120°F) within the same time span. Both groups maintained maximum temperatures for four weeks. Temperatures declined steadily after four weeks until pile opening and reaeration at 15 weeks. After opening, temperatures in straw piles continued to decline to near 18.3°C (65°F), while sawdust piles experienced a second temperature spike and subsequent slower decline. Piles maintained temperatures equal to or above ambient conditions through December. Results and observations regarding temperature, leachate, site management and co-composting media will be discussed.

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49. Agri-Tourism and the Small Family Farm: Creating Partnerships For Success

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The loss of government supported agricultural programs, the economic and social realities of tobacco, and the elasticity of the commodities market have forced those in agriculture to examine a variety of portfolio diversification options for the near future (McGehee and Meares, 1998). One value-added, entrepreneurial option may be found in agritourism. Agritourism provides exposure to guests unfamiliar with life on the farm, showcasing various agrarian practices while providing economic diversification and long-term maintenance of environmental, social, and economic resources for farm families.

Farm families have long recognized the importance of diversification as a key element of success in agriculture (Evans and Ilbery, 1989). Similarly, rural tourism marketers are constantly searching for opportunities to enhance the economic success of communities while preserving quality of life (McGehee and Meares, 1998). This study focuses on the examination of existing partnerships and linkages among local farm families and rural tourism promoters, and then provides subsequent recommendations for improvement of these partnerships in order to facilitate successful agritourism.

In spring 2002, a questionnaire was sent to all members of a direct farm marketing association mailing list compiled by the Virginia Department of Agriculture (N=987). Questions were asked of these farm families about their agritourism activities. Over 400 (n=412) completed questionnaires were returned, resulting in a response rate of 42%. The majority of respondents (78%) managed small farms under 200 acres. Findings indicate a lack of communication and partnering among farm families and local tourism planning and marketing resources. Less than 10 percent of farm families currently practicing agritourism utilized their local convention and visitors bureau, local tourism association, regional tourism association, or chamber of commerce to promote their agritourism product or attraction. Conversely, there was a strong interest expressed by farm families in learning more about marketing and marketing strategies: nearly one-third of respondents (29%) were interested in attending seminars or in-services with marketing as the primary topic, and 18% were interested in learning more about advertising. Linkages between farm families and tourism marketers would be helpful, but do not seem to be occurring. This study concludes with various recommendations for the establishment of partnerships between farm families and marketers that include the development of agritourism marketing workshops and conferences hosted by local, regional, and state tourism destination marketing organizations, establishment of on-line cooperative marketing opportunities, and programs that heighten awareness of agritourism products among rural tourism marketing organizations.

References

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McGehee, N.G. and A.C. Meares (1998). "A Case Study of Three Tourism-related Craft marketing Cooperatives in Appalachia: Contributions to Community." Journal of Sustainable Tourism, 6(1):4-25.

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50. Horticultural Outreach for the Urban Fringe in the Pacific Northwest

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Situation

Agricultural production in Washington State amounts to a $5.41 billion dollar industry, encompassing more than 230 commodities and specialty crops, second only to California. With a maritime climate west of the Cascade Mountains, farmers can capitalize on very long growing season (280 days). In order to protect valuable farmland, the Washington legislature passed the Growth Management Act of 1994 and required that cities designate Urban Growth Boundaries to prevent sprawl. Based upon the principles of Smart Growth (strict ag land zoning, dense urban designs, mass transit), urban fringe farmers have been given the chance to provide a diversity of food (primarily berries and medicinal herbs) and nonfood (retail nursery stock and Christmas trees) items to nearby urban centers willing to support local enterprises.

Inputs

Faced with declining public support for research and extension programs, land-grant university administrators have encouraged faculty to form multidisciplinary teams to address the complex issues of a rural-urban agroecosystem. In Washington, formation of the Food and Farm Connections team (F&FCT) has resulted in cooperative work among 24 faculty members of all backgrounds towards promoting sustainable community-based food and farm systems.

Outputs

The F&FCT has developed a very large (greater than 200 pages) Web site (http://foodfarm.wsu.edu), a series of Farm Schools, an e-mail newsletter, a series of publications entitled *Farming West of the Cascades*, and has helped develop a series of fall Harvest Celebration tours in conjunction with local farmers.

Outcomes

The number of farmers' markets has doubled in Washington during the last five years. Despite the plethora of chain stores, northwest direct marketers can now compete successfully for sales of produce, ornamentals and Christmas trees. Cooperative Extension faculty have helped launch an ecolabeling marketing effort (The Food Alliance) and have helped form citizen advisory groups (Cascade Harvest Coalition, Washington Sustainable Food and Farming Network) which have resulted in the creation of new faculty positions. Based on success in meeting the needs of urban fringe areas, future efforts will expand to the entire state of Washington to serve rural regions.

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51. Healthy Farmers, Healthy Profits Project

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The Healthy Farmers, Healthy Profits Project's goal is to find and share work efficiency methods that maintain health and safety and increase profits for farmers. Our target audience is small-scale fresh market vegetable and berry farmers, and dairy farmers. These workers are in one of the highest risk groups for occupational sprain and strain injuries because of prolonged stooping, bending, lifting, carrying and other repetitive activities.

We visit farms to learn about successful methods, search other industries for ideas, then collaborate with local farmers to try out these ideas and evaluate them for their impact on profits, efficiency and safety. Then we share successful innovations with dairy farmers in Wisconsin and vegetable and berry farmers in the upper Midwest. We have informational tip sheets, a Web site and a traveling tabletop display for Extension agents and others to use in outreach programming. Titles of our tip sheets reflect some tools and methods we promote:

For dairy farmers: Use an on-site feed preparation area. Move calf feed and supplies by wagon. Long day lighting in dairy barns. Use silage bags.

For vegetable and berry farmers: Motorized lay-down work carts. Stretch out your season with hoophouses. A specialized harvest cart for greens. Narrow pallet system. Mesh produce bags for easy batch processing. Standard containers. Strap-on harvest stool.

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