

Meeting the Research Needs of Organic Farmers

Jane Sooby

Organic Farming Research Foundation
Santa Cruz, California

Because so little research has been done on organic farming systems, any research that focuses specifically on organic production should be of use to organic farmers. Less than 0.1% of USDA's research resources have gone toward explicitly organic studies (Lipson 1998).

On one hand, this is exciting news because it means that organic research is a wide-open field. On the other hand, it is discouraging news if one considers the vast amount of information on the complex interactions of biological systems that organic farmers could have but don't because very little of this work has been done.

The Organic Farming Research Foundation performed a national survey of organic farmers in 1997 that was published earlier this year (Walz 1999). Of 1,179 respondents, 62% ranked weed management as their top research priority. Because organic farmers rely on cultural methods of weed control rather than herbicide applications, many related issues need investigation - such as crop order in the rotation, timing and type of tillage, use of allelopathic cover/green manure crops, residue management, managing weed seed banks, flaming or burning, controlling weeds that reproduce vegetatively, and use of livestock to control weeds.

The relationship between fertility management and crop health, pest, and disease resistance was the second highest ranking research priority for organic farmers. This is an area that has been largely unexplored in traditional agronomic research. Soil scientists, plant pathologists, microbial ecologists, and agronomists all have expertise to contribute to this line of study. Interdisciplinary research projects ought to be considered in exploring how soil microbial interactions affect nutrient dynamics and crop resistance mechanisms.

The third highest ranking research priority for organic farmers was the relationship of organic growing practices to the nutritional value of the product. Here is another

area where interdisciplinary cooperation is required to elucidate the connection, if any, between building healthy soils and growing highly nutritious crops. This aspect of organic farming is particularly important in light of recent observations that nutrient levels in many vegetables have declined in the past 20 years, according to USDA figures (Kittredge 1999). This disturbing trend may reflect an unanticipated consequence of chemical farming and may support organic farmers' emphasis on feeding the soil rather than the plant. In any case, this matter demands further study.

Though very few USDA research dollars have gone toward organic farming research, such studies have continued on-farm, done by farmers themselves. Eighty-seven percent of the survey respondents indicated that they engage in some type of on-farm experimentation. The top three topics of on-farm experimentation are variety trials and alternative crops, cover crops and green manures, and crop rotations.

When organic farmers were asked to name a single most important area of research in their own words, whole farm planning and design/ecosystem integration/permaculture was listed as often as weed control. This indicates that organic farmers are thinking in terms of whole farm systems. Researchers must come up with useful systems research methodologies in order to work with farmers in discerning energy and nutrient flows through agroecosystems and how all elements interact. Economic analyses are also critical to help farmers assess the viability of their production decisions.

The traditional Extension model of client-provider has not served to meet organic farmers' information needs. In the OFRF survey of organic farmers, cooperative Extension advisors were ranked third to last (of 12 categories) in their usefulness as sources of production information (Walz 1999). State agriculture departments and USDA national or regional offices ranked 11th and 12th, respectively. University researchers ranked 8th,

while other farmers ranked first.

Only 44% of the farmers used university researchers for production information, while 58% attempted to have their production questions answered by Extension personnel. Significantly, 83% consulted other farmers. A main objective in organic farming research should be to involve farmers in planning research projects and in extending the results to the farming community. Working with farmers to plan, carry out, and publicize research will make Extension and university researchers more responsive to organic farmers' information needs and more effective in answering their production questions.

References

Kittredge, J. 1999. "USDA reports decline in nutrients in US food." *The Natural Farmer*, spring 1999 (published by the Northeast Organic Farming Association, Barre, MA).

Lipson, M. 1998. Searching for the 'O-Word': Analyzing the USDA Current Research Information System for Pertinence to Organic Farming. Santa Cruz, CA: Organic Farming Research Foundation.

Walz, E. 1999. Final Results of the Third Biennial National Organic Farmers' Survey. Santa Cruz, CA: Organic Farming Research Foundation.