

Keeping it Safe – GAPs

'Manuals and Audits'

6th National Small Farm Conference

Richard H. Molinar, Farm Advisor

September 18, 2012

University of California
Agriculture and Natural Resources

Cooperative Extension



*Making a Difference
for California*



UCCE Small Farm Produce Food Safety Team



Jose Fernandez de Soto



Ramiro Lobo



Aziz Baameur



Trevor Suslow



Shermain Hardesty



Richard Molinar



Paul Vossen



Ben Faber



Glenn McGourty



Brenna Aegerter



Cindy Fake

University of California
Agriculture and Natural Resources

Cooperative Extension



*Making a Difference
for California*

HEALTHY FOOD SYSTEMS

How much should I do?

1. Use common sense – the good old days
2. Make a written food safety plan for your farm
3. Do a self-audit (Self-Certification)
4. Become certified by a 3rd-party



Yes, there really are shoeboxes with receipts



1. The Good Old Days “common sense”



Grandfather's Farm



The Man Behind the Plow



The Jack Benny Show, originally broadcast Jan. 11, 1953

1982 The Commodore 64 computer introduced,

64 kB RAM + 20 kB ROM

1989 Berlin Wall came down

2. GAPs Manuals

Many templates available

<http://onfarmfoodsafety.org>

[http://ucanr.org/sites/Small Farms and Specialty Crop/](http://ucanr.org/sites/Small_Farms_and_Specialty_Crop/)

http://cms.oregon.gov/ODA/ADMD/Pages/gap_ghp.aspx

<http://www.uvm.edu/~susagctr/gapresources.html>

<http://intranet.primuslabs.com/igap/default.asp>

Univ California

Oregon Dept Agriculture

Univ Vermont

Primus Labs

Use the templates, don't start from scratch.

**Some buyers still don't require anything
for LOCAL sales.....BUT... times are changing**



3. Self- Audit



8 hrs – 2 days



2-3 hours

~ Self-Audit ~

Still accepted by some BIG buyers



A checklist, signed by the Farmer possibly include water test, worker training

Check boxes

2. Traceability: Each container leaving the farm has our name, address, crop, and quantity.....

3. Health and Hygiene- for employees and visitors . All employees are trained in and must follow good hygiene practices.

- *Self-Certification:*
- I certify that, at *XXX FRESH PRODUCE*, we comply with all of the Good Agricultural Practices (GAPs) checked off in this document; I review this material annually with my employees; and I have records of worker training.

Signed

date

Self Certification

Farm Safety Manual

[Change, delete, or fill-in parts in yellow highlight, remove highlights]

Good Agricultural Practices (GAPs) Manual

FARM SAFETY MANUAL: **ABC FARMS**

STANDARD OPERATING PROCEDURES (SOP's)

Checked boxes indicate I have read documentation to support this

Table of Contents

General Farm Description	2
Traceability	2
Worker Health and Hygiene	3
Illness and accident procedures	3
General sanitation	3
Chemicals and Pesticides	4
Farm Review –	
Water Assessment	4
Wildlife and Livestock	5
Manure and Biosolids	6
Land assessment and soil	6
Field Harvest and Packing	
Worker sanitation	7
Equipment	7
Transportation	7
Forms	
Map	9+
Training	
Visitor sign in	

4. 3rd Party Audit



Companies and Agencies that will do 3rd Party Audits

- *US Dept of Agriculture – contacts for various states*
- *California Department of Food and Agriculture - Inspection and Compliance*
- *AIB International*
- *NFS Davis Fresh Technologies*
- *Primus Labs*
- *Scientific Certification Systems*
- *Silliker*
- *Global GAP*
- *ISO International Standards Org*

**This list is not all-inclusive*

Industry Food Safety Requirements

- Many buyers require a 3rd party food safety certification (CDFA-USDA, Primus Labs, NSF Agriculture)
- Cancelled policies or increased premiums for some farms that direct-market leafy greens



Kinds of Audits

- GFSI – Global Food Safety Initiative

Cert ID

BRC (British Retail Consortium)

SQF (Safe Quality Foods)

GlobalG.A.P. (formerly Euro Gap)

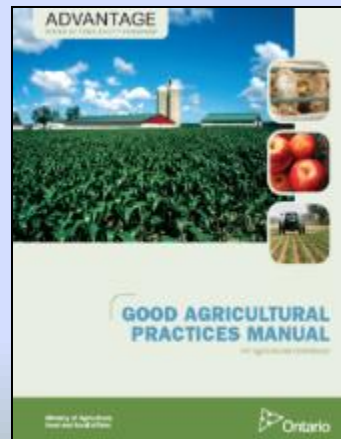
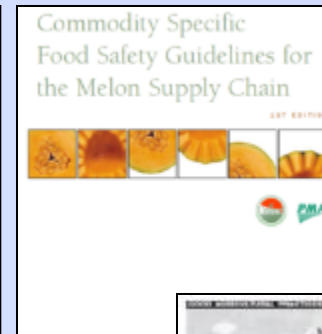
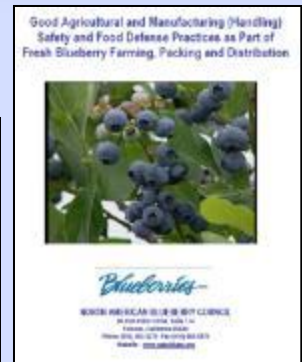
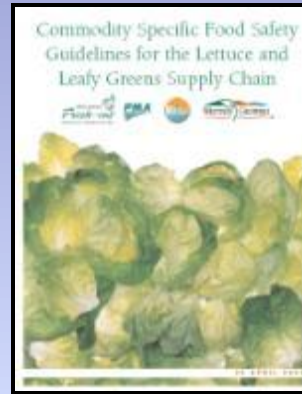
100 different certification bodies= NSF,
Primus, SAI, SCS

- Harmonized Audit (is not necessarily global)

- GAP – GHP Audit (is not necessarily global)

Commodity-Specific GAPs and Food Safety Audit Checklists

- Melon
- Tomato
- Stone fruit
- Mushroom
- Lettuce & Leafy Greens
- Culinary Herbs
- Green Onions
- Sprouts
- Almond
- Citrus
- Strawberry
- Watermelon
- Blueberries
- Asparagus





USDA Good Agricultural Practices Good Handling Practices

Audit Verification Checklist

General Questions (All audits begin with and pass this portion)

Part 1 – Farm Review

Part 2 - Field Harvest and Field Packing Activities

Part 3 - House Packing Facility

Part 4 – Storage and Transportation

Part 6 – Wholesale Distribution Center/Warehouse

Part 7 – Preventive Food Defense Procedures

Audit Results

USDA-AMS website for audits

<http://www.ams.usda.gov/AMSV1.0/ams.fetchTemplateData.do?template=TemplateN&page=GAPGHPAuditVerificationProgram>

S & H Farms	P. O. Box 650	Gonzales, CA	Tomato Food Safety Protocol Audit	Open Field Production, Harvest, and Field Packing	August 24, 2012	Tomatoes
Sam's Farm	1624 E. Knight Ct.	Visalia, CA	USDA Good Agricultural Practices & Good Handling Practices Audit	Farm Review	August 31, 2012	Beans, Cantaloups, Corn, Cucumbers, Eggplant, Peppers, Pumpkins, Squash, Strawberries, Tomatoes, Watermelons
Samuel Alvarez Farm Labor/ Paramount Citrus	P. O. Box 3246	Ventura, CA	USDA Good Agricultural Practices & Good Handling Practices Audit	Farm Review, Field Harvesting and Field Packing Activities	March 2, 2012	Lemons



<http://www.primuslabs.com/psr/platino.aspx#>

[Sunnyside Packing Company](#)



Parts to a GAPs Manual

Farm Review

- Traceability
 - Risk Assessment
 - Worker Health, Hygiene
 - Water Usage
 - Sewage
 - Animals
 - Manure
 - Soils
 - Record Keeping, logs, map
- + farm walkabout

Field Harvest, Packing

- Field Sanitation & Hygiene
- Field Harvesting, Transportation

+ unannounced visits

Sam's Farm

559-799-6934 (Pao)

1624 E. Knight Ct

Visalia, CA 93292

Good Agricultural Practices (GAPs)

Table of Contents	pg
<u>General Conditions</u>	-
Farm Description	2
Traceability	2
Worker Health and Hygiene	2
Illness and accident procedures	3
General sanitation	3
Chemicals and Pesticides	4
<u>Farm Review</u>	-
Water Assessment	4
Wildlife and Livestock	5
Manure and Biosolids	5
Land assessment and soil	5
<u>Field Harvest and Packing</u>	-
Worker sanitation	6
Equipment	6
Transportation	7

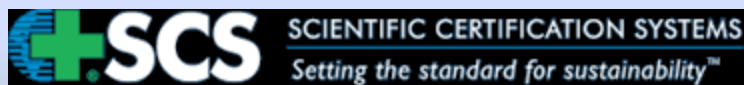
Possible Future Requirements

- Schools
- Farmers Markets
- Donations to Food Banks
- Roadside stands, CSA's



Where we are now...

These audit organizations, and others, are using or plan to use the Harmonized Standards for GAP audits.



**USDA Good Agricultural Practices Good Handling Practices
Audit Verification Checklist**



This program is intended to assess a participant's efforts to minimize the risk of contamination of fresh fruits, vegetables, nuts and miscellaneous commodities by microbial pathogens based on the U.S. Food and Drug Administration's "Guide to Minimize Microbial Food Safety Hazards for Fresh Fruits and Vegetables," and generally recognized good agricultural practices.

Firm Name: _____

Contact Person: _____

Audit Site(s): _____

Main Address: _____

City: _____ **State:** _____ **Zip:** _____

Telephone No: _____ **Fax:** _____

E-mail: _____

Auditor (s): (list all auditors with the lead listed first) _____

USDA or Fed-State Office performing audit:

Arrival Date: _____ **Time:** _____

Departure Date: _____ **Time:** _____

Travel Time _____ **Code** _____

Person(s) Interviewed (use back of sheet if necessary to list all) _____

**\$92.00 per hour
Be organized – receipts,
records, documents**

Did the auditee participate in GAP & GHP training?

Yes No

Is there a map that accurately represents the farm operations?

Yes No N/A

Legal Description/GPS/Lat.-Long. of Location: _____

Are all crop production areas located on this audit site?

Yes No N/A

Total acres farmed (Owned, leased/rented, contracted, consigned): _____

Does the company have more than one packing facility?

Yes No N/A

Is there a floor plan of the packing house facility(s) indicating flow of product, storage areas, cull areas, employee break rooms, restrooms, offices?

Yes No N/A

Is any product commingled prior to packing?

Yes No

**Part 1 farm review=usual
Sometimes part 2
depending on buyer**

Audit Scope: (Please check all scopes audited)

General Questions (All audits must begin with and pass this)

Part 1 – Farm Review.....

Part 2 - Field Harvest and Field Packing Activities.....

Part 3 - House Packing Facility.....

Part 4 – Storage and Transportation.....

Part 5 – (Not Used) _____

Part 6 – Wholesale Distribution Center/Terminal Warehouse.....

Part 7 – Preventive Food Defense Procedures.....



Products: _____

Auditors' Signature(s): _____

General Questions Implementation of a Food Safety Program

They want to see a document

Questions	Points	Yes	NO	N/A	Doc
P-1 A documented food safety program that incorporates GAP and/or GHP has been implemented.					D
P-2 The operation has designated someone to implement and maintain an established food safety program.					D

Traceability= 1 up, 1 back
For farmer = buyer

Traceability

Questions	Points	Yes	NO	N/A	Doc
G-1 A documented traceability program has been established.	15				D
G-2 The operation has performed a "mock recall" that was proven to be effective.	10				R

Worker Health & Hygiene

Questions	Points	Yes	NO	N/A	Doc
G-3 Potable water is available to all workers.	10				R
G-4 All employees and all visitors to the location are required to follow proper sanitation and hygiene practices.	10				P
G-5 Training on proper sanitation and hygiene practices is provided to all staff.	15				D
G-6 Employees and visitors are following good hygiene/sanitation practices.	15				
G-7 Employees who handle or package produce are washing their hands before beginning or returning to work.	15				
G-8 Readily understandable signs are posted to instruct employees to wash their hands before beginning or returning to work.					
G-9 All toilet/restroom/field sanitation facilities are clean. They are properly supplied with use towels, toilet paper, hand soap or antibacterial soap, and potable water for hand washing.					
G-10 All toilet/restroom/field sanitation facilities are serviced and cleaned on a scheduled basis.					R

Name
Address
Field (lot)
Date hvst
Crop
Quantity

They want to see a 'Record', a "Document"
Have receipts for bottled water
Have training records

Questions		Points	Yes	NO	N/A	Doc
G-11	Smoking and eating are confined to designated areas separate from where product is handled.	10				P
G-12	Workers with diarrheal disease or symptoms of other infectious diseases are prohibited from handling fresh produce.	15				P
G-13	There is a policy describing procedures which specify handling/disposition of produce or food contact surfaces that have come into contact with blood or other bodily fluids.	15				P
G-14	Workers are instructed to seek prompt treatment with clean first aid supplies for cuts, abrasions and other injuries.	5				P
G-15	Company personnel or contracted personnel that apply regulated pre-harvest and/or post harvest materials are licensed. Company personnel or contracted personnel applying non-regulated materials have been trained on its proper use.	10				

COMMENTS:

**Need a blood policy in the manual
Need a first aid kit**

**Needed 80% passing after N/A taken out
On to Farm Review**

Total Points earned for General Questions =

Total Possible	=	<u> 180 </u>	<i>The total number of points possible for this section.</i>
Subtract "N/A"	=	<u> </u>	<i>Enter the additive number of N/A points (+points) here.</i>
Adjusted Total	=	<u> </u>	<i>Subtract the N/A points from the Total possible points</i>
X .8 (80%)			<i>Multiply the Adjusted Total by .8 and show it as the Passing Score</i>
Passing Score	=	<u> </u>	

Pass **Fail** **(please mark one)**

This program is intended to assess a participant's efforts to minimize the risk of contamination of fresh fruits, vegetables, nuts and miscellaneous commodities by microbial pathogens based on the U.S. Food and Drug Administration's "Guide to Minimize Microbial Food Safety Hazards for Fresh Fruits and Vegetables," and generally recognized good agricultural practices.

**Water is one of the most difficult to decide and discuss. You set the limit and that is what the auditor goes by – but it has to be reasonable
See handout**

Part 1 - Farm Review

Water Usage

(1-1) What is the source of irrigation water? (Pond, Stream, Well, Municipal, Other)
Please specify:

(1-2) How are crops irrigated? (Flood, Drip, Sprinkler, Other) Please specify:

Questions	Points	Yes	NO	N/A	Doc
1-3 A water quality assessment has been performed to determine the quality of water used for irrigation purpose on the crop(s) being applied.	15				D
1-4 A water quality assessment has been performed to determine the quality of water use for chemical application or fertigation method.	15				D
1-5 If necessary, steps are taken to protect irrigation water from potential direct and non-point source contamination.	15				

Sewage Treatment

Questions	Points	Yes	NO	N/A	Doc
1-6 The farm sewage treatment system/septic system is functioning properly and there is no evidence of leaking or runoff.	15				
1-7 There is no municipal/commercial sewage treatment facility or waste material landfill adjacent to the farm.	10				

Animals/Wildlife/Livestock

Questions	Points	Yes	NO	N/A	Doc
1-8 Crop production areas are not located near or adjacent to dairy, livestock, or fowl production facilities unless adequate barriers exist.	15				
1-9 Manure lagoons located near or adjacent to crop production areas are maintained to prevent leaking/overflowing, or measures have been taken to stop runoff from contaminating the crop production areas.	10				

University of CA Coop Est #2652/50
Project: Sam's Farm

Laboratory Work Order #: 2G27024



California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

Dellavalle Laboratories 1910 West McKinley #110 Fresno CA, 93728	Project: 2012 Analytical Services Project Number: Sams Farm Project Manager: Elisa Sanchez	Report Date: 07/31/2012
-------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------	----------------------------

Analytical Report for Microbiologicals

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
---------	--------	-----------------	-------	----------	-------	----------	----------	--------

176164-1 Faucet Near Well

Laboratory ID#: 2G27024-01 (Drinking Water)

Date Sampled: 7/27/12 12:35

Sampled By: Client

Date Received: 7/27/12 16:05

Total Coliforms	< 1.0	1.0	MPN/100mL	1	T2G2714	07/27/12	07/28/12	SM9223B
E. Coli	< 1.0	1.0	MPN/100mL	1	T2G2714	07/27/12	07/28/12	SM9223B

\$31.00

Previous Land Use? Write it down

What was the land used for previously

crop land, fallow? dairy, livestock, poultry farms?

What did you do to resolve possible problem

e.g., had the soil tested for bacteria

What you did to reduce the risk

e.g. dug a trench or put up a berm of soil

Horses adjacent to a farm

Make a trench or berm



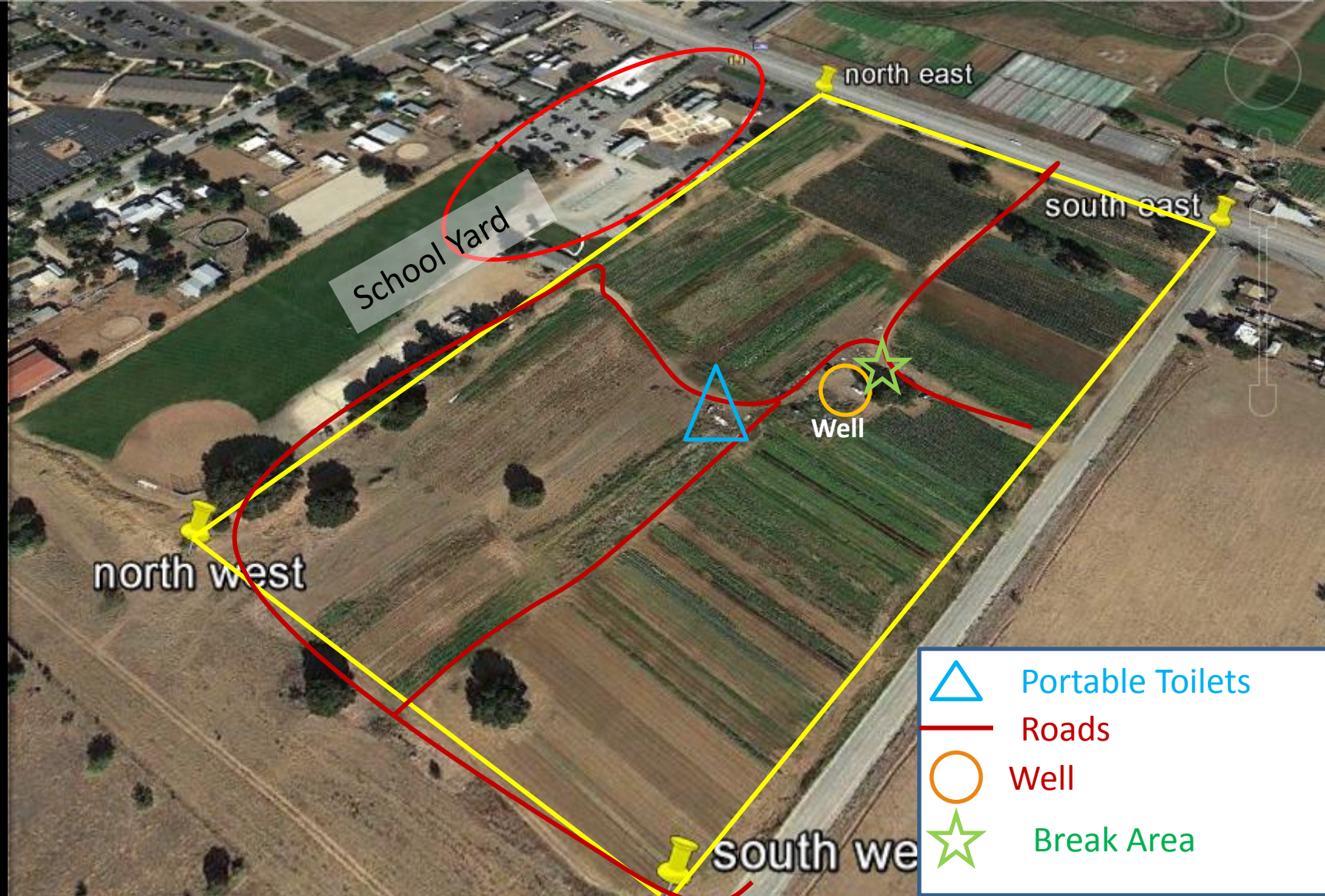
Map of farm

- Field map:
- Map should include:
 - Crops
 - Roads
 - Wells and other water sources
 - Lakes, rivers, ponds, reservoirs
 - Ditches
 - Buildings, including semi-permanent portable toilets and break areas (designated areas)
 - Neighboring property features

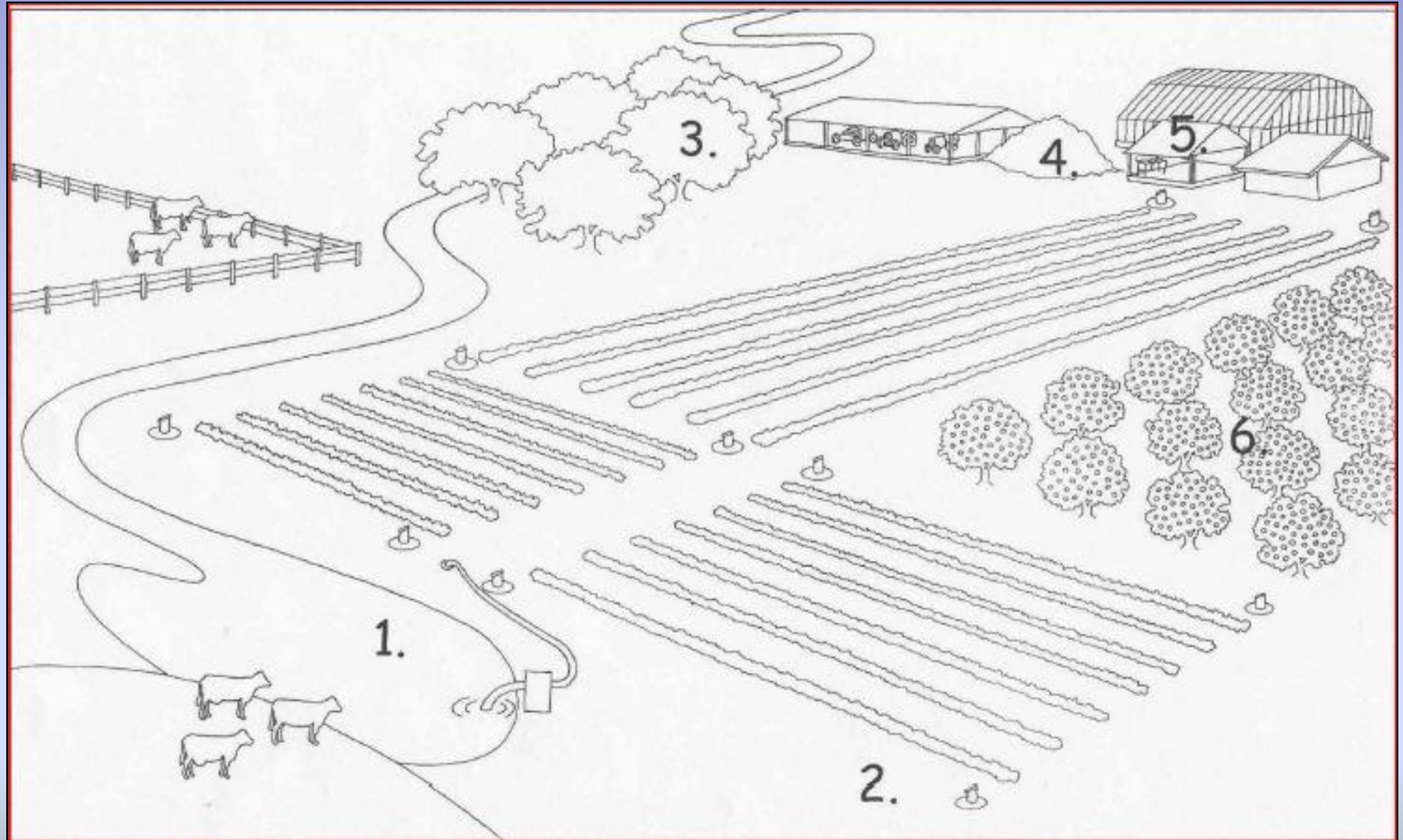
Creating a map...

- Hand draw the map
- Download one from the internet (eg, Google maps, or Google earth)
- Contact your NRCS office for a map
- Re-use one previously submitted to Ag Commissioner

Google Earth map



Another map



Know source of water

Know what is upstream

Know seasonal variation (does source change?)



Source: NRCS

Irrigation Source ?



Potential Fertilizer Contamination



Potential Fertilizer Contamination



How often should I test water?

If water source is:

Closed source – well →

canal, pond, river →

Municipal water →

Then testing frequency is:

Annually at beginning of season

Every 3 months during season

Keep records from district

* California Strawberry Commission (1998) Quality Assurance Program

What do water test results mean?

- Fecal coliform and generic E. coli are indicators, not pathogens
- No established standards for bacterial water quality for agricultural irrigation
- See handout and farm safety plan template for more information