2005 Advanced Training in Organic Crop Production
with an emphasis on vegetable production

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TENTATIVE Curriculum

Overall Learning Outcome:
- Participants have a clear understanding of the principles and practices of organic vegetable farming and can articulate these to clients and colleagues. They are able to plan and deliver programs, services, and/or projects (appropriate to their professional responsibilities) that meet the needs of established and aspiring organic vegetable farmers and/or agricultural service providers who may work with these farmers.

Session One: Certification, Marketing, Business Management

Learning Outcomes—Certification, Marketing, and Business Management

- Participants understand and can explain the organic certification process, the national organic standards, and the requirements of an organic farm plan. They are able to identify major certification issues or concerns on individual farms and are able to advise farmers on how to address them.
- Participants understand the marketing implications of organic certification or lack of certification. They are aware of the options available to farmers with regard to labeling and can advise farmers and colleagues on organic marketing issues.
- Participants can identify the major organizations involved with organic certification issues and understand their roles (NOP, OMRI, NOFA, MOFGA, etc.).
- Participants are aware of and can explain the trends and forces at work in the wholesale and retail organic marketplace.
• Participants understand and can explain strategies for transition to organic production.
• Participants are aware of a range of organic farming resources and can utilize these in their professional roles and steer clients and colleagues to them.

**Session Details/notes:**
Pre-training materials for review: (Should require about 5-6 hours preparation for each session)
1. NOP website (70+ pages, but need to look at it)
2. ATTRA Crops Workbook (summarizes key issues)
3. Real Organic Farm Plans (*NOTE: These plans will be referred to over all three sessions, as a way to tie the sessions together*)
4. Personal goal statements of participants.
5. Visit a local retail organic market near you and record prices (include grades and varieties) of following crops: Tomatoes, Broccoli, Lettuce, Carrots, Onions, Apples

**Monday, February 28, 2005  Introduction and Organic Farm Plans**

Arrival: 12 PM
LUNCH- people will be trickling in during this time

1 PM: Welcome, Introductions, Program Review,
   Introductions: 1-2 minutes from each participant, affiliation, their past work in organic, why here. Then review the training, including commitment, schedules for sessions, special assignments. Q & A.

2 PM: Organic Certification: the NOP Rule and Process for Certification
   NOP Standards- what, why, how? Emphasize that the standards outline good farming practices. Assume that all have reviewed basics of rule. Focus on prickly areas in the rule and how this is tied in later in the training (e.g. compost issues and compost session in soils training.)

3:30 PM: The Organic Farm Plan
   What is a good organic farm plan? One that meets the NOP requirements? How can a person looking at farm plan on paper tell if a farm is successful? Should a farm plan do more than meet certification requirements, e.g. provide a long term view of whole farm development?
   Review different formats (e.g. Idaho organic farm plan questionnaire, Jim Riddle’s plan). Review requirements. Review real organic farm plans- good and mediocre, and evaluate integration of NRCS/NOP/and other goals

6:30 PM: DINNER

8 PM: Why Organic?
   Participants share goals statements, what want to get out of training.
   Farmer Panel: 2-3 organic farmers
Review philosophy, history, and values
Answer question: What do we need from extension and others attending this training?

9:30 PM ADJOURN

Tuesday, March 1, 2005 Organic Farm Plans and Inspections

On Bus: review the host farm prior to arrival
9-12 AM and 2-5 PM: Mock Organic Farm Inspections- We will observe mock inspections of two farms. Have Q & A period. As real as possible, so that participants can see process as well as paperwork needed. Use a mock inspection here to tie the farm plan to certification.

The farm plans will include some sticky issues, such as not having a good rotation etc. Note, that all information will be off the record for the farmer.

8:00 PM Farmer and Produce Buyer Panel: Certification and Markets
  • Certified or not under NOP
  • Why or why not?
  • Market impacts
  • Has NOP affected market access or sourcing products?
This session will introduce marketing and business management topics as well.

Wednesday, March 2, 2005 Transition and Marketing

8:00 AM Transition Strategies
Review strategies and economics of transition, alternative markets, planning, crop rotation planning. What are the key obstacles? Lecture discussion format

9:00 AM Farmer Panel:
Strategy varies by grower- within marketing, soils, pests what were issues /obstacles/challenges.

10:30 AM Rodale Transition Training Program

11:00 AM Case Study

Tie transition strategies to organic plan
12:00 PM LUNCH

1:00 PM Organic Markets- Current and Future Prospects
Market prospects/futures, detailed trends nationally and internationally. What is the future of organic? Fresh, wholesale, processed vegetables. How is consolidation in marketing channels affecting organics?

2:00 PM- Local Organic Markets- Trends and Demographics

3:00 PM BREAK

3:30 PM Farmer / Buyer Panel
Growers and buyers presenting a realistic view of the organic marketplace

4:30 PM Pricing and Markets
 Wholesale/retail, enterprise budgets, dealing with diversified operations,

8:00 PM Social with Regional Fermented Organic Products

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Thursday, March 3, 2005 Crop Yields, Markets and Profits

8:00 AM Show and tell on resources provided

9:00 AM Organic Crop Yields- Are they lower? Yields and profitability-

10:00 AM Break

10:30 AM Enterprise Budgets: NEON and other data

12:00 PM ADJOURN

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Session 2: Pest Management June 27-30, 2005

Pest Management Learning Outcomes

- Participants can identify and explain a range of cultural practices used on organic farms to manage insect pests, diseases and weeds.
- Participants are aware of the range of pesticides allowed for use on organic farms and can help clients and colleagues obtain and utilize information to make decisions about organic pesticide use.
- Participants are aware of the range of cultivation equipment used to manage weeds and can help clients and colleagues obtain information and make decisions on their selection and use.
- Participants understand and can explain practical techniques for managing common Northeastern diseases on organic vegetable farms.
- Participants understand and can explain practical techniques for managing common Northeastern insect pests on organic vegetable farms.
- Participants understand and can explain the role of crop rotation in pest management on organic farms and can help farmers and colleagues obtain information and make decisions about crop rotation.

Expectations of work before the workshop
*Participants are sent case studies, organic farm plans of farm if available
* Resource list – bulletins, websites, videos

Mon. June 27

AM: Travel to site (Pennsylvania)
Optional activity for early arrivers

12:00 LUNCH

1:00 pm Overviews begin (45 minute presentation plus 15 min. for participation/questions)

1:00 Organic pest management: Concepts and Principles; Tactics and Strategies; Whole farm pest management, farmscaping, Scouting, thresholds
Principles of organic pest management – how is it different from conventional, how is IPM adapted for organic

3:00-3:30 BREAK

3:30 Insects– includes coverage of approved insecticides and other materials

4:30 – 5:30 pm Diseases –includes coverage of approved insecticides and other materials
Tuesday June 28 - On-farm discussions/presentations

7:00 am Breakfast

8:00 am - 9:30 am Updates on participant activities, goals, how does pest management fit in to projects and goals

9:30 am - 10:00 am Break

10:00 - 10:50 am Weed ecology –

11:00 am – noon Weed Management video (Vern Grubinger’s)

Noon – pick up box lunch, travel to Farm 1

2:00 pm - 5:00pm Farm 1
Farm Tour and Field Scouting -
Discussion: assessment of overall pest management system on an organic farm – what does, doesn’t work, why?
3:30 – 3:45 pm –pick up snacks/drink
3:45 – 5:00 pm Continued. Field Scouting -
Discussion: assessment of overall pest management system on an organic farm – what does, doesn’t work, why?

5:00 pm leave for dinner

6:30 pm Dinner in State College

Wednesday June 29

7:00 am Breakfast

8:00 – 10:00 am Crop by Crop pest management - what are the key issues for particular crops? e.g., solanaceous crops, cucurbits, brassicas, chenopodiaceae, etc. Biocontrol, biological interactions, conservation of biocontrol – pest management team Soil ecosystem services and soil biocontrol

10:00 – 10:15 am Break, snack/drinks
10:15 am – noon Continued - Crop by Crop pest management - what are the key issues for particular crops? e.g., solanaceous crops, cucurbits, brassicas, chenopodiaceae, etc. Biocontrol, biological interactions, conservation of biocontrol – pest management team. Soil ecosystem services and soil biocontrol

Noon – pick up box lunch, eat in van, leave for Farm 2

Farm Tour and Organic Pest Management Cultural practices, tools and organic pesticides.

3:00 pm – pick up Drinks/snacks, leave for Farm 3

3:30 – 5:30 pm Farm 3
Farm Tour and Organic Pest management, continued – Cultural practices, tools and organic pesticides, weed management.

5:30 pm Leave for State College
6:30 pm Dinner
7:30 pm: Social

Thursday June 30 - in class - discussion & presentations

7:00 am Breakfast

8:00 am – 10:00 am: Crop Rotation for Pests and Farm Planning.
Overview of rotation systems - intensive and extensive. Integration of concepts into real farm plans, using crop rotation planning tools
10:00 – 10:15 Break
10:15 – 11:30 am: synthesis, discussion and review of projects
11:30 - noon evaluation and feedback
noon – adjourn, travel safely home

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Session 3: Soils September 19-22, 2005

SOILS TRAINING SESSION AGENDA

LEARNING OUTCOMES

- Participants understand and can explain how to use a variety of tools to assess the chemical, physical and biological aspects of soil fertility.

- Participants understand and can explain the role of organic matter in soil fertility and the processes that affect organic matter quantity and quality in soil.

- Participants understand and can explain the potential benefits, criteria for selection and practical use of cover crops on organic farms.

- Participants understand and can explain the rules governing production and use of compost on organic farms, methods of assessing compost quality, and the potential benefits and concerns with use of compost in the field, in greenhouses and in potting mixes.

- Participants are able to work with clients and colleagues to develop whole-farm nutrient budgets for organic vegetable farms.

- Participants understand and can explain the variety of tillage tools and advise clients and colleagues on their selection and use.

- Participants understand the decision-making process that underlies crop rotation planning and can assist clients and colleagues with this process.

Monday, September 19

Arrive noon

12:00 LUNCH

1:00 Overviews begin (45 min presentation plus 15 min. for participation/questions) - Introductions of the participants and an overview of what will be covered in the session.

2:00 ORGANIC MATTER:
Importance of organic matter to soil health, biological activity, recycling of nutrients and soil husbandry. An organic matter budget will be introduced [organic matter budget is a determination of loss and gain over a cropping year. It can be determined using a simple algebraic equation of what is lost from soil by breakdown (1-3%, depending on tillage, climate and soil type) and what is gained by amendments (crop residue, manure,
Participants will learn to calculate this using a projected rate of decomposition for each amendment in a year.

3:00  BREAK

3:30  COVER CROPS -
Applicants will learn to choose the most appropriate cover crop for particular benefits sought by the farmer, e.g., weed management, adding organic matter, adding nitrogen, catching nutrients, etc. And they will learn how to choose the cover crop that fits into the specific crop rotation (cover crops that do not host particular pests, cover crops that fit window of opportunity, etc.).

4:30  APPROVED MAT’LS/BAGGED AMENDMENTS -
Participants will learn the key issues involved with addressing crop nutrient needs on an organic farm and which of these should be met with bagged amendments. The discussion will include a nutrient by nutrient evaluation and how to choose the appropriate material to meet specific needs.

5:30  BREAK?

6:30  DINNER

7:30  UPDATES ON PARTICIPANT ACTIVITIES


Tuesday, September 20

7:30 BREAKFAST

8:30  COMPOST
Composts are not all equal. Some are permitted and some are prohibited on certified organic farms, and some are not wanted. Participants will learn the regulations, risks of contamination with pathogens and pesticides and how to judge the quality of compost that is either made on the farm or purchased.

10:00  LEAVE FOR Farm 1

10:30  FARM TOUR –including practices for managing pests and soil using cover crops in a crop rotation.

12:00  BOX LUNCHES

DISCUSSION AT Farm 1
1:00  NUTRIENT BUDGET
Organic farming is based on many principles that protect the environment and one measure of the impact of a farm is the nutrients crossing the farm boundary, either brought in or going out. Participants will learn specific concerns with particular nutrients and cultural practices to conserve and recycle nutrients.

2:00  LEAVE for Farm 2

2:30  a tour of winter production houses.

3:30  HOOPHOUSE FERTILITY DISCUSSION
Managing the soil in a hoop house is different than a field because in most cases it is not based on crop rotation but on inputs. What are techniques and unique problems for hoophouses.

4:30  RETURN TO HOTEL

6:00  DINNER

7:30  INFORMAL DISCUSSION

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Wednesday, September 21

7:30  BREAKFAST

8:30  NUTRIENT MANAGEMENT OVERVIEW
Participants will learn the need, the regulations and how to develop whole farm nutrient budgets.

10:00  LEAVE FOR Farm 2

11:00  TOUR
Discuss how they use crop rotation and compost to take care of their soil.

12:00  BOX LUNCH/DISCUSSION

1:00  COMPOST/COVER CROPPING DISCUSSION-
Nitrogen is the most difficult nutrient to manage on this farm. It is not near any livestock production. Participants will learn how nitrogen behaves in the soil and particular attributes of nitrogen from cover crops, compost, and organic wastes such as fishwaste.

2:00  ON FARM SOIL QUALITY DEMOS (NRCS Soil Card)
Participants will learn how to assess soil in the field including using a penetrometer, looking at aggregation, water movement, etc.

3:00 RETURN TO HOTEL

4:30 TILLAGE TOOLS PRESENTATION

6:00 DINNER

7:30 DISCUSSION OF PARTICIPANT PLANS/NEEDS AND EXPLANATION OF FOLLOW-UP PHASE

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Thursday, September 22

7:30 BREAKFAST

8:30 ROTATION PLANNING: CONSIDERING IT ALL

The new NRAES Crop Rotation on Organic Farms: A Planning Manual can be introduced and participants will learn how to plan a rotation considering insects, diseases, soil fertility, weed management, etc.

11:30 ADJOURN