

Hort/PI Path 375 Organic Vegetable Production: Principles and Practice

Spring 2015. Tu/Th 9:55-10:45, Thursday lab 2:30-5:30

Julie Dawson, Jeff Endelman, Amy Charkowski, Claire Strader,

Julie Dawson 393 Moore Hall, dawson@hort.wisc.edu

TA: Terri Theisen, 394 Moore Hall, tltheisen@wisc.edu

Office hours: Julie: by appointment

Terri: Wednesday 2pm-3pm or by appointment

Required books (will also be on reserve in the library)

Coleman, Elliot. *The New Organic Grower*. Chelsea Green. 1995.

Fortier, Jean-Martin. *The Market Gardener*. New Society Publishers. 2014.

Soil Science Simplified 4th edition. 1994.

Learning objectives: Students will –

1. Understand the biological principles underlying organic agricultural practices, and the social and economic context of organic farming
2. Synthesize the knowledge gained in this course in a realistic farm plan that demonstrates understanding of farming as a profession
3. Evaluate the trade-offs among different aspects of sustainability as they relate to diversified farms and how these affect decisions made by farmers

Assignments will include:

- Problem sets, lab exercises and/or short writing assignments for each unit (20%)
- Full participation in field trips, and class discussions (20%)
- Developing a topic of discussion for the last week of class (10%)
- Individual development of a farm plan over the semester (50%)
- Graduate student credit will involve additional short essay questions and problem sets for each unit and additional depth on the farm plan assignment. Graduate students will also be responsible for leading a discussion topic the last week of class.
- For service-learning credit, students will participate in projects with local community gardens, food bank gardens and small-scale farms
- There is the potential for internship credit the semester following the course with the FH King Student Organic Farm, local organic farms or community groups

Deadlines:

- Reading assignments and online video and quiz must be done before the class in which it is discussed
- Weekly assignments are due by 9am on Tuesday the following week
- Choice of topic for final discussion, one page proposal and justification: 2/3
- Readings for final discussion, with annotation of why they were chosen: 3/26
- Final farm plan: 5/10

Syllabus

Week

- 1. Organic history and certification**
All instructors
Lab 1/22: MOSA (Harriet Behar) overview of Organic certification
- 2. Diversity of organic systems and markets**
Julie Dawson
Lab 1/29: Farmer visitors, discussion of complexities in organic agriculture
- 3. Diversified farm finances**
Guest lectures from Brad Barham, and John Hendrickson
Lab 2/5: Field trip: Winter storage and indoor seeding technology at Tipi produce
- 4. Soil fertility and compost I**
Jeff Endelman
Lab 2/12: Field trip to Purple Cow, Farm planning
- 5. Soil fertility and compost II**
Jeff Endelman
Lab 2/19: Soil mixes and soil quality testing on soils from different farms
- 6. Food safety and food quality**
Guest lecture Erin Silva, Terri Theisen
Lab 2/26 Field trip: Visit composting operation at West Madison
- 7. Crop planning and variety selection**
Julie Dawson, Claire Strader
Lab 3/5: Greenhouse, crop selection, crop planning calendar, types of varieties
- 8. Seeding and transplanting**
Julie Dawson, Amy Charkowski
Lab 3/12: Field Trip: seeding transplants with Mark Voss, Voss Organics
- 9. Season extension techniques**
Terri Theisen, Julie Dawson
Lab 3/19: Field Trip: Visit to Snug Haven Farm
- 10. Scale appropriate tools, mechanization and labor considerations**
Claire Strader, John Hendrickson
Lab 3/26: Small scale equipment and tools

--- Spring Break ---

- 11. Systems design for pest prevention and weed management**
Claire Strader
Lab 4/9: Greenhouse -- weed and cover crop identification, seeding transplants
- 12. Specific techniques for weed, pest, and pathogen control**
Amy Charkowski
Lab 4/16: Visit to insect and disease diagnostic clinics, Russell Labs
- 13. Field management of specific crops and rotations**
Claire Strader, Julie Dawson
Lab 4/23: Field trip to Luna Circle Farm
- 14. Harvest and post harvest management for fresh market crops**
Claire Strader, Julie Dawson
Lab 4/30: Field Trip to Shooting Star Farm
- 15. Innovations in agriculture**
Student-led discussions of innovative or controversial developments in organic agriculture. Students must choose a topic, find readings for the class and give a short presentation, then lead a class discussion on their topic.

Potential Example Topics:

Controlled environment production, passive/active greenhouses, soil-less systems
Hoop houses and year round production of local food in cold climates
Marketing innovations for local foods, changes in CSAs, scaling-up local foods
Pheromone traps and other organic pest or disease control subsequently adopted by conventional agriculture
Use of organically approved pesticides that have negative environmental impacts
Genetically modified organisms, plant breeding, how do we decide what is appropriate and acceptable technology in organic agriculture
Permaculture, bio-dynamics, other organic systems going beyond organic regulations