Jefferson County FIELD Internship Program in Sustainable Agriculture

Syllabus 2013

**Program Introduction**

The FIELD internship program provides a multidisciplinary study into sustainable farming. The goal of the FIELD program is to provide a new generation of farmers with the skills and knowledge necessary to (a) begin farming or have farm-related careers, (b) promote leadership skills in sustainable agriculture and local healthy food systems, and (c) develop and support innovative practices related to sustainable agriculture.

**Educational Activities:**

***On-going Activities***

* Orientation session with farmer-mentors to develop individual learning plans that will focus attention on the intern’s interests.
* Reflective seminars with all interns to integrate learning and field-practice experiences. All interns are expected to maintain a reflective journal about their observational activities, experiences, insights, questions, and challenges. These journals will provide an entry into the seminar. Your journal work will form part of what you bring to share at the reflective sessions and weekly check-ins.
* Hands-on applied practice on the host-farm including daily participation in all aspects of production, maintenance, and development of farm infrastructure. Generally this consists of 20 to 30 hours of work per week on the farm.
* Independent learning or research project involving more in-depth study, observation, synthesis, and presentation of the outcomes. To achieve quality and rigor in independent projects host-farmers are recommended to work closely with the interns to identify a topic and activity of mutual interest at the host-farm.

***Weekly Focused Topic Addressed through Multiple Avenues***

* One focused instructional day consisting of 3-4 hours of instruction (explanation, discussion, demonstration, reading assignment) and 3-4 hours of application of the topic at the farm where the instruction took place. Interns should plan on keeping the entire day free from 9:00 to 5:00. Everyone is expected to attend each session unless they are ill or have an emergency.
* Readings on the weekly topic that provide an in-depth view of the topic and may present differing perspectives or approaches. Interns will write in a reflective journal on these readings and extend their learning on the topic of interest.
* A flexible “take-home assignment” focused on the weekly topic that further reinforces the topic and work with the host-farmers to carry it out at the host-farm and later present it during the reflective discussions.
* Altogether, it is expected that these activities will take roughly 20-25 hours per week some of which occurs in FIELD sessions, some during the days at the host farm and some of which must take place in the evenings or in the interns’ free time.
* Interns are also engaged in diverse practicum activities on a daily basis on their host farm that results in a 35- 40 per week learning experience.

**Attendance Expectations for Educational Activities and CEUs:**

As a part of the FIELD program, each intern earns Continuing Education Units from WSU. Each intern earned .7 of a CEU per week, or 27 for the full 9 month program.

In order to maintain program quality, WSU has a policy of docking 1 CEU credit for every 6 classes missed by an intern. There are between 42 and 54 "classes" (workshops, orientations, reflection sessions) across the 9 months of the full program so missing 6 classes would mean missing more than 10% of the classroom content. If an intern is in the program for fewer than 9 months, this number will be adjusted (2 classes per 3 months = 1 CEU credit being docked).

If a student were to miss 6 classes per 3 months, it would mean they received less than 70% of the class content and would no longer be permitted to continue in the FIELD program.

Students with outstanding personal circumstances preventing attendance may work with WSU to see if there is alternate coursework they may complete to make up classroom content. These instances will be dealt with on a case by case basis.

##### **2013 FIELD Curriculum Topics of Study Organized by Theme**

##### **see calendar for delivery dates**

|  |  |
| --- | --- |
| **Integrated Farm Production Systems**Introducing a Systems Approach – Agro-ecology* Holistic Orchard Management
* Crop Productivity – Light, water, and temperature effects on crop growth and development
* Agrometeorology and Interannual Climatic Variability
 | **Soils and Nutrition*** Soil Structure and Ecology
* Nitrogen fixation, Nutrients, and Sources of Fertility
* Composts, and Organic Matter
 |
| **Crop Production*** Integrated Pest Management for Orchards and Small Fruit
* Fruit tree Pruning
* Fruit plants for the PNW
* Producing starts in greenhouses
* Seed Saving
* Season extension and out-of-season production
* Winterizing
 | **Livestock*** Poultry production – Meat and Layer systems
* Sheep production systems
* Rotational grazing and nutrient cycling
* Livestock health management
* Rabbits
* Humane slaughter and butchering
 |
| **Adding Value in Farm Production Systems*** Micro-dairy operations
* On-Farm Food Processing and Preservation
* Cider and Juices
* Beekeeping and pollination (1-4)
* Harvest and Post-harvest handling of produce
 | **Marketing and Business Planning*** Customer Service
* Beginning Accounting
* Analyzing Production through Enterprise Budgeting
* Farm Business Basics
* Marketing Panel
* Planning a New Agricultural Business
 |
| **Farming systems Infrastructure*** Basic Building Skills
* Alternative Energy Sources for the Farm
* Water Management
* Fencing
 |  |

**Additional Special Topics or Field Trips**

#### The list below outlines special topics that may occur; if they do, they will be scheduled individually and involve external resource people in the community.

#### Vegetable breeding and seed saving – OSA – John Navazio

#### Humane Slaughter & Butchering, Janet Aubin

* Pome fruit grafting – March
* Fruit tree pruning – March
* Organic Strawberry Production – WSU Puyallup
* Fiber working

#### Field trip to Oatsplanter Farm and Steve Habersetzer

* Equipment Maintenance—Linda Davis

**Recommended Readings & Resources**

In addition to the resources listed below which are available for check out from participating farms and WSU, there are plentiful readings available to each intern on the FIELD Google Drive. All readings listed in the calendar of topics and activities are available there along with many more. In addition, each intern will be given a binder with basic required readings in hard copy form to make learning easier.

*Animal, Vegetable, Miracle: A Year of Food Life* by Barbara Kingsolver, Camille Kingsolver, and Steven L. Hopp

*The Four Season Gardener* by Elliot Coleman

*The New Organic Grower* by Elliot Coleman

*The Apple Grower* by Phillips, M.

*Fruit Crop Ecology and Management* - MSU Ext.

*Western Washington Fruit Handbook*

*Fruit Berry and Nut Inventory 4th Ed.* - Whealy, K

*Fruitless Fall: The Collapse of the Honey Bee and the Coming Agricultural Crisis* by Rowan Jacobsen (2009)

*The Organic Farmer’s Business Handbook: A Complete Guide to Managing Finances, Crops, and Staff-and Making a Profit* by Richard Wiswall (2009)

*The Omnivores Dilema,* Michael Pollen

Agroecology: Ecological Processes in Sustainable Agriculture, by Steve Gliessman

*The Natural History of Puget Sound Country*, A.Kruckenberg

*PERMACULTURE: A Designers' Manual* by Bill Mollison and Reny Mia Slay

Sheep: Sustainable and Organic Production - ATTRA

More Profit with Hair Sheep by Fitch, G.

Managing Internal Parasites in Sheep and Goats - ATTRA

*A Seed Saving Guide* - Organic Seed Alliance

*Breed your Own Vegetable Varieties* - Deppe, C.

*The Queen Must Die: And Other Affairs of Bees and Men* by William Longgood and Pamela Johnson (1988)

*Storey's Guide to Raising Chickens* by Gail Damerow

*Storey's Guide to Raising Rabbits* by Bob Bennett

*Storey's Guide to Raising Sheep* by Carol Ekarius and Paula Simmons

*Storey’s Guide to Raising Milk Goats* by Jerry Belanger

WSDA Small Farm and Direct Marketing Handbook, WSDA

###### **2013 Schedule of Topics & Activities**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Date** | **Unit** | **Topic** | **Instructor** | **Details** |
| **March 7****Daytime session****9:00 to 3:00** | Holistic Orchard Management | Introduction to Integrated Tree Fruit Production | John Bellow | **Instructional Focus:** Getting to know each other; Understanding tree fruit and production management systems for small scale commercial fruit production.**Reading: ATTRA: Organic Tree Fruit Production Overview***The Apple Grower* by Phillips, M.**Independent homework:** Make a list of tree fruit crops and varieties on your host farm and characterize five of them in terms of size, yields, disease resistance, marketability and hardiness. |
| **March 7****Evening session** **4:30 to 7:30 pm** | Integrated Farm Production Systems | Introducing a Systems Approach—The Farm as an Agroecosystem | Laura Lewis & John Bellow | **Instructional Focus:** Observation assignment; Viewing the farm and its activities as a complex and interconnected ecosystem a means to sustainability **Reading:** Innovative Education in Agroecology, Fruit Crop Ecology and Management, Ch 1. **Independent homework:** Visualize your host farm as an ecosystem, update your farm map and create a concept diagram of the systems on your farm that detail energy, material, and information flows. |
| **Mar 10****SUNDAY****10:00 to 1:00** | Crop Production | Special practicum on fruit tree pruning | John Bellow | **Instructional Focus:** *Theory and practice of deciduous fruit tree pruning***Reading:** Commercial Orchard Tree Pruning, Bellow Pruning shortlist**Independent homework:** Evaluate and prune a tree at your host farm w/farmer’s permission  |
| **March 14****9:00 to 5:00** | Livestock | Where There is No Vet: Livestock Health Management  | Linda Davis and Rachael Van Laanen | **Instructional Focus:** Lambing and kidding, basic animal veterinary skills, animal health**Reading:** Story’s Guide to Raising Sheep, Ch 10: Lambing & Ch. 8: Problems of Rams, Ewes, & Lambs; Story’s Guide to Raising Goats, Ch1, 9, 10, 11 &12**Independent homework:** Learn about your farm’s set-up and planning for lambing or kidding; learn the basic animal health care systems and procedures for your farm; ask your farmer about his/her philosophy of animal care and health maintenance |
| **March 14****Orientation****6-8 pm** | ORIENTATION | Orient new interns | Roxanne Hudson & Laura Lewis | **Instructional Focus:** *explanation of learning plans, independent projects, self guided learning* |
| **March 21****Daytime session** **9:00 to 4:00** | Crop Production | Integrated Pest Management for Orchards and Small Fruit | John Bellow | **Instructional Focus:** *Introduction to IPM and principal pests in the PNW***Required Reading:** Bordeaux spray, Fruit Crop Ecology and Management (Chapter 2)**Related Reading:** Ecopest Management (Prokopy 2003), Intermountain IPM**Independent homework:** Initiate a pest monitoring log for the host farm and make a weekly observation |
| **March 21****Evening session** **5:30 to 8:30 pm** | Woody plant propagation | Propagation techniques for perennials | John Bellow &Scott Brinton | **Instructional Focus:** Survey of principal techniques for producing perennial fruit plants while maintaining genetics.**Required Reading: XXX****Independent homework:** Select and propagate a type of woody plant on your host farm with your mentor’s permission |
| **March 28****9:00 to 5:00** | Adding Value in Farm Production Systems | Introduction to beekeeping (1 of 4) | John Bellowat SpringRain Farm | **Instructional Focus:** *The honey bee biology and behavior and equipment for beekeeping***Reading:** Chap. 1 to 3 in WSBA, SFO Beekeeping Calendar**Independent homework:** Investigate the management and role of honeybees and other pollinators on the host farm - journal and share in reflection |
| **March 28****7 to 9 pm** | March Reflection Session |  | WSU Coordinator | Interns will share their observations, homework assignments and thoughts on the discussion questionBring your journals and observations along with completed homework assignments (pest log). **Discussion question:** What characteristics are relevant to sustainability in small scale agricultural businesses?  |
| **April 4** **9:30 to 2:00** | Crop Production | Producing annual starts in greenhouses | Dick Schneider | **Instructional Focus:** *Success factors associated with seed germination and transplant techniques for plants of high commercial interest to farmers* **Independent Homework/Reflection Questions:**1. "The devil is in the details": describe the variables that determine successful plant development from seed.2. How can the principals learned at RainCoast be applied to your particular farming circumstances?3. Why is it important to be aware of local environmental factors when selecting varieties of plants for your garden?  |
| **April 11****9-11:30 WSU****1-4 Mystery Bay** | Marketing & Business Planning | Customer Service and Direct Sales | Laura LewisRachael Van LaanenMolly O’FallonWill O’Donnell | **Instructional Focus:** Direct sales, customer service, displays and presentation, web presence. Morning Activity: Analyze marketing materials and websites for marketing.**Reading:** |
| **April 18****9:00 to 5:00** | Crop Production | Fruit production in the PNW | Janet AubinLaura Lewis | **Instructional Focus:** *Germplasm – Fruit plants for the PNW; fruit production; weed management***Reading:** Western WA Fruit Handbook, New Fruit for the PNW, Berries and Small Fruit**Independent homework:** |
| **April 25****9:00 to 5:00** | Integrated Farm Production Systems |  Ag Building I | Linda Davis | **Instructional Focus:** *Ag Building Basics,* Plumbing & Concrete construction**Readings:** Build It Better Yourself, Pgs 614-629, Modern Carpentry, Pgs 174-177, 180-183**Independent homework:** |
| **April 25****6 to 8 pm****Solstice Farm (Josh and Serena’s)** | April Reflection Session |  | WSU | Interns will share their observations, homework assignments and thoughts on the discussion question. Brainstorm questions for the rest of year.Bring your journals and observations along with completed homework assignments**Discussion question:** *How does region / location influence opportunities for small-scale agriculture – off-farm factors that promote or hinder successful farm businesses?* |
| **May 2****9:00 to 5:00** | Integrated Farm Production Systems |  Ag Building II | Linda Davis | **Instructional Focus:** *Ag Building Basics, cont.***Readings:** Build It Better Yourself, Pgs 614-629, Modern Carpentry, Pgs 174-177, 180-183**Independent homework:** |
| **May 9****9:00 to 5:00** | Livestock | Poultry | John Bellow | **Instructional Focus:** *Survey of poultry ecosystems by system inputs and outputs. Meat, eggs, dual purpose; confined to free range systems. Basic business characteristics, Breeds and profitability.***Readings:** Poultry Overview, Poultry Equipment, Poultry Meat Systems, Coccidiosis**Independent homework:** |
| **May 16****9:00-12 SpringRain** **1- 5:00 MBF** | Farm Infrastructure | John BellowScott BrintonJean Errica | Water and Irrigation Systems | **Instructional Focus:** Water law, water management (e.g., conservation, impounding, swales), irrigation systemsBegin at SpringRain Farm and end at Mystery Bay Farm**Reading:****Independent homework:** *Evaluate the water use systems at your host farm; i.e. water sources, use efficiency, waste water, runoff and be prepared to discuss in detail along with one concrete practice your host farm could introduce* |
| **May 23****9:00 to 5:00**SpringRain Farm | Adding Value in Farm Production Systems | Intro to Beekeeping (2 of 4) | John Bellow | **Instructional Focus:** Spring Management of colonies and swarm control**Reading:** Ch 4 and 5 of WSBA apprentice handbook**Independent homework:** *Evaluate the status of a bee colony at your host farm or elsewhere* |
| **May 30****10a-12p Mystery Bay Farm (optional)****1-3pm Chimacum Cornerstore** | Independent Learning Project Day |  |  | **Instructional Focus:** *Optional* workshop at Mystery Bay Farm on milking basics to prepare for any interns wanting to milk at MBF**REQUIRED READINGS to be completed before MBF:**<http://www.aces.edu/pubs/docs/U/UNP-0102/><http://www.extension.org/pages/25882/reference-guide-for-mastitis-causing-bacteria>Mastitis Control Programs: Proper Milking Techniques**Afternoon session (REQUIRED)**: What grocery retailers want: Rob and John of Chimacum Cornerstore  |
| **May 305 to 7 pm** | May Reflection Session |  | WSU | Bring your journals and observations along with completed homework assignments. Pest Log**Discussion topic:** This month has focused primarily on infrastructure and getting the season set up. Be ready to talk about the role intrastructure (buildings, irrigation) and spring management of bees and poultry help set farms up for success. Success in the long run with infrastructure and for the season with spring set ups.  |
| **June 6****9:00 to 5:00****Mystery Bay Farm** | Livestock |  Livestock Fencing & Rotational Grazing | Scott Brinton | **Instructional Focus:** *Building and maintaining fencing; pasture management; rotational grazing***Reading:** <http://learningstore.uwex.edu/assets/pdfs/A3529.pdf>**Independent homework:** |
| **June 13****10:00a to 3:00p****Twin Vista Ranch, Marrowstone Island** | Soils & Nutrition | Soil Basics | WSU, Doug Collins | **Instructional Focus:** *Mineralization and immobilization, nutrient cycling, Macro- and micro-nutrients, common organic and inorganic sources and characteristics of nutrients. Soil types, composition, structure and texture, Soil food chain (trophic levels); Soil biota and energy cycling***Reading:** -Soil Testing Guide for Diversified Vegetable Crops-Soil Fertility in Organic Farming Systemshttps://pubs.wsu.edu/ItemDetail.aspx?ProductID=15585-Intrepreting Soil Tests-The Art and Science of Composting**Independent homework:** Go to [**http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm**](http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm)Click green button, Start SurveyType in farm addressOnce your farm shows up, you can click the red square or polygonal AOI tab and physically mark the farm boundaries. Once the boundaries are marked, the survey will pull up soil types and characteristics under the soil map tab. Find out your host farm’s soil type, soil characteristics, observations and relate what you find to the crops and production of your farm. Also, practice and soil texture test with the ribbon on a few different areas of your host farm. Observe your results. |
| **June 20****9:00 to 5:00****Twin Vista Ranch****Marrowstone Island** | Soils & Nutrition | Soils, structure, green manure, cover crop | Chris Benedict, WSU | **Instructional Focus:** *Cover crop basics, selection, nutrient management, rotational integration, pests, and reduced tillage***Reading:** Managing Cover Crops Profitably (pages 9-24) Building Soils for Better Crops (pages 87-96)Crop Rotation on Organic Farms (not required, but great resource)Webinar (not required, but great resource)http://www.sare.org/Learning-Center/Project-Products/Northeast-SARE-Project-Products/2013-Cover-Crop-Innovations-Webinar-Series/Nitrogen-Management-with-Cover-Crop-Mixtures**Independent homework:**  |
| **June 25th****Tuesday****9:15 to 4p****Meet at SRF at 9:15 am** | Livestock | Humane Slaughter & Butchering | Julie Boggs& Puget Sound Meat Cooperative | **Instructional Focus:** *Mobile Slaughter at Farmer George’s in Port Orchard, Minder Meats* |
| **June 25th** | June Reflection Session |  | WSU | Bring your journals and observations along with completed homework assignments. Pest Log**Discussion question:** Think about nutrient balance on your farm. Where do the nutrients in the soil come from? Where do they go? Is this sustainable? How closed is the cycle on your farm?It’s a busy time on most farms and marketing all those products is big on everyone’s mind. Think about the homework from your session at the CCF be ready to talk about the five things that your farm does exceptionally well that you wrote about in the marketing proposal for Rob. |
| **July 4****9AM-Noon**Mystery Bay Farm | Livestock | Haying | Scott Brinton | **Instructional Focus:** Haying**Reading: Independent homework:** |
| **July 4****3:00 to ??** | FIELD BBQ |  | SpringRain Farm | **All FIELD BBQ starting at 3:00 pm** |
| **July 11****9:00 to 5:00** | Crop Production | Post-Harvest Handling | John Bellow | **Instructional Focus:** Maturation, ripening, harvesting and proper handling of agricultural production for fresh sales**Reading: Independent homework:** |
| **July 18****9:00 to 5:00** | Marketing and Business Planning | Accounting and Finance Basics  | Jim Rueff | **Instructional Focus:** *Accounting in a nutshell***Required Reading:** Farm Business Records: An Introduction **Independent homework:**  |
| **July 25****9:00 to 5:00** | Livestock | Large Animal Husbandry  | Julie Boggs | **Instructional Focus:** AI, handling large animals, breeding**Reading:****Independent homework:** |
| **July 25****7:00 to 9:00** | July Reflection Session |  | WSU | Bring your journals and observations along with completed homework assignments. Bring your pest log and be ready to talk about it.**Discussion questions:** What pests are on your farm? How does your farmer mentor plan to handle them? How has he/she prevented a large outbreak? You are learning about a lot of different animal systems on farms: poultry, goats, and large animals like cows. What do you see are the benefits and drawbacks of each type of farm animal--what do they allow you to do and what do they keep you from doing? How do they integrate into other activities on your farms? What are the economics of each animal system--what sorts of inputs are needed and what sorts of paybacks do you get? |
| **August 1****9:00 to 5:00** | Business Planning | Enterprise Budgeting  | John Bellow | **Instructional Focus:** Formulation of economic characterizations of agricultural production practices and analysis of profit margins and feasibility. **Interns should bring their laptops as we will use Excel in the hands on portion of the class.****Reading: New Agricultural Business -** [**New Agricultural Business**](https://docs.google.com/file/d/0B8fIZ3nMArMrbldMcXU2OWJZQ00/edit?usp=drive_web)**Independent homework:** *Develop a simple enterprise budget related to your independent project, your farm focus area, or a production enterprise that interests you.* |
| **August 8****9:00 to 5:00** | Integrated Farm Production Systems | Crop Productivity **–** Role of light, water, and temperature on crop growth and development  | John Bellow | **Instructional Focus:** *Consideration of the role of external driving factors on the farm agroecosystem and their impact on productivity; climate change and agriculture***Reading: Independent homework:** |
| **August 1510:00-12:30 Ananda Hill****Lunch at Taylored Fibers 2-5:00p** | Livestock | Sheep Production Systems  | Jennie WatkinsBarry Taylor | **Instructional Focus:** *Sheep for meat and fiber***Readings:** ATTRA Sheep, Hair Sheep**Independent homework:**  |
| **August 22****9:00 to 5:00** | Adding Value in Farm Production Systems | Overview of Food Production & Preservation  | Nancy Edgerton | **Instructional Focus:** *Eating Locally & Seasonally, Canning Fruit and Pickles***Required Reading: “**Preventing Foodborne Illness”**Independent homework:** |
| **August 29****9:00 to 5:00** | Adding Value in Farm Production Systems | Intro to Beekeeping (3 of 4)  | John Bellow | **Instructional Focus:** *Diseases and pests of the honey bee and honey production - Fall management of hives and apprentice exam* **Reading:** Fruitless fall, Keeping Bees that keep themselves, Beekeeping IPM **Independent homework:** evaluate the status of colony health at your host farm or elsewhere |
| **August 29****7:00 to 9:00** | Aug Reflection Session |  | WSU | Bring your journals and observations along with completed homework assignments**Discussion question:** How is climate change affecting agriculture? |
| **September 5****9:00 to 5:00** | Adding Value in Farm Production Systems | Micro-dairy operations/cheese making | Rachael Van Laanen | **Instructional Focus:** Micro-dairy management, cheese/yogurt productions systems. How to evaluate whether you’re adding value or not.**Reading:** Storey’s Guide to Raising Dairy Goats: Ch.2,8,13,16, Appendix B, C, DPlease familiarize yourself with the material on the Mystery Bay website: [http://www.mysterybayfarm.com/](http:///h)**Independent homework:** Pick a dairy product (local or otherwise) that you like and research its origin/story/production details etc. Also note its retail cost. |
| **September 12** | Farm Tour | On individual farms |  | **Interns will remain on their host farms assisting their farm mentor to prepare for the upcoming farm tour event** |
| **September 19****9:00 to 5:00** | Marketing and Business Planning | Planning a New Agricultural Business | Jim Rueff | **Instructional Focus:** Business Plans, Acquiring land and financing the purchasing of a farm or starting an agricultural business**Reading:** Read “Business Plan Info” under Finances on google docs[**http://cru.cahe.wsu.edu/CEPublications/eb1904/eb1904.pdf**](http://cru.cahe.wsu.edu/CEPublications/eb1904/eb1904.pdf) **REQUIRED****Resources:**[**http://www.bplans.com/agriculture\_farm\_business\_plan/executive\_summary\_fc.cfm**](http://www.bplans.com/agriculture_farm_business_plan/executive_summary_fc.cfm)[**http://www.bplans.com/farm\_and\_food\_production\_business\_plan\_templates.cfm**](http://www.bplans.com/farm_and_food_production_business_plan_templates.cfm)[**http://www.mastercard.com/ca/wce/PDF/bro\_develop\_business\_plan.pdf**](http://www.mastercard.com/ca/wce/PDF/bro_develop_business_plan.pdf)[**http://www.mainesbdc.org/train\_register.cfm?group=142642&name=Developing%20Your%20Business%20Plan**](http://www.mainesbdc.org/train_register.cfm?group=142642&name=Developing%20Your%20Business%20Plan)**Independent homework:** |
| **September 26****9:00 to 5:00** | Crop Production | Season Extension | Jesse Hopkins | **Instructional Focus:** **Reading:** *Elliot Coleman – Four Season Gardner***Independent homework:** |
| **September 26****7:00 to 9:00** | Sept Reflection Session |  | WSU | Bring your journals and observations along with completed homework assignments. Pest Log**Discussion question: XXX** |
| **October 3****9:00 to 5:00** | Adding Value in Farm Production Systems | Intro to Beekeeping (4 of 4)  | John Bellow | **Instructional Focus:** *Diseases and pests of the honey bee and honey production - Fall management of hives and apprentice exam* **Reading:** Fruitless fall, Keeping Bees that keep themselves, Beekeeping IPM**Independent homework:** evaluate the status of colony health at your host farm or elsewhere |
| **October 10****9:00 to 5:00** | Crop Production | Seed Saving  | Steve HabersetzerJadyne RiechnerLaura Lewis | **Instructional Focus:** *Gathering and cleaning seed; plant breeding basics***Reading:** Seed Saving Guide**Independent homework:** Work with your host farmer to identify some appropriate crops from which to save seed and save some. |
| **October 16****(Wed)****9:00 to 5:00** | Food Systems | Community Supported Agriculture (CSA) | Sunfield | **Instructional Focus:****Readings:****Independent homework:** |
| **October 24****9:00 to 5:00** | Farm Infrastructure | Alternative Energy |  Al Latham | **Reading:**[https://attra.ncat.org/attra-pub/farm\_energy/index.php](http:///h)[http://afsic.nal.usda.gov/farm-energy-options-0](http:///h)[http://www.farm-energy.ca/IReF/index.php?page=technologies](http:///h)[http://www.nrel.gov/learning/farmers\_ranchers.html](http:///h)[http://backwoodssolar.com/](http:///h) click on home power basics & reference material**Independent homework:** Examine the farm you are on. What energy systems are in place? Where does the farm get its energy? What potential is there for renewable energy?  |
| **October 24****7:00 to 9:00** | Final Reflection Session |  | WSU | Bring your journals and observations along with completed homework assignments. Pest Log**Discussion question: XXX** |
| **October 31****9:00 to 5:00** | Soils and Nutrition | Adding fertility to soils | Sunfield | **Instructional Focus:** Composting and Organic Material**Reading:****Independent homework:** |
| **November 7****9:00 to 5:00** | Adding Value in Farm Production Systems & Innovative Financing  | Making Cider and fruit beverages  | Keith and Crystie Kisler | **Instructional Focus:** Making Cider and fruit beverages**Reading:****Independent homework:** |
| **November 14****9:00 to 5:00** | Livestock | Rabbit Husbandry | Cheri VanHooverRocky Day | **Instructional Focus:** Techniques for small scale rabbit production for meat**Readings:** Pastured Rabbits, Rabbit Housing Manual**Independent homework:** |
| **November 21****9:00 to 5:00** | Crop Production | Winterizing | Janet Aubin | **Instructional Focus:** Draining water lines, putting things to bed, (root) crop storage, **Reading:** **Independent homework:**  |
| **November 22? 24?****Evening** | Graduation Celebration |  |  | **Graduation Celebration & Presentation of Independent Projects** |