Looking to the Future- Small Farming for Food Security

Bertrand Farm Inc Internship

Greetings! You are invited to embark on what could be a life changing experience. Our mission at Bertrand Farm is to connect people to their food and to promote health and sustainability in food production. We work with all age groups in educational programs that bring people like yourself into hands on experience aimed at broadening your skill set for organic food production and expanding your mind regarding our shared responsibility in making healthy food available to all people.

Bertrand Farm, Inc. is a not for profit educational farm. We partner with other local mentor farms to provide an internship program that includes multiple farming styles, all small and local. We believe the future of a healthy and adequate food supply will depend on these farms. Our internship program, “Looking to the Future: Small Farming for Food Security” will present the ins and outs of running small organic food production farms and will expand awareness of issues that surround our industrial food production and the challenges for the future of food security in our communities. We encourage students interested in agriculture to apply and also welcome those who are pursuing other paths that involve food nutrition. These can include: food services, restaurant and hotel management, the medical fields, education and any others. Our internship program is intended to give you a greater understanding of your power to influence food production and health in your future.

We offer an Experiential Teaching Internship for education majors as well. In addition to the farm curriculum a teaching component with practical experience is included. Interns pursuing this program will have an opportunity to shadow our Farm to School programming during the 2012-13 school year.

Working at area mentor farms interns will gain hands-on experience and knowledge in a variety of practical farming and gardening skills. Our farm mentors will provide experience in organic vegetable and fruit production, livestock management, beekeeping, and small scale dairying. Interns will be actively engaged in the entire food production cycle from planning to distribution. The educational component is entwined in all field work and consists of weekly meetings that include lectures, demonstrations, movies, presentations and offsite farm tours. Most interns work 40+ hours each week for 12 weeks, including 15 hours in educational components, reading, and curriculum development. **Interns will be selected based on their ability to commit full time to the opportunities presented.** An additional requirement for 2013 is completion of at least 2 educational modules that will allow an in-depth knowledge of specific topics; as well as gain experience in curriculum development.

We encourage students to apply for intern grants from their Universities and outside organizations. Some housing opportunities are available. When grants aren’t available we offer a small stipend, and lots of fresh produce. School credit should be pursued by the intern through their college or university. We make every effort to be helpful in the process.

ORGANIC FARMING FOR FOOD PRODUCTION

PURPOSE: To gain experience in vegetable, fruit and meat production using proven organic practices that are mindful of sustainability with regards to the environment, the availability of affordable fuel and the future food security needs of our local communities; To experience a variety of successful small scale, food producing farming styles; To know the steps, from planning to market, for food farming. To understand food security issues that necessitates growth in small farming everywhere.

DUTIES AND RESPONSIBILITIES:

* Daily fieldwork will include animal maintenance chores and farming practices
* Using farm equipment including hand tools, sprayers, tillers and driving farm tractor
* Keeping detailed records on all farm activities, including a personal journal
* Participation in weekly educational modules separate from daily work including: presentations, seminars, farm tours, and movies
* To read Mini-Farming: Self-Sufficiency on ¼ acre by Brett L. Markham, selected articles and suggested web pages on sustainable agriculture topics; view you-tube videos on organic farming, as assigned
* Experiential Teaching Interns are required to purchase and read Last Child in the Woods by Richard Louv, and Positive Discipline in the Classroom by Jane Nelson, Lynn Lott and Stephen Glenn and participate in a discussion group on said books
* All Interns are required to purchase Rodales New Encyclopedia of Organic Farming
* Create & present powerpoint presentations on at least 2 curriculum modules of their choice.

REPORTS TO: Therese Zimmerman-Niemier Bertrand Farm Inc, Director [www.bertrandfarm.org](http://www.bertrandfarm.org)

Charlotte Wolfe Prairie Winds Farm Owner, [www.prairiewindsnaturefarm.com](http://www.prairiewindsnaturefarm.com)

COOPERATIVE RELATIONSHIPS: Local Organic Small Farms, Monroe Park Food Co-op

POSITION REQUIREMENTS:

* Open to Seniors in High school and University age students; Must be 18.
* Candidates should have an interest in food production/organic farming or education.
* Able to work hard mentally and physically; required lifting can reach 50lbs.
* Able to work well as a team member and independently
* Able to work minimum of 12 weeks, start date May or early June (and sign intern contract)
* Able to attend 5 Saturday seminars, 3 spring & 2 Falls

**APPLICATION FOR INTERNSHIP: Looking to the Future: Small Farming for Food Security**

**Application: please submit via email to Bertrand Farm, bertrandfarm@yahoo.com**

Name:

Address:

Phone:

Email:

What is your availability, beginning and ending dates?

## Please answer the following questions in a separate, informal essay:

1. Why are you interested in this position?
2. What previous experience are you bringing to this position and what practical skills do you hope to acquire? Please include any background checks you have available (scouts, 4-H); first aid certification; related course work; computer skills; gardening experience; or other certifications or skills.
3. What are your personal goals related to agriculture?
4. We raise animals for meat on the farm. What is your perspective on the role animals play on a small farm?
5. What farm tools/machinery do you have experience using?
6. Will you need help finding housing in the area?
7. Do you have any allergies, food restrictions, or physical limitations that might affect your ability to work in a rural setting and do farm work?
8. Please tell us something interesting about yourself (hobbies, pastimes, travels, etc.)
9. Please provide telephone numbers and email addresses for 3 references not related to you and who know you personally. If possible, include a previous employer
10. Please attach a current resume; include any course work you consider relevant.

Thank you for sharing this information. We will be in touch with you regarding a telephone interview, but please feel free to follow up with an email or phone call.

**SEASONAL BREAKDOWN OF INTERN WORK**

EARLY SPRING

Tasks include: inventory and organization in buildings; building season extension tunnels; season extension with low covers on boxed gardens; preparation of early beds for cold season crop areas; seeding trays and transplanting cool season starts; greenhouse maintenance; for farms that raise fruit trees, we begin our organic spray schedule; direct seeding for early crops such as sweet peas; spring cleaning and composting of manured areas as the material begins to thaw; soil testing for summer crops.

SPRING

Expect to begin making and spreading compost, continue preparing beds for cold season crop areas, planting of cold season starts and direct seeding, green house maintenance and seed starting of warm season crops, building chicken tractors and raised bed boxes, preparing and constructing trellis support systems, cloth mulching, green manure and pasture seeding, and pasture/fence maintenance. Rotational grazing begins with frequent moving of animals onto freshly growing pasture areas. Goats will need to be milked as soon as kids are born.

You Tube video playlist: http://www.youtube.com/user/PrairieWindsFarm#grid/user/1BD038611837CA65

SUMMER

Summer tasks include: Compost care and spreading; staggering of warm season vegetable plantings and seed starting; undersowing of cover crops into garden beds; preparing compost tea and spraying for foliage feeding; crop care for weeds and diseases; maintenance of garden mulches; early harvesting; cleaning, storage and distribution of produce to CSA’s and farm market outlets; seeding for fall harvest and preserving produce and fruit as it is available.

You Tube video playlist: http://www.youtube.com/user/PrairieWindsFarm#grid/user/660D9D9990B91156

FALL

Tasks include: season extension by planting fall starts and direct seeding; cover crop plantings; plantings of overwintering bulbs such as garlic; breakdown and storage of hardware; cleaning tools; draining hoses and other equipment maintenance; preserving of tomatoes and other high volume warm season crops; slaughter and processing of poultry and hogs; soil testing for early spring crops; compost tea ground soaking; compost and mulch spreading.

You Tube video playlist: <http://www.youtube.com/user/PrairieWindsFarm?feature=mhum#g/c/AD6371E0DAB67F81>

WINTER

When we raise livestock, work continues throughout the winter season: feeding, watering and manure cleanup. We tally our year end accounts, conduct marketing research, work on community projects such as the growers cooperative or bringing local food to low income neighborhoods, develop crop rotation plans, order seed, plants/trees, and supplies, create working calendars for staggered plantings, build a greenhouse or make other farm facilities. We also check and maintain any machinery being used and repair/replace broken tools. Attendance at grower conferences and trade shows allows us to keep our skills up to date and network with other growers. We also exhibit and advertise our farms and products. Cool season seeds can be planted in trays in late winter.

You Tube video playlist: http://www.youtube.com/user/PrairieWindsFarm?feature=mhum#p/c/440FC0EC6A2B6689

**Bertrand Farm Inc Internship Program: Looking to the Future: Small Farms for Food Security**

**WORKSHOPS/CURRICULUM**

The Bertrand Farm, Inc. intern program uses the Western Sustainable Agriculture Research & Education (SARE) Farm Internship Curriculum ([**http://attra.ncat.org/attra-pub/complant.**html](http://www.google.com/url?q=http%3A%2F%2Fattra.ncat.org%2Fattra-pub%2Fcomplant.html&sa=D&sntz=1&usg=AFQjCNGS4sjLz2QeS8A2qSWgv8eMIy50yQ)). It contains 27 modules of sustainable agriculture topics that are integrated into our field studies, workshops and Weekly Meeting presentations. We include several of our own modules and are updating, with the help of the interns, the SARE modules to reflect our specific farm situations when necessary. The modules that are covered in each workshop session are listed in parentheses after the workshop description, with our own developed modules printed in red.

Most of our college interns aren’t able to work year round on the farm. By including 5 Saturday workshops, 3 in the spring and 2 in the fall, we are able to include the full growing cycle in our curriculum.

One of our suppliers, Peaceful Valley Farm & Garden Supply, has an excellent youtube channel with videos covering a variety of organic growing topics. Feel free to explore the site at any time during your internship. <http://www.youtube.com/groworganic#p/u/0/U1C_AAEf3lE>

**Spring Workshops: Saturdays, 10 a.m. to 3 p.m.**

Spring I **Plotting and Planning** (Bertrand Farm, April)

Pre-Reading: Chapters 1-6 in “Mini-Farming: Self-Sufficiency on ¼ acre” by Brett L. Markham Chapter 1 in "Permaculture Designer's Manual" by Bill Mollison

Youtube playlist: http://www.youtube.com/my\_playlists?p=D390931EE05F6217

Midwest Permaculture: [http://midwestpermaculture.com/](http://www.google.com/url?q=http%3A%2F%2Fmidwestpermaculture.com%2F&sa=D&sntz=1&usg=AFQjCNG4dkRhqpskWT4aGeUd5eFSRP6nlQ)

This first workshop will introduce interns to the basic concepts of organic farming and the Bertrand Farm, Inc. internship program.

Key Concepts:

* Basic strategies of organic farming
* Soil, soil testing, soil amending
* Biodynamic strategies and permaculture
* Crop rotation and companion planting
* Feeding the people/ growing styles
* Season extension

This working session will focus on pre-season planning. Crop rotation theory and practices will be discussed and used to develop a crop rotation plan for the current year. Field work will include season extension tunnel construction. (Modules: The History of Agriculture, Biodynamics , Permaculture and Agroecology, Soil Science, Community Supported Agriculture (CSA), Composting, Cover Crops).

Spring II **Looking Ahead** (Bertrand Farm, May)

Pre-Reading: Chapters 7-13 in “Mini-Farming: Self-Sufficiency on ¼ acre”

Youtube playlist: http://www.youtube.com/view\_play\_list?p=F9846211239BDC4A

Successful farming always involves planning ahead. Demands of the growing season leave little time for planning.

Key Concepts:

* Soil Amending
* Stagger planting
* Undersowing
* Manure and greenmanures
* Pest management
* Record keeping

This working meeting will use research from provided resource books and seed packages to create working calendars. Working calendars are made for each crop variety and serve as a guidance tool throughout the season. All working calendars specific to crops are compiled onto a master calendar for daily reference. Crop specific calendars are kept in crop folders that will also contain all the pest management and soil amendment record keeping. Field work will include planting green manures and seed starting. (Modules: Soil Science, Composting, Cover Crops, Direct Seeding, Weed Management, Working Calendars, Farm Records, Financial Records).

Spring III **The Birds and the Bees (**Prairie Winds Farm, June)

Pre-Reading: Chapters 15 & 16 in “Mini-Farming: Self-Sufficiency on ¼ acre”

Youtube playlist: http://www.youtube.com/view\_play\_list?p=72B535E16DE4D6AB

The small farm system includes livestock enterprises which can have a variety of benefits. This workshop will give an introduction to easing into livestock with poultry and bees. Poultry including chickens, turkeys, and geese can provide eggs & meat for the table, nutrient rich compost for vegetable crops, and insect control. Bee hives provide pollination for the crops and delicious honey for the home.

Key Concepts

* Care of baby chicks & adult birds
* Egg collection & sanitation procedures
* Poultry housing including free range poultry care
* Natural methods of disease prevention
* Inside the beehive

Field work will involve compost handling, geese & turkey nest box setup, and repair & setup of chicken “tractors” to be ready for meat birds pasturing. We will open an active beehive and learn about the seasonal cycle of care required for bee keeping. (Modules: Poultry, Entomology, Beekeeping).

**SUMMER WEEKLY MEETINGS – locations & content subject to change depending on availability**

**Greenhouse** June  **–** Clay Bottom Farm, Goshen- Interns will tour an organic farm and greenhouse. Field work will include soil mixing, soil blocking, seed starting and transplanting. (Modules: Greenhouse 101, Seeds, Transplanting, Soil Science, Starting Plants in a Greenhouse)

Youtube playlist: http://www.youtube.com/view\_play\_list?p=90590B56D0E0E930

**Conservation Techniques, Livestock on the farm** June - Prairie Winds Farm, Lakeville- View conservation practices including windbreak, wastewater wetland, prairie & wetland restoration, wind powered livestock watering and rotationally grazed pastures. Witness organic grass-fed livestock practices and discuss the differences in Industrial/commercial meat production. Discuss using heritage breeds of livestock as an integral part of the small farm system, and the value of preserving genetic diversity. (Modules: Goat Husbandry/Milking, Grazing systems, Permaculture and Agroecology, GMO’s (Genetically Modified Organisms), The History of Food & Agriculture). Movie: Fresh

Youtube playlist: http://www.youtube.com/view\_play\_list?p=DA22D44E3F8DF3C5

**Hedgerows and Orchards** June - Bertrand Farm- Discuss genetically modified (GM) crops and the genetic contamination issue for neighboring farms. Help create a property barrier between non-organic neighbors and the organic production practiced at Bertrand Farm. Field work will include installing a food producing hedgerow. (Modules: Permaculture and Agroecology, GMO’s (Genetically Modified Organisms), Hedgerows, Tree Planting, Weed Management, Irrigation Soil Science). Movie: Food, Inc.; Pre-Reading: Chapter 14 in “Mini-Farming: Self-Sufficiency on ¼ acre”

Youtube playlist: http://www.youtube.com/view\_play\_list?p=0B6AA743D9821C2C

**Global Food Issues** July –Tour of South Bend urban gardens and Holy Cross Village Unity Garden. Field work will include fulfilling gardening needs at the Holy Cross Unity Garden. Discuss social justice issues arising around food. Dinner at The Fiddler’s Hearth, a local

restaurant attempting to source its food locally from small organic farms. (Modules: Organizing 101: Farm & Food Advocacy, The History of Food & Agriculture). Movie: The Power of Community: How Cuba Survived Peak Oil

Youtube playlist: <http://www.youtube.com/view_play_list?p=691BF3128E3FA951>

**Preserving to Ensure Year Round Food Security** August  **–** Bertrand Farm, 2 day workshop- A look at some commonmethods of preserving produce, including: canning, freezing, dehydrating and fermenting. Day 1- Field work will include canning, dehydrating and freezing tomatoes and tomato based foods; Day 2 –Field work will include fermenting and lacto-fermenting with local practitioners. (Modules: Harve st/ Post harvest Handling and Food Safety). Pre-Reading: Chapters 19 in “Mini-Farming: Self-Sufficiency on ¼ acre”

Youtube playlist: <http://www.youtube.com/view_play_list?p=4E580600C34D69F4>

**Amish Style** August  **–** Natures Way Farm, Bremen- Tour an Amish sustainable small farm. See a solar powered hoop house, horse farming of vegetables & small grains, and a small scale dairy operation. Learn how to butcher chickens including safety, packaging and storage. Understand realities of daily life for those dedicating themselves to a low energy use lifestyle. Field work includes butchering chickens raised by interns, and helping milk cows. (Poultry, Weed Management, Milking, The History of Food & Agriculture, Harvest/ Post harvest Handling and Food Safety, Draft Horse Power) Pre-Reading: Chapter 17 in “Mini-Farming: Self-Sufficiency on ¼ acre”

Youtube video: <http://www.youtube.com/view_play_list?p=4606F384A95A1E05>

**Honey Harvest and Woods Work** August **,** Prairie Winds Farm- Discuss nectar sources while walking through the restored prairie in full bloom. Harvest honey from hives. Discuss sustainable forestry techniques and harvest firewood using draft horses. (Modules: Permaculture and Agroecology, Draft Horse Power). Student presentations of focus topics.

Youtube playlist: <http://www.youtube.com/view_play_list?p=053F6E312AAE554F>

**Fall Workshops: Saturdays, 10 a.m. to 3 p.m.**

**Garden Closure** (Bertrand Farm, September) Learn end of season tasks as the gardens are cleaned out of all hardware, water lines cleaned and stored, and the land is prepared for winter with a final compost tea soaking. Field work will include bringing in and storing the last of the fall harvest, garden clean up, tool storage, compost spreading and final record keeping entries. (Modules: Record Keeping, Financial Records). Continuation of student presentations. Pre-Reading: Chapters 21 in “Mini-Farming: Self-Sufficiency on ¼ acre”

Youtube playlist: <http://www.youtube.com/view_play_list?p=011A929F6F1A974D>

**Fall Season Extension** –(Prairie Winds Farm, October)- The implementation of hoop housing and cover cloths can extend the growing season of some produce nearly year round making fresh produce available and more affordable. Take a closer look at methods used locally for season extension and winter farming. Field work will include mini-hoop house maintenance and garlic planting. (Modules: Winter Farming, Weed Management, Composting). Student presentations.

Youtube playlist: <http://www.youtube.com/view_play_list?p=31A0846EDE99A9EB>

**Internship Contract**

**Bertrand Farm, Inc 3575 W Bertrand Rd Niles, MI 49120**

**Prarie Winds Farm 21439 Osborne Rd Lakeville, IN 46536**

**Parties Involved**

**Site Supervisor**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Phone\_\_\_\_\_\_\_\_\_\_ Email \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Address\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Intern**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Phone \_\_\_\_\_\_\_\_\_\_ Email \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Address \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Duration and Hours**

Start Date \_\_\_\_\_\_\_\_\_\_\_\_ End Date \_\_\_\_\_\_\_\_\_\_\_\_ Hours/week \_\_\_\_\_\_\_\_\_\_ **Payment**

Stipend \_\_\_\_\_\_\_\_\_\_\_\_\_

Housing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Site Goals**

* To efficiently and professionally conduct business as a Community Sponsored Agriculture enterprise using organic and sustainable practices.
* To reduce work load while providing a rich education to young adults.

**Intern Responsibilities**:

* Daily fieldwork to include animal maintenance chores and farming practices
* Using farm equipment including hand tools, sprayers, tillers and driving tractors.
* Keeping detailed records on all farm activities, including a personal journal
* Participation in weekly educational modules separate from daily work including: presentations, seminars, farm tours, and movies
* To read Mini-Farming: Self-Sufficiency on ¼ acre by Brett L. Markham, selected articles and suggested web pages on sustainable agriculture topics; view you-tube videos on organic farming, as assigned
* Experiential Teaching Interns are required to purchase and read Last Child in the Woods by Richard Louv, and Positive Discipline in the Classroom by Jane Nelson, Lynn Lott and Stephen Glenn and participate in a discussion group on said books
* Interns are required to make a presentation on a module of their choice.

**Supervisor Responsibilities**:

* Provide direction and training in organic farming practices and education.
* Conduct a weekly meeting for all interns to reference work and schedules.
* Provide appropriate space and materials necessary for work.
* Provide on going feed back and evaluation with the intern.
* Provide weekly teaching modules on agriculture sustainability topics
* Provide agreed upon stipend and housing
* Provide the intern with letters of recommendation and a professional reference
* Work with intern and college/university to provide needed documentation to secure academic credit for intern.

**Signatures:**

Supervisor\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_

Intern\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_

**Bertrand Farm Internship Program**

**RESOURCES:**

**Movies**:

The Real Dirt on Farmer John

Fresh

The Power of Community: How Cuba Survived Peak Oil

Dirt! The Movie

Food, Inc.

**Reading, articles & essays:**

A 50 year Farm Bill

50 million farmers

“Bringing it to the Table” by Wendell Berry

“Omnivore’s Dilemma” by Michael Pollan

article “Weed the Soil Not the Crop” by Anne & Eric Nordell

**Gardening Books:**

“Crop Rotation on Organic Farms: a Planning Manual” by Charles L. Mohler & Sue Ellen Johnson

Rodale’s Organic Gardening

“The Contrary Farmer’s Invitation to Gardening” by Gene Logsdon

“The 4 Season Harvest” and “The Winter Harvest Handbook” by Elliot Coleman

“Mini-Farming: Self-Sufficiency on ¼ acre” by Brett L. Markham

“You Can Farm” by Joel Salatin

“Gardening When it Counts” by Steve Solomon

“The Transition Handbook"

**Periodicals:**

The Small Farmer’s Journal; Seed Saver’s Exchange; Acres USA; Backyard Poultry; American Livestock Breeds Conservancy newsletters; Countryside Magazine & Small Stock Journal

**Additional Resources**

http://www.craftfarmapprentice.com/index.php?page=5

***Example Curriculum Module Outline***

**EXPERIENTIAL TEACHING ON THE FARM**

**Learning Objectives**

***The learner will….***

* Learn how to manage children in an outdoor environment. Understand the concept of nature deficit.
* Become familiar with the farms ability to provide cross curricular experiences
* Get experience using nature in lesson planning
* Participate in book discussion group including “Last Child in the Woods” by Richard Louv and “Positive Discipline in the classroom” by Jane Nelson, Lynn Lott and Stephen Glenn

**Field Work**

* Shadow farm camp guide for 3 weeks working with 7-13yr olds.
* Lead farm camp sessions for 5 weeks.
* Develop lesson plan for extended day activities for 4 – 8 weeks.
* Exposure to “Farm to School” programming during 2011-12 school year if desired.

**Experiential Teaching**

* Experiential teaching is project based education in practical life settings.
* Through the work the curriculum is presented and learned.
* Experiential teaching includes age appropriate curriculum including social development.

**Nature Deficit**

* The absence of nature including outdoor play, has caused a new condition in our youth known as “Nature Deficit Disorder”.
* The technology revolution has had a strong negative affect on many youth; including: lack of creativity, less or no routine physical exercise, a reduction of outdoor play and work.
* Research has shown that nature deficit contributes to: ADHD, Obesity, diabetes, lack of attention, cardiac risk factors and others.

**Farm as School**

* The farm environment is steeped in nature and ideal for all ages and subjects
* The farm is an ideal teaching environment that connects with all learning styles including ADHD students
* Simply being on the farm counter acts Nature Deficit Disorders
* The farm environment is ideal for teaching nutrition, earth stewardship and social skills including cooperative work, work ethic, conflict resolution, time management, community systems

**Learning Modules**

**Sustainable Agriculture Curriculum 11-27-12**

**With Permaculture Practices Integrated Through All; Sustainable Solutions to Common Practices**

**Modules Farm Leader(s)**

**History SARE curriculum**

**Building Soil Bertrand**

**-Compost/Organic Matter**

**-Compost Tea**

**-Cover Crops**

**-Primary Tillage Clay Bottom**

**Plant Propagation Bertrand**

**-Seeds- Heirloom, Hybrid, GMO**

**-Transplanting- fruit, vegetables**

**-Direct Seeding**

**-Greenhouse Clay Bottom**

**Crop Maintenance Bertrand & Clay Bottom**

**-Irrigation**

**-Weed management & edible weeds**

**-Plant pathogens- Diseases, insect pests**

**Small Animal Husbandry Prairie Winds**

**-Goats/small dairy**

**-Beekeeping**

**-Poultry – chickens, geese, turkeys, ducks**

**Grazing Systems Prairie Winds**

**-Rotational Grazing**

**-Intensive Grazing**

**-Livestock Watering**

**Tools Bertrand & Prairie Winds**

**-Hand tools**

**-Power tools –tractors, tillers, other**

**-Draft horses**

**Record Keeping Bertrand**

**-Working Calendars**

**-Financial Records**

**-Farm Planning- construction, business plan, profit analysis**

**-Marketing & Business Planning Clay Bottom**

**Conservation Practices Prairie Winds**

**-Water Capture**

**-Hedgerows & Windbreaks**

**-Forest Management**

**-Pollinator Habitat**

**Experiential Teaching Bertrand & Prairie Winds**