the Practical Farmer

Practical Farmers of Iowa Newsletter

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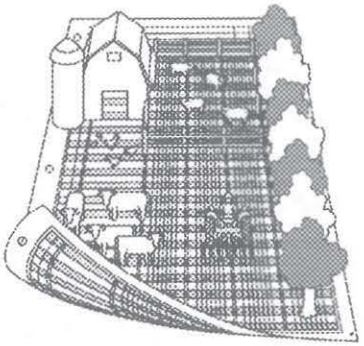
CAN YOU AFFORD A CROP ROTATION?

Richard and Sharon Thompson, Boone

Can a farm be sustainable and profitable at the same time? We try to be both, and we have kept records over the years to tell how different cropping systems are performing on our 300-acre farm. We try to make these results simple to apply by using standard custom farming costs for the field operations performed in each system and ISU figures for year-end commodity prices. This is a teaching model that can be used to compare systems while giving the farmer some privacy. If you worked up a similar analysis for your own farm, you would use your particular equipment and land costs.

We will focus here on a five-year and a six-year crop rotation. We also use custom charges and Boone County yield averages to construct a two-year, corn–soybean rotation for comparison. This rotational system is constructed using practices typical for our neighborhood, including use of the disk, chisel plow, and field cultivator. All systems use annual Boone County average land prices, and labor is charged at $7 per hour. A detailed version of this discussion appears in the Thompson Farm annual on-farm research report.



Our long-standing five-year rotation is corn–soybeans–corn–oats/legume–hay. It was used by Dick's father in the 1930s and '40s, and we re-adopted/adapted it ten years after we took over the farm. We have used ridge tillage in the row crop years, which has made the system much more profitable. Hay has been the leading money maker in this rotation.

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The return to labor and management (profit after inputs and land) has averaged $134.11 per acre, while corn following hay averages $115.57 (Table 1). The corn following soybeans has produced $129.43 per acre, the soybeans average $127.65, and the oats come in last at $74.14.

The six-year rotation has consisted of corn–soybeans–oats/legume–meadow–meadow–meadow. Four fields near the house have been used for this rotation, allowing us to graze two of these fields each year. In 1991, for example, 60 beef cows and their calves were pastured on 37 acres divided into 6 paddocks for a total of 222 cow-calf-unit-days. Corn stalks and oat stubble are grazed in this system, which increases the return for the rotation. We estimate grazing returns by taking the percentage of the year spent grazing times overall cattle net profits minus pasture establishment expenses and land rent. In 1995, the soybeans were dropped from this rotation so we would have three pastures each year out of the four fields. The rotation is now corn–oats/legume and five years of pasture, for a seven-year cycle.

All the extra charges (little foxes) end up to be a large cost (big fox in the hen house).

Table 1 and Fig. 1 summarize income and costs for each crop in the three rotations. The five-year and six-year rotations are based on the actual yields from the farm, while the corn–soybean rotation uses county averages. The cropping systems on our farm utilize ridge tillage in row crop years and no herbicides. The corn–soybean rotation, representing practices typical of Boone County, uses mulch tillage, broadcast herbicide and P and K fertilizer, and sidedressed N. We have not included government price supports in these systems.

The five- and six-year rotations have higher gross income than the two-year rotation because of higher corn and soybean yields and baling crop residue for the livestock operations. Our systems use more labor to haul manure and make hay, but at least wages paid stay on the farm. Because the longer rotations use more labor and less capital,

Saving on Corn Drying

Corn drying is another area farmers need to save some money. In 1992, our narrow crib safely stored 29% moisture ear corn. Figuring the yield of both systems as the Boone County average of 164 bu/acre, we calculated the savings in drying cost at $59.04 per acre. The additional pencil shrink would have exceeded true moisture shrink by $10.43 per acre. The elevator's priced-later option cost $8.20 per acre. These savings total $77.67 per acre (see below). Drying cost alone does not include harvest, handling, delivery or storage expenses. Taking these into account, on-farm ear drying and storage saved us $77.36 per acre in 1992.

Elevator vs. Ear Drying Costs

Elevator drying charge = $0.024/point

29% – 14% = 15% x $0.024 = $0.36/bu

164 bu/acre x $0.36/bu = $59.04/acre

Elevator "pencil shrink" = 1.4%/point

Actual moisture shrink = 1.18%/point

Extra shrink charge = 0.22%/point

15 points x 0.22%/point = 3.35% loss

164 bu/acre x 3.35% = 5.49 bu/acre

5.49 bu/acre x $1.90/bu = $10.43/acre

Price-later = $0.05/bu x 164/bu/acre = $8.20/acre

Total elevator drying costs = $77.67/acre

Combine harvest = $22.70/acre

Grain delivery = $10.82/acre

Storage = $16.40/acre

Total combine harvest, delivery, elevator drying and storage cost in 1992 = **$127.59/acre**

Total crib drying costs = $0.00/acre

Ear harvest = $17.10/acre

Grain delivery = $18.04/acre

Storage = $15.09/acre

Total on-farm ear harvest, delivery, and crib storage cost in 1992 = **$50.23/acre**

TABLE 1. NET PROFIT PER ACRE BY CROP AND FIELD FOR THREE CROPPING SYSTEMS. †

Year:	1989	1990	1991	1992	1993	1994	1995	1996	Average
Thompson Five-year C-SB-C-O-H Rotation									
Corn	22.22	3.14	12.72	101.50	111.65	129.17	339.47	204.72	115.57
Soybeans	90.51	85.01	70.81	116.61	100.24	215.53	182.81	159.65	127.65
Corn	112.34	42.92	97.13	111.87	-17.63	172.39	298.75	217.69	129.43
Oats	79.77	19.70	40.64	34.46	13.05	87.04	107.64	210.83	74.14
Hay	201.09	93.46	85.43	171.47	181.52	127.89	78.19	133.84	134.11
Average	101.19	48.85	61.35	107.18	77.77	146.40	201.37	185.35	116.18
Thompson Six-year C-S-O-M-M-M Rotation (now seven-year)									
Corn		67.87	82.99		139.64	181.06		254.80	145.27
Soybeans	71.18		92.55	135.13					99.62
Oats	111.63	32.44		37.67	-6.39	117.21	78.92		61.91
Meadow	97.63	102.56	139.49	109.46	29.89	31.91	-17.98	-7.39	60.70
Meadow	97.63	102.56	139.49	109.46	29.89	31.91	-17.98	-7.39	60.70
Meadow							-17.98	-7.39	-12.69
Average	94.52	76.36	113.63	97.93	48.26	90.52	6.25	58.16	73.20
Boone County									
Corn	-7.50	-61.31	-30.95	-23.38	-93.74	-25.87	110.34	3.91	-16.06
Soybeans	-25.39	-36.27	-44.79	-34.86	-64.55	-11.17	37.44	2.37	-22.15
Average	-16.45	-48.79	-37.87	-29.12	-79.15	-18.52	73.89	3.14	-19.11

† No government support payments included.

interest/opportunity cost charges are lower. Ridge tillage and the oats/hay seeding without cultivation reduce weed management and tillage costs (for example, by $44 in 1996) compared to the two-year rotation. We figure in 1996 we saved $26 per acre by spreading manure rather than purchasing fertilizers. One of the biggest cost differences is in corn harvesting and storage. In 1996, ear harvest, handling, storage, and crib drying of corn saved $31.76 per acre over combine harvest/handling/elevator drying, and in 1992 it saved much more

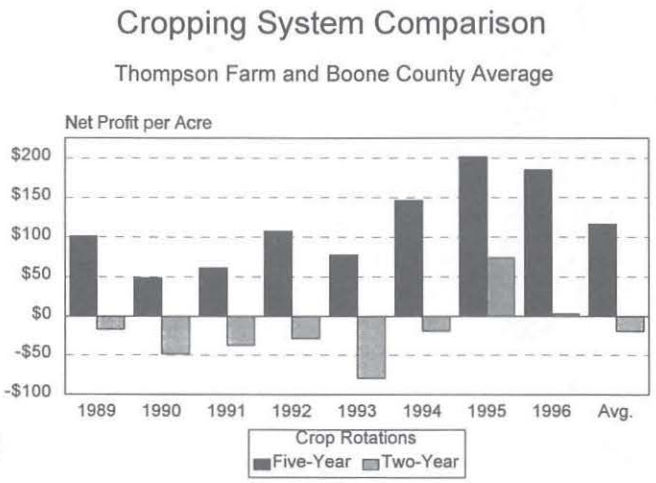


Figure 1. Five- and two-year rotation net returns.

WAIT! IS THAT ALL THERE IS?

What if this story cut off at the end of the page? You would miss the punch line, to say nothing of the critical information. Worse yet, what if your PFI newsletter cut off after this issue? That's exactly what will happen to 115 Practical Farmers of Iowa members who have not responded to last fall's membership renewal campaign. And just when PFI membership was set to top 600! Don't cut yourself off. Use the form on the inside back cover to renew your membership. You *know* that's *not* all there is!

(Continued on page 4.)

(see sidebar). All the extra charges (little foxes) end up to be a large cost (big fox in the hen house).

This accounting isn't perfect, but it does make it clear that profitability doesn't have to go out the car window on the road to sustainability. In fact, we find that a lot of low-cost options are also sustainable options in terms of their effect on the land.

PFI WINTER WORKSHOP REPORTS

If you were not one of the 240 people at the PFI annual meeting Jan. 3-4, you missed quite a bit: producer posters; Iowa-grown foods; Laura Freeman's keynote; and workshops featuring Iowa's best as well as out-of-staters who are breaking new ground in marketing and on-farm research. See the form on page 15 if you are interested in videotapes of the workshops. Notes from our recorders follow:

Monitoring Sustainable Agriculture with Conventional Data

Participants: Dick Levins and Mike Rupprecht of the Monitoring Team, (Doug Alert and Dave Lubben moderating)
Recorders: Don Davidson, Rick Exner

Mike Rupprecht is one of the farmers participating in the Biological, Social and Financial Monitoring team, a farmer-initiated research collaboration centered in southeast Minnesota. As Mike explained it, "We wanted to know what happens when you go to a grass-based system." That question has led to a wide range of monitoring inquiries, including, worm counts, fertilizer comparisons, bird counts, and tracking changes in the species mix of pastures.

Dick Levins described his background in economics and farm management as fairly conventional.

Dick Levins (standing) and Mike Rupprecht.

...farmers wanted tools to help them monitor what they wanted to do, not what someone else wanted them to do.

His world began to open up when he saw a video of a farmer who was changing farming practices for "family reasons." Levins realized that this kind of reasoning just didn't add up from a strict economics point of view. "Being profitable," to many economists, consists of simply "making as much money as you possibly can." But this is not the focus of many sustainable farmers. Through the Monitoring Project, Levins learned farmers wanted tools to help them monitor what *they* wanted to do, not what someone else wanted them to do.

Levins came up with four general indicators that a producer can use – in addition to profit – to track progress toward sustainability. These are described, along with some examples, in *Monitoring Sustainable Agriculture with Conventional Data*, a $7 booklet available from the Land Stewardship Project, 2200 Fourth St., White Bear Lake, MN 55110 (612-653-0618). Briefly, the four indicators are:

1) *What percent of your gross income is coming from the government?* This may not be a "sustainable" source of revenue, given changes in the political environment. Further, a high degree of dependence may mean you are "farming the program" instead of basing production on your farm's resources.

2) *What percent of your gross income are your energy and machinery costs?* These are the categories with the potential to cause "environmental mischief," said Levins. These expenditures also tend to leave the community directly, without passing from hand to hand the way that, say, money spent on skilled services would.

(Workshop Reports continued on page 9.)

SUSTAINABLE FAMILY FARMING

keynote presenter: Laura Freeman
recorder: Todd Kimm

Laura Freeman, founder and president of Laura's Lean Beef®, gave the PFI Winter Workshops keynote, entitled *Sustainable Family Farming*. Freeman shared her experience of launching this Kentucky business that today boasts $30 million in annual sales and works with a network of more than 100 farms in the Midwest and Southeast. Her line of products has gone from being offered at a small number of stores in central Kentucky to being available now in 15 states and over 1,800 stores.

Freeman advised PFI members to do as she did: "learn how to market to a niche;" her niche being the demand for "all-natural" lean beef. She defined "all-natural" as beef raised without antibiotics, growth hormones, fillers and additives.

Freeman returned to the family farm in 1982, after graduating from Yale and working as a journalist. The cattle operation, in the Freeman family for six generations, was a "mini-factory farm" that was losing $100,000 a year. Freeman combined her concerns about diet and the environment to come up with her niche idea, but like a lot of "sustainable types," she didn't know the first thing about accounting, capital, budgeting or cost control.

Freeman did, however, possess the understanding that she would have to "take control of the product." This led to direct delivery and intensive marketing.

Soon Freeman was meeting with non-agriculture entrepreneurs. "I tried to pattern the growth of the company on non-farming businesses," she said. Going outside the ag world for guidance is a type of "cross breeding" that overcomes tunnel vision and "really works," she added. Approach people who "have done what you're doing and have gone a little bit further." In 1991,

Laura Freeman at the PFI Winter workshops.

"Pick your niche carefully. Once you pick a niche you should stay focused on it and not stray from it very far."

Freeman went into partnership with John Tobe, former CEO with the company whose restaurants include Long John Silver's Seafood Shoppes. Tobe's marketing savvy helped Laura's Beef grow twenty-fold.

Other advice Freeman offered included:

- Pick your niche carefully. Once you pick a niche you should stay focused on it and not stray from it very far.
- Personalize your product. Freeman's face appears on her product's label. "Somehow I didn't want my head on a piece of meat," she joked; but the idea turned out to be a good one. Another idea is to use the farm where the product is produced as a way to personalize the product.
- The development of good sales representatives is important. These reps need to be well-trained and well-paid. Freeman's reps are responsible for educating store meat department personnel about her product.
- You don't need to be fancy when you start out, but you do need a message. You have to tell your story somehow. Once this message has been developed it can be spread through advertising, special promotions, etc.
- Use discounting and sampling to introduce customers to your product.
- Provide a link to your customers. Examples included an 800 number, a newsletter and farm field days.
- Team up with other organizations for events. Freeman gave as an example her company's participation in an American Heart Association heart walk.

SHARED VISIONS

farming for better communities

YEAR-END UPDATE

Shared Visions is a collaborative program of PFI, Iowa State University Extension, and the Leopold Center for Sustainable Agriculture. Funded primarily by the W.K. Kellogg Foundation, *Shared Visions* encourages the acceptance and use of farming systems that are environmentally and financially sustainable.

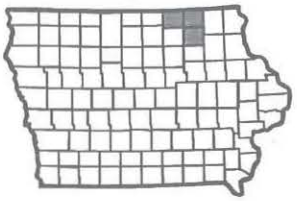
Shared Visions supports two networks. One is made up of farmers who conduct on-farm research, and the other is made up of community groups that receive funding and staff support to plan and undertake local projects. The first has been a feature of PFI since 1987, while the second is new.

Below are descriptions of fourteen groups that have been involved in the community groups network.

Ag Connect - Based in Lenox and covering eight counties, this group is implementing a beginning farmer program. Support from *Shared Visions* was used to promote the program and develop a database of retiring farmers.

Audubon Graziers - This group's goal is to demonstrate that management intensive grazing (MIG) can be profitable, sustainable, and improve the quality of life. Support from *Shared Visions* was used to conduct on-farm research on MIG, host a series of evening pasture walks, and develop a grazing library.

Cattle Feeders' Community Alliance - This Pocahontas County group is working to diversify local farms by bringing cattle back to the area. Their project involves developing the networks and partnerships to produce beef of superior quality and share the benefits of this quality among the parties involved.



Coalition for Holistic Agricultural Resource Management (CHARM) - This northeast Iowa group, which includes six farm couples and three non-farmers, is focusing on better decision-making through Holistic Resource Management (HRM) and the help of group members as a mentoring team.

Continued on next page.

Farm Fresh CSA - The goal of this Benton County group is to benefit local farmers, consumers, and communities by enabling local growers to market their fresh produce to members of their community. Their strategy for reaching this goal is to develop a CSA in the county. Support from *Shared Visions* was used for advertising, supplies, and administrative costs.

Farms Forever Group - This group's goal is to enhance communication between rural and urban citizens of Louisa County. Strategies to achieve this goal are: showcasing families engaged in successful alternatives, establishing an information-sharing network, and expanding markets for locally grown food. Support from *Shared Visions* was used for several evening visits to the farms of local families involved in alternative crops and farming practices.

Franklin County Rural Development Committee - This group, which began in February of 1995 as an effort to increase youth involvement in community activities, is focusing on working to add value to local livestock and crops.

Growing the Future - Members of this group who represent a cross-section of Jefferson County. Their initial project involved documenting three distinct types of alternative systems - transitioning to organic production, agroforestry, and alternative crops. The group has since been involved in a mentoring project to help farmers learn organic production techniques.

Magic Beanstalk CSA - This group's goal is to create a local food system, build community ties, and expand awareness of the relationships between food, land, and people. To achieve this goal, the group is developing a CSA. Support from *Shared Visions* was used to hold field days and collect information on labor requirements, harvest amounts, and profits.

Neely-Kinyon Farm Committee - This group has been planning research for a 160-acre farm south of Greenfield that was given to the Wallace Foundation for Rural Research and Development. Support is being provided by *Shared Visions* to investigate value-added options that will support area farm families and communities.

Prairie Talk - This group, which originated among some people from the Solon area of Johnson County, has developed a resource library on organic farming that is housed in the Solon Public Library.

The Promised Land Beginning Farmer Program - This group is working to establish a community-based beginning farmer program in the Grundy/Hardin County area. Support from *Shared Visions* is being used to develop the details on how the program will work, to create a guidebook for people wanting to start farming, to establish a system of community supports, and to test the program with a pilot operation.

Continued on next page.

Total Resources Management Services - This Carroll County group wants to develop options that will assure that livestock manure in the County is used wisely. They will be conducting an effort to determine the feasibility of a manure brokering system, and they will also be conducting an educational program on alternative hog production systems.

Tri-State Growers Alliance - Members of this group, who come from the Dubuque area, have developed a new direct-market outlet on the west end of Dubuque. They have also held several field days to help others learn connect practices for producing for local markets.

ANNUAL NETWORKING MEETING REPORT

Fifty-five group members representing all fourteen groups involved in Shared Visions attended the annual community group networking meeting. The meeting was divided into three sessions.

The first was a presentation by Peter Reese of Elko, Minnesota. Peter worked in marketing and advertising before making a career change to farming. "I was the guy in the Volvo, wearing a power suit and passing people on the shoulder to get where I was going. I thought I was so important." But something was missing and he and his family followed their longtime dream to move to the country and start farming.

In farming Peter had to learn from his new neighbors, and he wasn't afraid to ask questions. In trying to learn he was able to connect with his neighbors and found a community to belong to. He brought skills from his previous career to bear on his new life, including developing a lean pork product that provided much higher returns.

Agri-entrepreneur Peter Reese used a stuffed chicken toy to make a point at the Shared Visions conference.

Peter drew on these types of experiences to focus his presentation on the importance of vision, mission, and passion to success. He used concrete examples of each and challenged groups to remember all three of these ingredients for success and act accordingly. Judging from the responses of people attending, Peter's presentation was very well received.

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Following a noon meal that included organic vegetables and natural beef from members of two of the Shared Visions groups, members took part in a poster session. For this session each group prepared a poster on their activities before the meeting. Groups then took turns describing their groups, projects, and posters. It was an opportunity to learn what other groups

Members of *Growing the Future*, the Shared Visions group from Jefferson County, with their poster.

were doing and share information that could be useful their efforts.

During the final session Clair Hein, a community development consultant from Waterloo, helped groups address issues they are facing using something called the Human Action Model. Groups spent time analyzing how their members were working together and developing concrete actions to address issues that were most important.

Judging from evaluation comments of group members, the day was a success. Some of these comments follow.

"The conference was excellent with very useful information. Enjoyed the structure and hearing their needs similar to our own."

"Peter Reese was an EXCELLENT presenter. A great deal could be gained. Also very much enjoyed hearing about various projects of the Shared Visions groups. VERY interesting."

"What I found useful was the presentation about group dynamics and how groups succeed and sustain themselves. This was a good reality check."

"Thanks for getting us going as a group. I have no doubt we will continue to function in the future."

(Workshops, continued from page 4.)

3) *What percent of your gross income goes to support local families, including but not limited to your own?* Levins commented that, in reaching the point where modern agriculture could "feed everyone but employ no one," rural communities were sacrificed. For there to be a sustainable agriculture, the fabric of rural life must also be sustained through jobs.

4) *Balance of feed production and use.* There needs to be a balance between feed production and feed use, said Levins. An imbalance toward feed production leads to dependence on distant markets and distant production inputs. Feed consumption without production leads to its own dependencies, and manure becomes a problem rather than a resource.

These four indicators are merely guides, not hard and fast rules. Used over time they can show trends and stimulate your thinking, he said.

In discussion the question was raised, "What if you put values on the 'hidden costs' of agriculture? Will the marketplace then cause people to farm more sustainably?" Levins acknowledged that this is one approach economists take in an attempt to make sustainable agriculture "rational." However, he said, it does not adequately explain the motivations of the farmers he has worked with in the Monitoring Project. Their judgements involve a "balancing act" of many considerations; this is so much more complicated than a single-goal system that it defies quantification by traditional economic methods, said Levins.

A comment from Ray Stonecypher at the annual business meeting.

(Workshop Reports continued from page 9.)

CSAs and Direct marketing

Participants: Virginia Moser, Benton County Farm Fresh CSA; Angela Tedesco, Des Moines; Shelly Gradwell, who is responsible for ISU Extension displays and publications concerning CSAs; Jeff Hall, who is responsible for a grant enabling statewide support for a network of CSAs to be called The Iowa Network for Community Agriculture.
Recorder: Jill Hoben

CSAs are much more than members providing weekly fresh vegetables to shareholders. CSAs involve building a sense of community, connecting people to land and to each other. CSAs in Iowa

Recognition Due

Dennis Keeney, Director of the Leopold Center for Sustainable Agriculture, was awarded the Sustainable Agriculture Achievement Award by PFI Vice-President Jeff Olson.

Vic Madsen, PFI President from 1993-1995, received a plaque honoring his service from President Dave Lubben. Vic and his wife Cindy farm near Audubon. On January 4, Donna Bauer, Audubon, was elected to take Vic's place on the PFI Board.

KEENEY RECEIVES SUSTAINABLE AGRICULTURE ACHIEVEMENT AWARD

Dennis R. Keeney, director of the Leopold Center for Sustainable Agriculture at Iowa State University since the Center's inception in 1988, received the 1997 Sustainable Agriculture Achievement Award from the Practical Farmers of Iowa at their annual meeting in Ames on January 3. The award is presented each year to an individual who has advanced the cause of profitable, environmentally sound agriculture in Iowa.

Keeney is a professor of Agronomy and Agricultural and Biosystems Engineering at Iowa State University and also directs the Iowa State Water Resources Institute. He holds B.S. and Ph.D. degrees from ISU and a M.S. degree from the University of Wisconsin. His research specialties include the chemistry of soils, the cycling and efficient use of nitrogen, land application of wastes, and soil as a source of nitrous oxide.

have grown from 2 in 1994, to 11 in 1996, to probably more than 20 in 1997!

Tips and topics covered in the discussion: research and planning ahead; staggered plantings and compatible plantings to extend the season; Extension publications and networking with other CSAs. Also: listen to the consumer/customer – what and how much they want. Definitely include a newsletter with deliveries of produce. Include recipes and what's going on at the farm. Economic opportunities are out there for both small and large CSAs.

Alternative Hog Production Systems

Participants: Colin Wilson, Homer Showman, Jay Harmon (ISU), Vic Madsen and Jeff Olson moderators
Recorder: Mark Roose

Colin Wilson: Swedish system and pasture system

- construction details: 100 ft x 48 ft, 12 ft ceiling, with four rooms, 4-in concrete walls
- 11 sows per 24 x 48 ft room, in "boxes" or pens
- fronts are removed when pigs venture out for the first time
- sides are removed when all the fronts are gone
- pigs weaned at 5 weeks
- pigs stay in the building from birth to 9 weeks
- water on south side, feed on north side
- natural ventilation in summer, power ventilation in cold weather
- fans on the end of the building are attached to ducts in the attic, so no noise to pigs

Homer Showman: six 30 x 70 ft hoop structures

- 4-in walls, posts on 6-ft centers
- double curtain structure: slightly better feed consumption in cold weather
- hoop structure: fewer deaths, rate of gain better
- 75 6x5-ft round cornstalk bales per year per shed
- 100 bales this winter due to wet stalks and high humidity

Jay Harmon (ISU Ag & Biosystems Engineering)

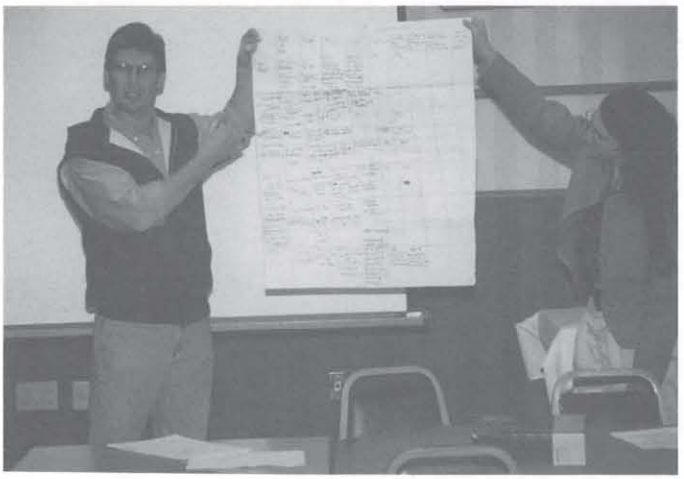
- shared data regarding environment in the hoop structure at the Rhodes Research Facility

Systems Research

Participants: Allen Williams and Michelle Wander (IL), Mike Rupprecht, Jay Dorsey (MN)
Recorder: Jenny Aquino Kendall

Two examples of applying a systems research model to farming enterprises were discussed. The focus of systems research is to bring together the land manager and the public concept with the scientific concept, so that the information generated at the university level goes through a practicality test. Says Michelle Wander, "If I never deliver the information to the farmer, it can't be used, and so the research fails." Michelle, a soil scientist at the University of Illinois, has been working with Allen Williams on developing soil health indicators. Allen

Another thing that distinguishes this 'systems approach' from the typical approach was the participation of Illinois farmers before the beginning of the project.



Michelle Wander helps Jay Dorsey with a chart showing assessment of different research areas.

says "I started doing one-at-a-time testing on my farm, but once I began working with Michelle, I started focusing on the overall soil health. My benchmark is the natural state of soils, and comparing how well my soils stack up."

Michelle wants to help Allen through developing soil health measurements that will enable Allen's and other farmers' decision making. This collaboration takes the agricultural research several steps further than the typical research. Rather than focusing on some soil average, the intent is to find measurements that will indicate what direction and what steps the farmer can take to increase overall soil health. Another thing that distinguishes this 'systems approach' from the typical approach was the participation of Illinois farmers before the beginning of the project. A process was established that enables Michelle and other scientists to maintain continuing communication between farmers and university researchers.

This up-front calling together to a common meeting ground is again a distinguishing aspect of the systems research approach discussed by Mike Rupprecht, a Minnesota farmer, and Jay Dorsey, a graduate student in soil science at the University of Minnesota. Mike is implementing a 'whole systems' approach to stewarding his farm. Says Jay, "Before beginning, we ask ourselves, 'Are we asking the right questions?' and we keep asking ourselves this question.... good research always generates more questions." Part of this systems approach involves the Monitoring Project, which is farmer-motivated. For example, the Minnesota farmers began to ask "Why are there so many toads with 6 legs?" The Monitoring project seeks to increase awareness and improve people's observational skills, both for the university researcher and the land steward.

One of the district membership caucuses at the Winter Workshops Jan. 4.

"Before beginning, we ask ourselves, 'Are we asking the right questions?' and we keep asking ourselves this question...."

One surprising and welcome outcome of the systems approach for Mike has been the coming of Bluebirds to the Rupprecht farm. Bluebirds had never been seen before. Mike noticed that Bobolinks nested in his extended rest MIG pasture. Through observation, he has seen how the presence of animals helps to establish grass and seedlings.

What's Ahead for PFI?

Participants: Richard Thompson, Gary Huber
Recorder: Jenny Aquino Kendall

Dick Thompson began the session on the direction of PFI by showing the numbers of the past and present – the amounts of grants and monies received and disbursed since the inception of PFI. He noted how PFI is now at a critical juncture as far as determining how PFI will function in the future and pay for its functions as well. "The lesson here is diversify, diversify, diversify. Our future will include more partners (than we have had in the past), and if we are successful, there will be more players."

Gary Huber then unveiled the new PFI logo with its sound bite of "Farmers helping farmers make decisions." One comment on the logo was made, that ..."maybe it should say 'good' or 'better' decisions – since not all decisions are good decisions!" Gary then discussed the key points of the strategic plan that PFI has been working on with consultant Duane Sand. In general, PFI needs to take the lead and be proactive in determining the direction of PFI in order to make the most of strategic opportunities that arise. For the strategic plan and hence the structure of PFI to continue to work,

Our future will include more partners (than we have had in the past), and if we are successful, there will be more players."

it's going to continue to need good leadership and management.

One idea that PFI is close to being able to put together is cooperative alternative marketing for farm products. PFI is also beginning to explore the partnerships that can help to make things happen.

Some concern was expressed on the part of the attendees as to the nature of the proposed partnerships. "Let's be careful who we partner with," and "we don't want the tail wagging the dog" were some of the sentiments expressed by PFI members in attendance. Also raised was "How are these partnerships going to aid the person in high school who says 'I want to farm'?". Another member mentioned that "...it has always been PFI intention to open the door rather than close the door to other organizations." And members also "...hope that we maintain the uniqueness of the PFI organization, especially the research and education."

Duane Sand mentioned there is incredible pent-up consumer demand for the activities of PFI, especially as our society moves toward a market, rather than government driven way of doing business. "... seven years down the road, all of Iowa is going to need what PFI already understands."

Marketing and Your Quality of Life Goals

Recorder: Jenny Aquino Kendall
Participants: Bill Burrows, (Dennis Abbas and Tom Frantzen moderating)

Bill Burrows is an energetic cattleman, teacher, and 'agri-preneur' from California who shared his life values and marketing successes with a slide show and good discussions. Bill practices Holistic Resource Management and credits this systems approach with saving the ranch. He talks enthusiastically about converting sunlight energy through his cattle, which in turn are his grass managers. Bill gave several examples of observing and thinking about how his cattle could do work that normally is handled through large machinery, such as using cattle to save 'head cuts' (erosion gullies) in his pastures.

The focus of the talk, however, was on marketing what you have, and marketing in accordance with your own values, whatever they are. He cautioned people not to take his ideas and directly apply them – they wouldn't work, unless they were completely in line with your values. He began his marketing strategy by throwing a huge barbecue for his neighbors, friends, and anyone who would come, and they had a brainstorm session about what sorts of activities/products people would pay for. Bill continues to brainstorm with his clients, and views his clients as his partners.

The Burrows ranch makes the bulk of its income from conducting supervised 'outdoor experiences.' Bill is careful to distinguish these outdoor experiences from hunting expeditions, and in fact will not allow trophy hunters on his place – "Trophy hunters don't fit in with my value system, and I only want clients who do fit in with my value system." So Bill first figures out his values, then seeks clients with those same values.

One of the outdoor experiences at the ranch is hunting ground squirrels. Ground squirrels are a huge problem and damaging pest. People pay to come shoot the ground squirrels, which Bill then feeds to the wild pigs (also a huge pest). The pigs, he notes, understand the difference between rifle types, as well they might, because another experience he markets is hunting wild pigs. Through these experiences, Bill is able to provide recreation, steward the wildlife on his farm, care for his family, and have a great time doing it.

He cautioned people not to take his ideas and directly apply them – they wouldn't work, unless they were completely in line with your values.

One of the first questions to arise in the audience was "This is Iowa, not California, that would never work here, our customers aren't the same." Bill's response: "Investigate your own value system first, and market that." He also noted that he didn't market within a 300 mile radius of his home – he draws his customers from cities farther away, and mentioned that Des Moines and Chicago were ready markets for the kinds of experiences that Iowa farm life has to offer. Bill also treats his customers as more than customers – they are his guests. "It all goes back to defining your value system first and having customers who can be more than customers, can be guests."

Another audience member commented, "The brainstorming session seems like a real good idea, especially the bringing in of people from far away to bring in new ideas." Bill said it works great, but you do need to exercise judgement and be selective. "Bring in people compatible with your own value system." He also says, "It's important to relate the money and funding sources to the ranch mission and values in order to know if the money/funding idea is a good fit." He ended with "You folks have something fundamental that urban people want...think about what you can market that matches that need to your values."

Fools Rush In: Managing a Farm-Based Business

Participants: Laura Krouse, Laura Freeman, Jane Woodhouse, Susan Zacharakis-Jutz, Mark Tjelmeland (moderator)
Recorder: Connie Tjelmeland

Laura Krouse - Raises Neals Yellow Dent open pollinated corn since 1988. Sells it for seed. Small but consistent market. Also sells hay, straw, corn, soybeans from farm. Began a CSA garden in 1996 – 10 families, $200/family/season. Limitations – hiring help – don't know how to do this. For CSA customer – chose people who like to cook, have big families and people who LIKE her.

Jane Woodhouse – a spinner and weaver, since 1979 has done production weaving. Also raises dairy goats and wool and meat-type sheep. Processes wool – cards and dyes – and sells to hand spinners. Sells spinning wheels and natural dye extracts. Now contracts out production weaving to other weavers in Iowa City. Marketing: likes this part very much – ads, brochures, etc.

Susan Zackarachis-Jutz offered some observations at the Farm-based Business workshop.

Susan Zacharakis-Jutz – Bought an 80-acre farm in 1994 with a goal to make use of land and buildings and make a living (a job for herself, husband has full time job with Extension). Criteria for evaluating ideas:

1. What does our family value doing? What do we love? Susan grew up on a farm. The children love goats.

What does our family value doing? What do we love?

2. What are our skills? What are we willing to learn?
3. Consider the characteristics of our land – highly erodible, rolling.
4. Location – 20 minutes from Iowa City and Cedar Rapids.
5. Financial – Where will get the money to do what we want to do? Banker encouraging, found an alternative loan program – Linked Investments for Tomorrow. They have been raising dairy goats for 8-years. Market the milk through an Amish cooperative. They finish 800 pigs on contract. Market organically fed lambs.

Workshop Video Order Form

PFI Winter Workshops Video Tape

❑ Tape 1 ($8.00 purchase) ..... $_____

Eight-hour tape contains keynote by Laura Freeman plus these workshops: *Marketing and Your Quality of Life* (Bill Burrows); Kansas grass-finished beef co-op; Alternative hog production systems; *Monitoring Sustainable Ag with Conventional Financial Data* (Dick Levins); Monitoring sustainable ag with conventional financial data (Dick Levins); Monitoring sustainable ag with conventional financial data (Dick Levins); *'Fools Rush In' – value-added farm-based business*; and *New Co-ops, New Possibilities* (Larry Kallem).

❑ Tape 2 ($8.00 purchase) ..... $_____

Eight-hour tape contains keynote by Laura Freeman plus these workshops: *'Fools Rush In' – value-added farm-based business*; *Marketing and Your Quality of Life* (Bill Burrows); CSAs and Direct Marketing; *Monitoring Sustainable Ag with Conventional Financial Data* (Dick Levins); *Systems Research – What and How?*; and *What's Ahead for PFI?*

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Laura Freeman (President of Laura's Lean Beef®): response to these three entrepreneurs:

Laura Krouse – She has a wonderful instinct for marketing, has done good consumer research. There is a market for her seed business. CSA movement is booming. Fairly low risk. Don't necessarily have to live near rich people.

Jane – Her highly specialized business can be worldwide via UPS. She can develop niches through the mail. It's good to be able to contract out production – you can't market and produce yourself into the ground. Contract out the simplest, most repetitive jobs first. Hers is a child- friendly business.

Susan – She is wise to think through her goals carefully and the budget process at the start. She is doing a good job matching her production to a niche.

Kansas Ranchers Create Grass-Finished Beef Market

Participants: Earl Wright and Annie Wilson (Tallgrass Prairie Producers Co-op), Ron Rosmann (moderator)
Recorder: Todd Kimm

Earl Wright, market coordinator for Tallgrass Prairie Producers Co-op in the Kansas Flint Hills, shared the challenges and rewards of starting a cooperative that collectively produces, processes and markets grass fed beef. The co-op formed in 1995 and today sells up to $1,000 in beef each week to an area hospital, restaurant and direct to consumers. Nine family ranches are involved. The idea was to finish cattle on the bluestem grass that has grown wild on the Flint Hills for thousands of years. In the 1860s and '70s Texas ranchers sent their cattle by rail to Kansas for finishing on this grass. The low fat content of grass-fed beef fit perfectly with the growing market for lean, tender beef. Genetics and aging provided the remaining ingredients to ensure tenderness and consistency.

Wright said he wanted to give listeners a "system you can use. You don't have to sell beef. You can sell wickets if need be." Wright said that by marketing their product, farmers can add as much as 20 percent to the return on their investments. He summed up the philosophy as "forming a co-op and taking control of what you get for what you produce." Saying such a task is "not easy, but doable," Wright added that a group can accomplish anything if it can work together. If the group can't work together, then it won't accomplish much.

Earl Wright (standing) and Annie Wilson of Tallgrass Beef.

Insights Wright provided on his co-op's success included:

- The members of a co-op must be active, attending meetings, etc. Tallgrass Prairie Co-op members meet once a month.
- Members should have a great passion for the project. Members without this degree of passion tend to drop out.

Wright said he wanted to give listeners a "system you can use. You don't have to sell beef. You can sell wickets if need be."

- Co-op members should have about 20 hours of group training to define individual skills and develop a method for decision making.
- Two key members are needed to take on the responsibility for the details of starting the business.
- Grant writing support may be needed, especially if a start-up grant is needed. Tallgrass Co-op got a $35,000 start-up grant.
- It is important that an environment is maintained where the benefit of the co-op is put above the self interest of its individuals.

Co-op chairperson and rancher Annie Wilson next presented a slide show demonstrating how to tell consumers the "story" of a business. Messages brought out through the use of slides depicting Flint Hills flora and fauna included:

- The cattle live a "free and open life" and are not as susceptible to disease as feedlot cattle.
- No fossil fuel is used to harvest feed; the animals harvest their own.
- The co-op is committed to conservation of natural resources. Wilson said the co-op's story is also told at Tallgrass Beef Days, where consumers can meet the people who raise their food.

New Co-ops, New Possibilities

presenter: Larry Kallem (Iowa Institute for Cooperatives), Paul Mugge (moderator)
recorder: Todd Kimm

Larry Kallem, Executive Director of the Iowa Institute for Cooperatives, explained how farmers can take advantage of recent legislation allowing them to form or join value-added co-ops. The law, which went into effect this summer, provides for co-ops which are designed to process the commodities farmers produce into forms closer to their final use by consumers. Other states have allowed such co-ops for some time. Examples of successful co-ops include American Crystal Sugar Company in North Dakota and Minnesota Corn Processors.

Under the law, a certain number of shares are issued, each with delivery rights for a certain volume of a commodity. More shares may be offered later if a co-op's facility is expanded. The shares are transferable. They are marketable and their value may appreciate or depreciate. Shares can be sold when the original owner no longer needs the delivery rights. The shares can also be used as collateral. At least 60 percent of the equity and voting control of these co-ops must be held by farmers.

Kallem said a group of beet farmers bought the American Crystal Sugar Company 20 years ago. "At first they had a rough go of it," he said, but after three years things started to look up. Kallem added that co-op members need to be committed to

Under the law, a certain number of shares are issued, each with delivering rights for a certain volume of a commodity.

delivering their commodity of choice year after year.

Kallem said there will be times when a farmer is selling to a co-op for less than he could get on the market. This is a sacrifice the farmer must make for stability. In the end, that farmer will average a greater profit.

Radical changes in agriculture are posing two questions, said Kallem: "who will control it and who will build? Many believe farmers can be the answer to both, if they will." He called value-added co-ops "the best game in town for Iowa agriculture."

Kallem next showed a video giving an overview of several value-added co-ops in Renville, Minnesota Co-ops there deal in commodities which include pork, poultry and fish.

During the question and answer period, a woman worried that farmers choosing not to join a co-op or get big won't "have a chance." Kallem answered "there's no good reason in the world why they can't compete," but added that these farmers may need to form joint marketing agreements with other farmers.

LIMITED MEMBERSHIP CO-OPS: ISSUES RAISED

Rick Exner

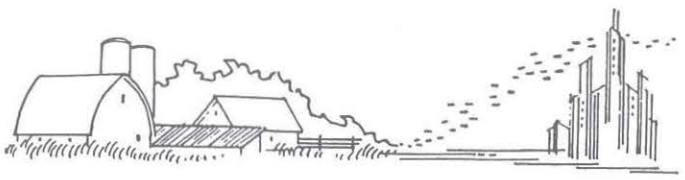
One of the workshops at the PFI annual meeting was on limited-membership cooperatives, a business structure recently authorized by the Iowa Legislature. Limited-membership co-ops have been a fixture in North Dakota and Minnesota for some time. Iowa Institute of Cooperatives Executive Director Larry Kallem began the workshop with a short video of such co-ops in the Renville, Minnesota area. Prior to the session, Larry said he realized that if PFI members ever used this kind of co-op, they would probably be on a different scale from the co-ops in Renville, but the video provides some examples for discussion.

The workshop was attended by a PFI member from Minnesota who contacted us afterwards. Becky Ault, Austin, MN, wrote that some of these co-ops have made themselves just as unpopular as many of the industrial-style hog production corporations, and for similar reasons. "They have split communities, added anger to an already (long) list of farming stresses, devalued the land surrounding the co-ops, and there are more waiting behind the curtain to stretch the limits of what the community can tolerate."

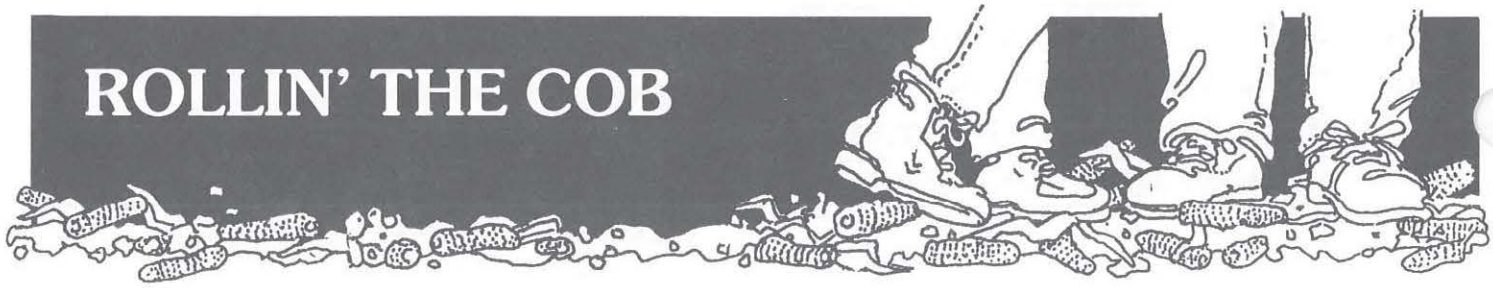
I visited with Mark Schultz, Policy and Organizing Director for the Minnesota-based Land Stewardship Project (LSP). Schultz said traditionally cooperatives have been for service, not for profit. When a co-op becomes a corporation that is itself involved in production agriculture, it becomes farmers' competitor, and a formidable one at that, he said. Size gives such co-ops advantages in access to credit and prices, and size also leads to environmental problems such as waste disposal and odor.

Schultz offered as example the Renville co-op ValAdCo (for "value-added corn"), which was begun by some wealthy corn and sugar beet farmers. Unlike many local hog production networks, ValAdCo retains ownership of hogs and contracts the finishing. They originally produced hogs under a "breeding stock" exemption to Minnesota corporate farming laws until it was shown that most hogs were going to market. Schultz reported the co-op fought regulation to require 75% of stockholders be livestock producers and 51% of stockholders be farmers.

While LSP has no fundamental criticism of limited-membership cooperatives devoted to activities like processing (say, a pasta plant started by wheat growers), "raising pigs is a farming activity, not processing," observed Schultz. "These co-ops may be a Midwestern way to become (like) Murphy Farms," he said.



ROLLIN' THE COB



Editors' note: Our cob rollers were thinking ahead to calving season when they got together for this column at the end of January. Here are some of their tips for getting through that time successfully. They also had one eye on the cattle market.

Tom Frantzen

1. I prefer to use a low birthweight angus bull with an angus-Limousine cross stock cow as a basic ease-of-calving strategy. I have successfully adopted a calf to a different cow by tying a large piece of the dead calf's hide on the foster calf.

2. To estimate the acres needed to support a cow herd, I multiply the cow numbers by 1.75. This includes winter hay. We look at the entire farming system when evaluating the economics of a cow herd. A diverse, long term rotation with a cow herd and organic grain production looks to be the most profitable. The only safe time to expand any business is during depressed circumstances, low prices, excess production, etc.

Ron Rosmann

Here are some of the strategies and experiences that we have had dealing with the broad topic of calving management. Nearly all of these lessons have been based on experiences in raising cattle over the years. Some of these experiences have been learned the hard way. That seems to be the teacher that you remember the most. First a little background information about our herd. We have 81 cows to calve this spring. Twenty-four of them are first-calf heifers. The predominant mother cow is Simmental-Red Angus. Our bulls are predominantly Red Angus. Our heifers are bred to an easy-calving purebred Red Angus who still has good growth potential. We do use pelvic measurements when selecting our heifers for breeding. I also use ADG's for selecting them. We used to calve in February and March until about 10 years ago. We were pulling too many calves, the calves got scours, etc. Since learning about rotational grazing, many other things changed as well. Now our main herd starts to calve around April 15. The calves are born out in one of the paddocks if at all possible, depending on the weather. We have about a 70-day calving period. First-calf heifers are calved starting around March 15. The bulk of these will be born in the barn and then moved out as soon as possible.

We feed our cows differently than we used to. First of all, they stay out in the fields all winter. Supplemental feed is hauled to them on a field that will be plowed the following spring and planted to corn. That way the feed is spread out over the entire field in small piles, and so is the manure too! The ration consists of one-third corn stalks, one-third good hay, one-third oats-stubble hay. All bales are tub-ground and mixed together. I should add that supplemental feed is used only if necessary.

Here are some specific things that may help during the actual calving time: First of all be patient, especially with first calf heifers. Don't think you have to pull just because you see the front legs sticking out for some time. If you think there is a problem, put the cow in a stanchion or a head gate. I quit the rope about 7 years ago. It was a smart move. We now have a head gate with two swinging gates so that the cow and calf-puller both have plenty of room to swing. I should say that with 70 cows calving last spring, about 4 had to be pulled. Three of these were first-calf heifers.

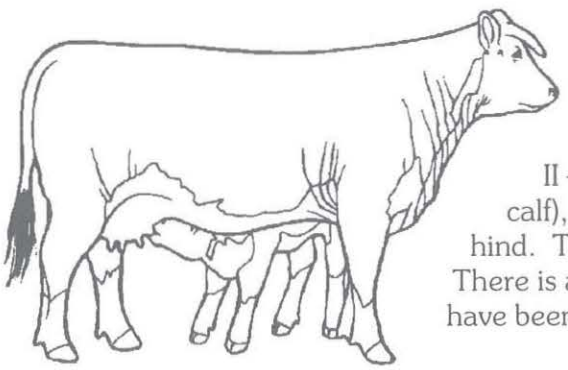
What the heck is "Rollin' the Cob?" Ron Rosmann says that's when someone comes into the yard and a discussion gets going. While you're talking, maybe you've got one foot up on the bumper of the pickup, or you're tossing sticks for the dog. If there are a few corncobs lying around, you may absentmindedly toe them about during the conversation. And that, says Ron, is "rollin' the cob."

First of all be patient, especially with first calf heifers.

If you do have a hard pull, or if the calf is big and has had a hard delivery, get some colostrum into the calf while the mother is in the headgate. Big calves may be suffering from some oxygen deprivation which may contribute to not learning to suck right away, thus the term "big dummy" seems especially fitting. I use a stomach tube to get the colostrum into the calf. I'll worry about the calf learning to suck the next morning. If you can't get a calf to learn how to suck no matter what you seem to do, try letting it get good and hungry. You will probably win in the end as the calf figures out food isn't such an impossible task after all. The best place for a calf to learn how to suck is with its mother out in the corner of the paddock on a bright spring day. Sometimes, calves have a difficult time sucking on teets that are too big or on milk-bags that are too close to the ground. Consider getting rid of that cow! One of the critical things that we continue to learn is that the cow is supposed to work for you, not you work for the cow. Use that as your guiding philosophy.

Sometimes you may have an orphan calf or a twin calf that you want another cow to adopt. If you have a dead calf to work with, the best thing to do is to skin the dead calf and tie the skin on the calf you want the cow to adopt. This usually works quickly. If we have trouble getting a cow to accept another calf, she is put in the head-gate with one leg tied back so that you can work with the calf. A "working" chute with side rails works even better as the leg does not have to be tied up so she won't kick you. I usually hold the calf up with my left leg. If this gets too tiring, I prop the calf up on a bale of straw. Sometimes it may take 4-5 days for a cow to accept another calf, but we've always won the battle so far.

Remember that calving problems should be the exception, not the rule. But there will always be a few difficulties and challenges. That goes with the business. We look forward to calving each year with anticipation and excitement. It truly is a joy to discover three or four new calves on a bright spring morning when you go out to the pasture paddock to check the cows. Have a great calving season!



Margaret Smith – Calving Management/ Calf Care

We will begin calving this year on April 10 and have 14 heifers to calve. After two calving seasons, we know that our RX3 composites (½ Red Angus, ¼ Hereford, and ¼ Red Holstein) have a shorter gestation period (278 days) than average, so we can plan accordingly and not be surprised as we were two years ago! We are learning to be patient with heifers. I know that old-timers can sense when delivery of a calf has gone too slowly and they need to lend a hand, but I probably get as anxious as any of the young 'girls' if she seems slow to deliver. I have found 'How to Handle Calving Difficulties' (GPE-3653 in the Iowa Extension Beef Handbook) a help in understanding the time frame and stages of a normal delivery.

Stage I: The cow's contractions are evident every 4 to 5 minutes at the beginning of stage 1 and are about ½ to 3 minutes apart at the end of this stage. Toward the end of stage I, the water bag begins to protrude through the cervix, which is about ¾ dilated. This stage lasts 2 to 3 hours in a cow, but 4 to 5 hours in a heifer.

Pulling too early can result in tearing or rupture and a heifer that won't breed back.

Stage II: During this period, the cow or heifer becomes less aware of her surroundings and concentrates on her contractions. The intervals between contractions still varies from 1½ to 3½ minutes, but the animal's straining becomes stronger. Once the water bag appears outside the vagina (about ½ hour into stage II – longer for a heifer with a big calf), the feet should not be far behind. This is the time for caution. There is a temptation, if these early stages have been slow, to hitch up to that calf

and pull. But when those hooves first appear, the cervix is not yet fully dilated. Pulling too early can result in tearing or rupture and a heifer that won't breed back. After the feet appear, expect 30 or 40 strains (15 seconds to 1½ minutes apart) until the tongue appears. Another 20 strains and the nose should appear (again, slower, with bigger calves).

Another 50 strains will usually bring the head to light, then 6 to 10 strains to full delivery.

Stage III: The final labor stage is passing the afterbirth. This usually happens within 1 to 2 hours, but occasionally may be several hours.

What an amazing process! It seems fraught with potential problems, but usually follows Mother Nature's rules and happens like clockwork. The calving publication also has good diagrams of abnormal fetal presentations and descriptions of how to manipulate the calf into proper position. Based on the permutations that can occur (though rare), my directions should probably read: 1-800-CALL-RICH (our veterinarian). The only time we should have acted faster was with a large calf that was in a posterior presentation with the back feet first. That situation does call for a rush job.

For me, calving is the best and happiest time on the farm. I can't wait for warmer weather and those little critters.

Time to expand the cow herd? All indications of our position in the cattle price cycle tell me that it's a very good time to be building our cow herd by retaining heifers. We have been in that mode since starting with different genetics in 1994 and would like to continue. We are constrained, though, by availability of grazing land in our neighborhood. We have seeded 60 acres for hay and grazing that will cycle through a 5-year grain and forage rotation, but need some permanent pasture as well to fill our needs. Permanent pasture should hold up better under cow hoof traffic during wet conditions and would allow us to graze younger stock on the rotational pasture. Until then, we will concentrate on tightening our breeding season and improving grazing management for our 30-cow herd.

From my perspective, the best thing a farmer can do is keep their business in a financial position that allows them to make their own management decisions.

Roger Schlitter – managing the cycles

These thoughts apply to the cow-calf business in general. I started out by thinking about managing calving, but I decided you cannot manage calving without managing the cow herd. The cow herd must have an adequate feed source that provides the proper nutrition throughout the year. This means a program that covers the entire year, because the entire year is part of the calving process. Getting cows bred in a timely fashion, having the right amount of condition on the cows, and providing the right nutrition for the unborn calf and, ultimately, the newborn calf – this is a nonstop cycle. Nutrition is what makes all these items fit together. Take a look at what the pork industry has done in recent years to improve productivity, and you will see that a closely managed nutrition program is a big part of this improvement.

The cow-calf producer must have good quality breeding stock to get the best results. Start with good seedstock and buy good quality bulls or use AI to improve the herd. Long term results will be best when you have a good herd to build on.

Finally, strive in all ways to be a least-cost producer. This includes types of feed used, methods of harvesting, storing and using the feed, and management of the pasture program for optimum results. It also includes expenditures for facilities and equipment, fencing, and land.

I find that there are always alternative ways of doing things, and I am amazed at the resourcefulness of individual producers in finding better ways of running their business. It is helpful to keep an open mind to what other producers are doing. But run alternatives through your own thought process to see if something new or different can help you. Those are keys to finding the things that will make you a low-cost producer.

A few thoughts about expanding or rebuilding the cow herd. A quick look at the past shows us that the cattle business really does cycle on a regular basis. We have been at lower price levels in recent years, and it is likely that we will turn the corner and see better prices in the future. You will want a young and possibly larger herd when that happens in order to get maximum benefit from the better market. I do not see this as a "guess when the business will be good" management plan, but a steady, managed process of culling, adding additional breeding stock when prices are lower, and/or retaining additional heifers to add to the breeding herd for the up part of the cattle cycle. This means you just keep your long-term goals in mind at all times. Do not make long-term decisions based on short-term circumstances. From my perspective, the best thing a farmer can do is keep their business in a financial position that allows them to make their own management decisions.

INTERNSHIP IN SUSTAINABLE AGRICULTURE

Rick Exner

Many Iowa farmers host exchange students and other temporary guests, but until now there has been no organized program in Iowa for such people to learn about sustainable agriculture. That may be about to change, thanks to a University of Minnesota agronomist named Craig Sheaffer. Craig has invited PFI to take part in an internship program that has functioned in Minnesota for several years.

An informational meeting was set for Thursday, February 20, in Ames. University of Minnesota representative Darrell Cox was scheduled to describe the program in Minnesota and discuss ideas to make internships a positive experience for both hosts and interns.

The Minnesota internship program is reportedly popular. Here are some example comments from a recent intern: *"My name is Barb Wingen, and I am currently enrolled at the U. of MN, majoring in Agronomy. When I graduate, I will have a minor in Sustainable Agriculture, so the opportunity to take an internship with the Sustainable Farming Association (SFA) North Central Chapter interested me (especially since I was raised on a standard corn/soybean farm in Southern Minnesota). I wanted to learn what made a farm "sustainable" and how it differs from conventional farming. In all honesty I didn't know anything about sustainable agriculture, except that it involved environmentally conscious decision making. With that, I was off on a learning adventure that would last five weeks on five different farms during the summer of '96."*

"I wanted to learn what made a farm 'sustainable' and how it differs from conventional farming. . . I learned a tremendous amount and gained some invaluable practical experience."

"I had a great time on my internship, and the people involved were all extremely helpful. I learned a tremendous amount and gained some invaluable practical experience. I was able to work with a wide variety of crops and animals

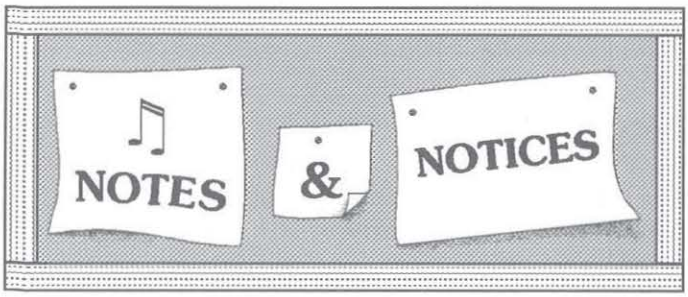
Seeking Work on Diversified Farm

Bruce Trca-Black, who will be graduating from Iowa State University in May, is looking for year-round work on a diversified farm (or farms). Along with a degree in Agricultural Studies, Bruce's background includes growing up on a central Iowa farm. He has had experience with corn, soybeans, hay and some sheep & poultry. He would like to gain experience with livestock (preferably cattle) and all aspects of diversified farm management and operation. Bruce and his wife Sandy (also a May graduate of the College of Agriculture), are both willing to learn, enthusiastic, and motivated about sustainable agriculture. Bruce would be very willing to work out an arrangement with more than one farmer in an area.

Bruce Trca-Black
26156 530th Ave., Ames, IA 50010
phone: (515) 296-1790
email: bblack@iastate.edu

and learned what sustainable agriculture really was. I want to thank the SFA for this opportunity – especially my hosts. These people are truly committed to and enthusiastic about farming in a sustainable way. Their lives are dedicated to the preservation of a nonrenewable resource we oftentimes take for granted – our land."

If you are interested to know what happened at the Feb. 20 meeting, please contact Rick Exner, 515-294-5486.



North-Central Meeting March 15

Holistic Management practitioner Dan French will speak at the morning meeting in Iowa Falls. Call 515-456-4328 for information.

Agroforestry Satellite Broadcast March 20

Farmers, other land owners, and agency personnel are invited to hook up to a national satellite broadcast on agroforestry Thursday, March 20. Hosted by the National Agroforestry Center, in Lincoln, NE, the three-hour session will provide information on different kinds of practices that combine woody crops and agriculture and how to incorporate these techniques into conservation systems for farms, ranches, tree farms, and communities. The event will feature taped footage of example projects and the farmers and ranchers who implemented them, and call-in periods will take comments and questions from viewers around the country. To get more information about the program, broadcast time, and satellite coordinates, call 402-437-5178, ext. 41.

SARE Producer Grant Program Taking Applications

The Sustainable Agricultur- Research and Education program of the USDA is once again inviting farmers and ranchers in the north-central states to submit project ideas relating to "higher profits, environmental stewardship, or community development." Grants will be up to $5,000 for individual producers, and grants to groups of producers can be up to $10,000. As always, it is important for producers to involve local information providers (agency types, business, educators) and to include an "outreach" component in their proposal.

Funding decisions will be made in late June, and funds will be available in the fall for the 1998 production season. A number of PFI members have obtained SARE grants in the past. Last year, Dave and Lin Zahrt, Turin, improved their loess hills pasture with help from a SARE grant. For more information, call the SARE office at 402-274-7081 or Jerry DeWitt at 515-294-1923.

Midwest's Largest Organic Conference March 7, 8

The 8th Annual Upper Midwest Organic Farming conference (UMOFC) will be held in Sinsinawa, Wisconsin, on Friday and Saturday, March 7-8. This year's conference, *From the Soil to the Sale – Building Farms and Communities*, features over 50 workshops covering every aspect of organic agriculture from flame weeding to flower farming. Learn from experienced growers, educators, and marketers. Workshops include: living mulch; farm equipment researching; the home-grown chicken business; grain marketing panel; community in CSA; soil building; regional food systems; holistic approach to udder health; improving open-pollinated corn; and federal organic standards panel. Presenters include Kate Clancy (Wallace Institute for Alternative Agriculture) and Bill Heffernan (University of Missouri at Columbia).

Registration is $65 and includes breakfast and breaks. Organic meals and child care are available

for a fee. Call 715-772-6819 for more information and to make sure there is still room.

International Organic Meeting in Cedar Rapids

Following hard on the UMOFC (see above), the 13th Organic Crop Improvement Association (OCIA) International Annual General Membership Meeting will come to the Cedar Rapids Collins Plaza Hotel and Convention Center, March 11-15. Regis Zweigart, President of the Iowa chapter of OCIA, said the conference is "geared to show the world what OCIA has to offer its chapters and inspectors – as well as producers, processors, traders, and consumers of organic foods and fibers." A few features of the week-long meeting: Tuesday, March 11 – OCIA annual general membership meeting (and other sessions throughout the week); Wednesday, March 12 – crop improvement panel with U.S. and international participants 12:45-2:00 (open to the public), inspector orientation, chapter workshops; Thursday, March 12 – tours of Amana Colonies, Frontier Herbs, Seed Savers Exchange; Friday, March 14 – consumer awareness of organic panel; Saturday, March 15 – workshops and exhibits 2:00-7:00 (open to the public). Preregistration for the whole conference is $240 after Feb. 24, but one-day registration is just $25. Send registration checks to: OCIA International, 10001 Y St., Suite B, Lincoln. NE, 68508-1172. Direct information requests to Regis Zweigart, 319-454-6358.

Flame Cultivation Meeting March 18

The Second Annual Flame Cultivation Round Table Dialogue is set for Tuesday, March 18, from 9:30–3:00, in the St. Mary Catholic Church (1303 West Broadway), in Winona, Minnesota. If you are interested in flame cultivation or you have results to share (any crop), you are invited to take part in the discussion. Don't look for any experts up in the front of the room. One reason the conversation at last year's meeting was so great was because they pulled the chairs into a circle, says organizer Dwight Ault.

There is no pre-registration for the event. A hat will be passed to cover refreshments. For more information, or in case of "iffy" weather, call Dwight at 507-437-3085.

Women in Agriculture Conference in Iowa City March 8

A one-day conference at the Highlander Inn outside Iowa City will motivate and inform women involved in agriculture. Workshops include: *The Tools and Rules of the Road for Financing and Investing in Agriculture for the 21st Century*; *Retirement/Estate Planning*; *Business/Family Issues in Two-Generation Farming*; *Building Communities for Tomorrow*; and *Stand Out, Step Out, Lead*. The keynote session, *The Megatrends of Business and Financing for the 21st Century*, will be given by David Kohl, professor of agricultural finance and small business at Virginia Polytechnic University. Registration for the conference costs $35 after Feb. 25. For more information contact Janet Garkey at 319-337-2145.

What Is In A Name?

(Editors' note: These reflections by farmer Marty Kleinschmit appeared in the December, 1996 issue of *The Beginning Farmer*, a newsletter of the Nebraska-based Center for Rural Affairs.)

The word "producer" is commonly used instead of "farmer" or "rancher." The dictionary even defines a producer as one who grows agricultural products. It likens farmers and ranchers to machines that spit out product but fails to consider the planning, managing, and labor they contribute every day.

The term producer also hints that a farmer or rancher has no greater mission in life than to produce. It implies that the measure of their success is the quantity, not quality, they "produce."

I prefer being called a farmer or rancher. These words add a sense of responsibility for the land, the animals, and the people involved along with a level of production. Farmers and ranchers have higher motives than mere production.

Compost Procurement and Use Workshop March 18

A one-day workshop on how to purchase and use compost will take place Tuesday, March 18, sponsored by the Leopold Center for Sustainable Agriculture, the Composting Council, and the Waste Management Assistance Division of the Iowa DNR. Preferred compost characteristics for specific applications will be defined, and application methods will be discussed. The meeting may prove useful to farmers, landscapers, horticulturists, nurseries, sod producers, and state agencies. For more information about the meeting, contact Garth Frable, WMAD, at 515-281-5105.

Two New Resources Printed in Minnesota

Knee Deep in Grass: A Survey of 29 Grazing Operations in Minnesota is a 36-page booklet from the University of Minnesota that touches on just about every aspect of grazing: business management strategies; holistic resource management; operational changes; pasture layout and management; weed management; grazing dates; forage testing; and converting hay land and crop land. $5 plus $2 shipping (MN residents add 6½% sales tax) paid to University of Minnesota. Order from MES Distribution Center, U. of M., 1420 Eckles Ave., St. Paul, MN, 55108-6069.

Monitoring Sustainable Agriculture with Conventional Agricultural Data, by Dick Levins, is a Land Stewardship Project publication and the first product of the Biological, Social, and Financial Monitoring Team. The report of Dick Levins' talk at the PFI winter meeting (page 4) will give you a sense of the content. As the flyer for the booklet states, "We normally think of using income and expense figures to measure progress toward the goal of earning profits. Surely, farmers in sustainable agriculture are concerned about feeding their families and paying their bills, but those are not their only goals in life." With examples, Levins lays out four indicators *in addition to profit* that farmers can use to evaluate the sustainability of their operations. $7 (MN residents add 6½% sales tax) from: Land Stewardship Project, 2200 Fourth St., White Bear Lake, MN, 55110. For information and bulk orders call (612) 653-0618.

On-Farm Research Opportunities

Mo Ghaffarzadeh

I have been trying to do on-farm demonstration and eventually research projects with a few farmers. In last few years I have been welcomed and appreciate the opportunity to work with some of you. As part of my research objectives I'm trying to find alternative crops and improve efficiency of land use by cover crops. We have learned much about berseem clover and how it can fit in different cropping system with your cooperation. Next growing season I would like to continue that and again reaching for your help. I have several demonstration, observation and preliminary research ideas and would like to use your input in conducting them. Following are the topics which I need someone to collaborate with. Also, any new suggestion are welcomed.

- Overseeding berseem clover in sunflower crop (preferably organic farm)
- Underseeding berseem clover with small grain or grasses as annual forage crop
- Overseeding berseem clover in silage corn or sweet corn
- Intercropping (overseeding or underseeding) berseem clover with small grains as cover crop
- Interseeding berseem clover with oat or grass for grazing
- Using oat/ berseem clover in rotation during transition period from conventional to organic production system
- Seeding berseem clover in removed male rows in seed-corn production
- Intercropping berseem clover with corn (preferably organic).

For those that are interested I will provide seeds, help to design plot plan, collect data and information, and prepare a summary of the results. Please contact me at:
Mohammad Ghaffarzadeh ("Dr. Mo")
3503 Agronomy Hall
ISU Ames, Iowa 50011
Phone: (515) 294-7845

GRAZING CONFERENCES AROUND THE MIDWEST

The third ISU Management Intensive Grazing Symposium took place Jan. 22-23, in Newton. The program lacked the "big names" in grazing who appeared in some other Midwest grazing meetings this winter, but it contained useful information on skills no livestock producer can ignore. A special section on stockers was well attended and featured veterinarians and cattle buyers. The focus here was on animal health issues and marketing. Symposium proceedings are available for $10 from ISU Extension (515-294-2240). Topics included: pasture weaning; streambank stabilization; year-'round grazing; grazing animal health; buy-sell strategies for stockers; stockpiled grazing; and pasture lambing.

Stevens Point, Wisconsin Grazing Conference Rundown

Jim Hageman, Calmar

(Editors' note: Jim Hageman is a dairy farmer and active in the Winneshiek County pasture walk network. He attended the Wisconsin conference Jan. 19-20.)

I attended the Grazing Facilitators Workshop on Jan. 19. The discussion was on current SARE grant projects in MN & WI and possible future needs.

Tom Wrchota – Beef grazer from Omro, WI. Reported on grass-fed beef, 2 lb/day rate of gain on grass with Galloway cattle. Direct marketed there beef, small size operation.

Marcie Herk – Dairy grazer from Stevens Point, WI. Reported on lane repair project, hired contractor to grade and surface lanes with reclaimed road material. She was very pleased with the results. Also reported success broadcast seeding red clover in May.

Dennis Johnson – Univ. Of MN Experiment Station, Morris, MN. Reported on multiple year research on evaluating pasture evolution under intensive grazing, systems to improve stands. Research on nitrate leaching in grazing systems. Research on stockpiling @ date to start growing for winter needs, date to start using stockpiled forage and the effect on pasture with various amounts of residue cover for winter. Too soon for report on project.

Art Thicke – LaCrescent MN. Dairy grazer, Art's farm is one of six farms in MN & WI in an on-farm monitoring project to study the effects of rotational grazing on lifestyle, profitability, soil quality (fertility, water infiltration, forage species, wildlife), stream bank management and the effect on wildlife by leaving some paddocks ungrazed until Aug. The goal of this project is to combine practical on-farm research to serve as a model for others. No results yet available.

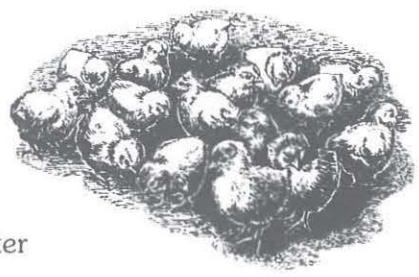
Dan Undersander – UW Agronomy, Madison, WI. Discussed issues relating to outdoor winter housing of livestock and the non-farm public's perception of these management practices. The public needs to be educated on the health benefits of outdoor housing.

Another topic of discussion was the shortage of custom operators for machine hire as more graziers sell their equipment or don't replace it to reduce expenses. Some counties already are experiencing shortages. Possibly Extension could promote the development of more custom operators. Some dairymen may chose to do custom work instead of dairy if there is a demand.

FLEDGLING PASTURE POULTRY ORGANIZATION ANNOUNCED

(Editors' note: this press release was sent in by PFI member Margaret Smith, who saw it on the Internet.)

Pastured poultry producers will be excited to learn of the organization of the American Pastured Poultry Producers Association (APPPA). Anyone interested in pastured poultry production is encouraged to become a member of APPPA. A quarterly newsletter



is planned to promote the exchange of ideas and information among producers. Reviews of federal and state laws regarding on-farm processing of poultry will be featured in the newsletter. Sources of chickens, chicken feed and rations, production and processing equipment – new and used, marketing ideas and referrals will add to the usefulness of the newsletter. APPPA will also develop a database of farmers actively producing pastured poultry, not only for networking purposes among members but, also, for consumers looking for high-quality chicken in their area.

As Joel Salatin, one of the founders of APPPA, says so eloquently, "We'll be glad to assist and encourage in any way we can to see more folks enjoy an agriculture that is emotionally, environmentally and economically enhancing enough to romance the next generation into it – the ultimate sustainability. Beautifully, this enables consumers to have freedom of choice with their food dollar."

The need for such an organization to facilitate the networking and sharing of information among producers who raise poultry on pasture has long been felt. Joel Salatin of Swoope, Virginia, whose pioneering poultry raising ideas and example have inspired small scale farmers throughout the U.S., and Diane Kaufmann of Chippewa Falls, Wisconsin, one of the early producers following Salatin's methods, have joined forces with Heifer Project International (HPI) to launch this new organization. HPI is a private, non-profit organization that provides funds for livestock, training and technical support for limited-resource rural families and communities to help themselves. HPI has received a SARE/ACE grant to integrate pastured poultry production into the farming systems of limited-resource farmers. Part of this grant includes monies to help with the formation of APPPA, which will provide a forum for furthering education and outreach, not only for the farmers HPI will be working with but existing and potential producers as well.

To join, send $20.00 to APPPA, c/o Diane Kaufmann, 5207 70th St., Chippewa Falls, WI 54729. For more information, contact Diane at 715/723-2293 or Email: dkaufman@discover-net.net.

IDENTITY-PRESERVED IS GROWING

Rick Exner

This winter several conferences have demonstrated the growing interest in value-added marketing. The latest was *Identity-Preserved Grain Opportunities*, the Feb. 3 meeting in Ames sponsored by Dupont, Insta-Pro International, and the Iowa Soybean Promotion Board. "Crops as factories" was the description given by Matt Renkoski of Dupont Optimum Quality Grains. He cited the examples of high oil corn, high sucrose soybeans, high lysine beans, and soybeans with high oleic acid that makes the oil stable for frying. The "value chain," according to Renkoski, runs from trait development, to variety development, to grain production, to handling and processing. However, he said, for the farmer "we're talking pennies per bushel, not dollars per bushel."

Kent Nelson, of the American Soybean Association, focused on the Japanese market, whose 100 million bushel appetite for U.S. soybeans adds 60-70 cents to the commodity price here. These beans go for human consumption in a country with per capita income of $36,000. The raw material price of the soybean is only ten percent of the cost after handling and processing into tofu. Consequently the Japanese can demand – and pay for – quality soybeans. That will be a strong factor in the growth of identity-preserved ("I.P.") production/marketing.

Jim Traub spoke as a representative of Clarkson Grain, an Illinois company that now makes half its profits from identity-preserved markets. Traub described two approaches to I.P. marketing. The first he described as "supercommodities." These are high-volume, low-premium categories like non-genetically-altered soybeans for the European and Japanese markets. Another example might be "IOM" soybeans. Beans grown in Indiana, Ohio, and Michigan (IOM) tend to have higher protein. Clear hilum beans that are IOM may draw a 20-cent premium. Traub believes that variety selection is a better way to achieve specific content, but these soybeans will likely cost more. The second ap-

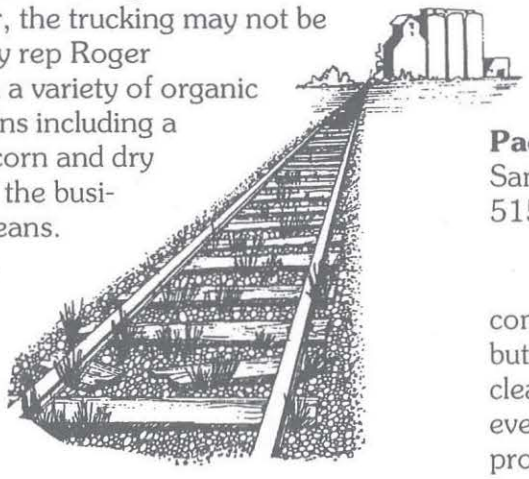
Niche markets are smaller, but premiums can be much higher than with supercommodities.

proach to I.P. is niche marketing and marketing directly to processors like those in Japan. Niche markets are smaller, but premiums can be much higher than with supercommodities.

A brief telephone survey turned up several opportunities for Iowa producers to enter I.P. food-grade soybean markets. Most have been used by various PFI members. If you are aware of others, please share that information with the newsletter editors.

Clarkson Grain Company
Cerro Gordo and Beardstown, IL
800-453-3973

Beardstown is 75 miles from southeast Iowa, so even though farmers contracting with Clarkson are required to deliver, the trucking may not be prohibitive. Company rep Roger Hendricker deals with a variety of organic and conventional grains including a little buckwheat, popcorn and dry beans, but the bulk of the business is corn and soybeans. They work with three categories of organic soybeans: premium (large beans, specific varieties, very clean, bagged for export), smaller organic soybeans (domestic food uses), and clean-out (for organic livestock feed). The company contracts at flat prices for organic soybeans. Premium quality Vinton 81 soybean are contracting at $16-$18 per bushel this winter. They are paying $9.50 for organic clean-out beans. Non-organic tofu beans are being contracted for $0.80-$2 above futures price, depending on the variety. Clarkson is contracting for yellow organic corn at $4.50 per bushel.



Fairview Farms
Corwith, IA
515-583-2198

This company is buying specifically HP204 tofu soybeans, with other varieties paying less. Their production protocols call for no insecticides and for no herbicides after a certain time (around last cultivation). They are contracting at $3 over Chicago Board of Trade for clean beans delivered to Ames or Kanawha.

North Country Seeds
Ormsby, MN
800-992-0034

This company bought out the Pioneer Hi-Bred Intl. *Better Life* program for pesticide-free tofu soybeans, and that is the category they concentrate on still. Joel Raabe said the company is probably approaching the desired number of contract acres, but producers are welcome to call. North Country has been contracting for pesticide-free HP204 soybeans at the farm gate for a $3.60 premium. The company picks up the beans at the farm, but the farmer needs storage capability. Although HP204 is adapted to northern Iowa, Raabe said the firm is contracting virtually across the state.

Pacific Soybean and Grain
San Francisco, CA and Story City, IA
515-733-4202

David Springer is the Iowa representative of this company. He is concentrating on organic soybeans but also works with pesticide-free and conventional clear hilum beans. He expects that Pacific will eventually begin to use some of their own high-protein varieties as well. They presently pay the greatest premium – up to $19 per delivered, clean bushel – for certified organic Vinton, Iowa2020, and HP204. However, he says, he typically starts with whatever clear hilum bean a farmer likes to grow and then works backward to develop markets. Pesticide-free soybeans are bringing a $1-$3 premium from the company, depending on variety. Springer says conventionally raised, clear hilum

I.P. Soybean Cooperators Wanted

Are you thinking of raising some kind of identity-preserved soybeans this year? If so, PFI would like to work with you to generate information about I.P. soybean production methods and costs. In return for your work you would receive up to $400, with an additional $250 if you decide to hold a field day. Please contact PFI coordinator Rick Exner, 515-294-5486.

beans are probably "not worth it" for the producer unless they are a variety like HP204, in which case they can bring a premium of around $1.50 per bushel. The company has delivery points for organic beans in southeast, central, and western Iowa and several in southern Minnesota. Conventionally produced soybeans can be delivered to an even greater number of elevators around the state.

Heartland Organic Marketing Cooperative
Harlan, IA
712-627-4217 voice and fax

A few years ago a group of Iowa members of the OCIA (Organic Crop Improvement Association) decided that if they marketed together they could generate enough production to bypass several levels of middlemen. Co-op rep Ken Rosmann reports they are now dealing directly with soybean wholesalers and some end-users in Japan and with a growing number of domestic end users. Currently they are contracting for ordinary clear hilum organic soybeans at $14-14½ per bushel. For Vinton variety soybeans (preferred by Japanese buyers but lower yielding) the contracts are $18-18½ per bushel.

In 1997, the co-op may expand into oats and corn. They are also keeping track of new soybean varieties being developed for the food market at ISU. Only members can market through the co-op, but lifetime membership is only the price of a (refundable) $250 fee. Ken Rosmann reports that markets are growing faster than supply, and the co-op could use additional members.

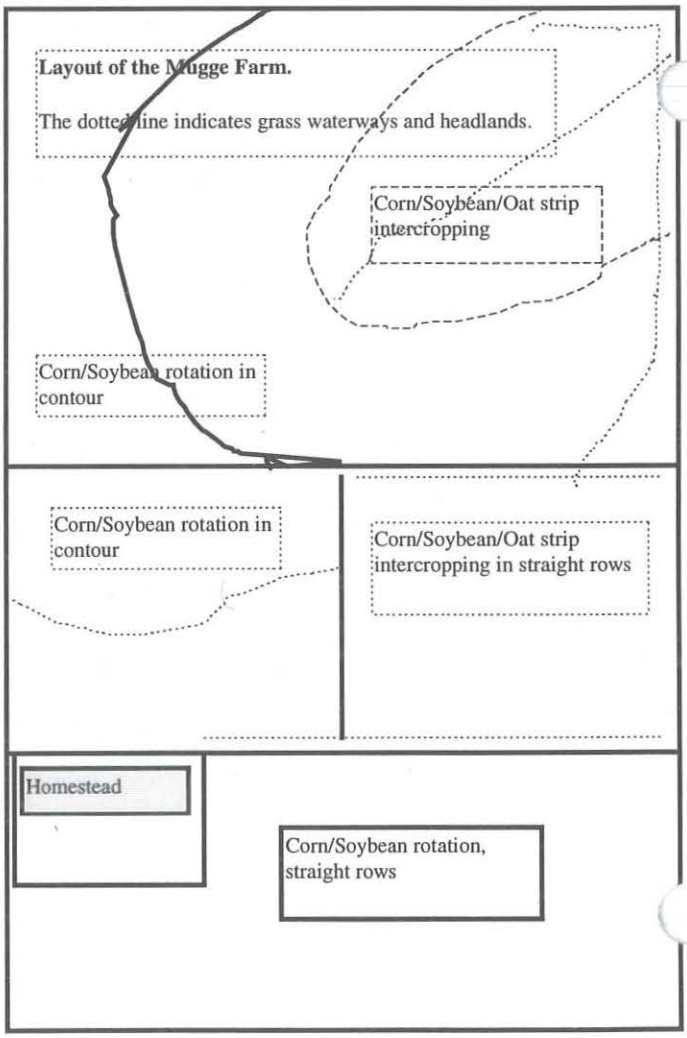
At his field day September 21, Ken Rosmann, of Heartland Organic Marketing Co-op, points out characteristics of an experimental tofu-type soybean.

PFI PROFILE: PAUL AND KAREN MUGGE, SUTHERLAND

Jenny Kenda

- narrow strip intercropping of corn, beans, and oats
- specialty crops
- early-wean hog nursery and finishing hogs

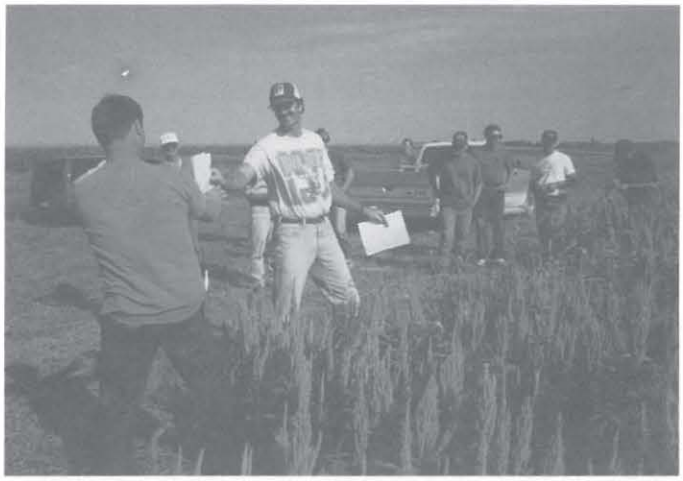
Meet the Mugge family – Karen and Paul, Charity (married and in college), Melissa (17), and Taylor (8). Don't bother to phone them on a night when one of the kids has a sporting event – Paul and Karen will be there cheering. At 6'5", Paul has the appearance of an athlete, himself. But it was his height that nearly kept him from his dream of flying. Ultimately, Paul decided instead of flying 'em, he'd learned to make 'em. After graduating from Iowa State University with a B.S. in aerospace engineering in 1974, he went to work for the Boeing Company, in Seattle, Washington.



Paul and his family have a long term vision for the farm where profit is a part, but not the sole objective.

It was in Seattle that Paul and Karen met and married, but when Paul's father decided to retire from farming, they took the opportunity to return to Iowa. "It was March 5, 1975, to be exact," says Karen. "Let me tell you, that first year was something." But she learned to drive the tractor and meet the other demands of farm life. She now works part time off the farm as a home health aide.

The health and well-being of the family play an integral role in the choice of farming practices for this farm. Along with these concerns, Paul's interest in engineering and in applying the scientific method is evident on this 320 acre farm. In one field, he's growing specialty soybeans with a cover crop of *brassica*. In another, he has narrow strips of corn, soybeans, and oats that is the hallmark of narrow strip intercropping. True to his science background and interest, Paul enjoys trying new things and keeping records. He makes farming decisions carefully, based on the available data – and Karen's intuition.



In front of a strip of grain amaranth, Paul Mugge hands out field day information.

Paul's objective is to obtain the most net profit from each acre and each hog. To that end, Paul and his family have a long term vision for the farm where profit is a part, but not the sole objective. " I want to end my farming career with the soil and it's inhabitants healthier than when I began. Implied in this vision, of course, is that I be profitable enough over the next 20 years that I am still the steward of my farm."

"Soil erosion control is paramount. I want my farm to contribute more than it's share to feeding the world while contributing much less that it's

Summary of Mugge Enterprise Farm Data

Category	Description
Farm Size	320 acres, 300 tillable, silty clay loam with a 2-5% slope, 2000 hogs, 3000 feeder pigs
Equipment	6 row-30" JD7000/Buffalo Planter, Hiniker Cultivator
Seed Varieties and seed rates	highly variable
Labor & Mgmt practices	self with some help from kids, use ridge tillage practices
Livestock Mgmt practices	segregated early-wean nursery and finish 40% of pigs in outside lots
Marketing	some direct marketing of food-grade soybeans to Japanese market
Agricultural Organizations	Practical Farmers of Iowa
Weed mgmt	Rotary hoe, cultivation, banded or no herbicides
Insect mgmt	crop rotation
Disease mgmt	crop rotation
Soil Fertility mgmt	soil testing, nitrate testing, manure sampling to use manure resources wisely, deep-band P&K, use of liquid N with cultivator
Crop Yields	140-160 corn, 45-60 soybeans
Profitability Indicators	using on-farm resources wisely, reducing pesticide costs, high yields, growing specialty crops for premium

share to environmental degradation. I want my farm and my relationship with my farm to exemplify the same values to my children and grandchildren that I learned from my parents. An Indian proverb sums up my long-term vision - 'We don't inherit the land from our fathers, we borrow it from our children.'"

To implement his vision, Paul's goals for his farm include: being profitable, being efficient in the terms of resources, understanding more about ecology and using that understanding. Underlying these goals is Paul's intent: "I want to be a good steward of the gifts God has given me and humanity in general."

Paul considers himself to be a newcomer to doing on-farm research. Even so, he's applying his scientific method to testing several practices that he anticipates will help him meet his goals of being profitable while being ecologically sound. He's active on the Practical Farmers of Iowa Board of Directors and considers that the greatest benefit he obtains from his involvement with PFI is interacting and learning from other PFI cooperators and the research scientists at Iowa State University and the Soil Tilth Lab.

On-farm Trials In 1996, Paul is conducting four trials that demonstrate his varying interests:

- deep-banded P&K and P&K with lime
- brassica cover crop for weed control in food-grade soybeans
- comparing narrow-strip intercropping to corn-bean rotation by whole field
- testing a new USDA soil inoculant for soybeans.

In past years, Paul and Karen have:

- compared liquid hog manure to purchased nitrogen for corn
- strip-intercropping
- investigated rootworm damage in strip-intercropping.

In addition, the Mugges cooperate with another local farmer on nurserying and finishing hogs.

Impact of Sustainable Farming If you ask Paul what sustainable farming means, he will tell you that

Paul's corn, soybean, and grain amaranth strips.

sustainable farming is a term that means many different things to many people. He considers himself to be pragmatic about what sustainable farming means. To Paul, sustainable agriculture must include these elements – profitability, preserves the resource base (both on a farm scale and a worldwide scale), preserves the social fabric of rural culture, is safe and healthy for consumers of farm products as well as for farm workers and other rural inhabitants, preserves a diversity of species and a genetic diversity within species of flora and fauna on both a micro and macro scale.

Says Paul, "I think my farm enjoys very low soil erosion, a relatively low level of purchased inputs, better soil tilth, and high productivity."

If there is anything that Paul would like others to know about being involved with Practical Farmers of Iowa and about practicing sustainable methods of farming, it would be this: "Sustainable farming practices are not just the right thing to do, but are profitable in both the long and the short run. I would hope that people would think of PFI, not as a group of radical extremists, but as a group of dedicated and thoughtful farmers who care about the world and the society we leave to posterity."

"Sustainable farming practices are not just the right thing to do, but are profitable in both the long and the short run.

PFI ON-FARM TRIAL RESULTS, 1996

(Editors' note: Results of PFI 1996 on-farm research will appear in *The Practical Farmer* over the course of this year instead of just the winter issue. We hope this gives readers more chance to absorb these cooperator reports. In 1996, a number of trials looked at insects – both beneficial ones, like the wasps used to control corn borers and alfalfa weevils, and insect pests that may be manageable with the right fungus or cultural practice. We selected the following results for the first installment of the 1996 research report.)

Strip Intercropping: Yields and "Bugs"

Table 2 shows results of strip intercropping trials on the farms of Paul and Karen Mugge, Sutherland, and Jeff and Gayle Olson, Mt. Pleasant. The numbers at the top of the table were collected by the cooperators themselves, while the yields at the bottom of the table were hand harvested by ISU. Corn yielded better in strips than in large, single-crop field blocks, and the corn at the strip borders yielded better than corn in the center of the strips. That was expected and reflects the biological efficiency that is part of strip intercropping's attraction. Paul planted 28,000 seeds per acre in his sole-crop blocks and about 35,000 in corn strips. The low harvest stand measured in row 4 of the strips makes him wonder if he might have had a faulty planter unit.

Rootworms in Strip Intercropping

Michael Ellsbury, South Dakota State University

Investigations continued on the Mugge Farm on the possibility of rootworm damage in the strip system. Soil was sampled for eggs, adult emergence was monitored, and root damage was rated on a 1 to 9 scale. As in 1995, rootworm eggs were found in the soybean strip but in smaller numbers. There were few rootworm eggs in the soil where corn was planted. We found evidence of only minor rootworm damage to the first row of corn caused by larvae migrating underground from the soybean strip. Root damage and adult emergence were much lower in 1996 than in 1995. It is interesting to note that 1996 yield in the outer corn row was higher than that in the other five rows. We speculate that overwinter mortality and a cool wet spring may have reduced numbers of surviving rootworms.

Three barrier treatments were tried at the corn/soybean interface to test their effect on rootworm movement into the outer corn row. These treatments included: Counter® soil insecticide, crambe oilseed meal, and a tillage treatment in which the soil was ripped to about 9 inches depth with a cultivator shank (Figure 2). The oilseed meal treatment was included because research has shown this material to be toxic and repellent to soil-dwelling insects. The tillage treatment was intended to disrupt old root channels and soil pore structure that could be used by rootworm larvae moving toward corn roots. Evidently the tillage treatment had the opposite effect, since root damage was highest and yields lowest in the areas that were ripped (Figure 2). Very few emerging adults were observed in any of the treatments. This suggests to us that compaction of soil at the corn/soybean interface may be a means of limiting rootworm movement into the first corn row.

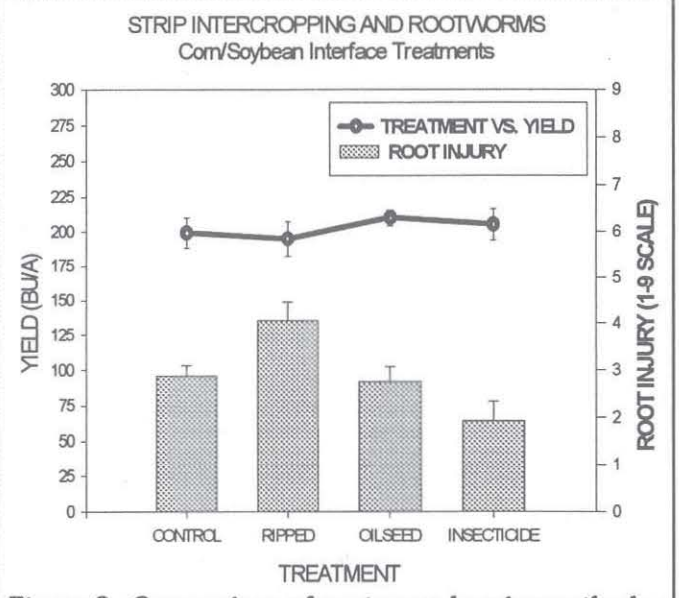


Figure 2. Comparison of rootworm barrier methods on corn in strip row bordering previous corn strip.

Soybean yields apparently suffered in strips at Olsons', and the unreliability of the combine monitor forced Paul Mugge to throw out his soybean data. Soybean yields averaged the same or slightly higher in strips over three years of comparisons by six cooperators, and corn yields averaged ten bushels higher in strips than field blocks for those 18 site-years.

The current challenge in strip intercropping appears to be bugs. Maybe strips are no more vulnerable to insects than is sole-cropping, but PFI is working with entomologists and agronomists from ISU and South Dakota State University to answer related questions. There were three suspected culprits in 1996: grasshoppers, common stalkborers, and corn rootworm beetles.

Paul and Karen Mugge, in northwest Iowa, have had problems with grasshoppers on the whole farm for the past two years. Paul has observed grasshoppers eating oat regrowth after small grains harvest, and these hungry pests moved right over into the soybeans after finishing off the oat strips. Failure of

TABLE 2. STRIP INTERCROPPING TRIALS

COOPERATOR	CROP	DIRECTION	STRIP YIELD	FIELD YIELD	DIFFERENCE	COMMENT
MUGGE	CORN	E-W	166.9	158.9	8.0	FIELD BLOCK CORN IN CORN-SB ROTATION YIELDED 140.9
	SOYBEAN	E-W	n/a	n/a	–	COMBINE MONITOR FAILED
	OATS	E-W	85.0	89.0	-4.0	50 BALES STRAW IN BOTH SYSTEMS
OLSON	CORN	SE-NW	165.9	157.7	1.5	BLOCK CROPS WERE NOT CLOSE TO STRIPS
	SOYBEANS	SE-NW	34.9	46.2	-11.3	
	OATS	SE-NW	67.9	70.3	-2.4	

STRIP ORIENTATION:		
NORTH-SOUTH	OLSON	OLSON
ROW	YIELD	STAND
(W)	(SOY)	(SOY)
1	173.8	23,631
2	156.0	26,136
3	152.3	24,285
4	161.5	26,027
5	146.8	24,720
6	163.2	26,572
(E)	(OATS)	(OATS)
STRIP AVG.:	158.9	25,229
BLOCK:	n/a	n/a

STRIP ORIENTATION:			
EAST-WEST	MUGGE	MUGGE	MUGGE
ROW	YIELD	STAND	ADJUSTED YIELD
(S)	(SOY)	(SOY)	(SOY)
1	199.1	31,363	184.7
2	165.4	27,225	164.2
3	152.7	28,205	148.4
4	131.7	24,612	138.9
5	159.3	27,770	156.4
6	185.3	32,235	168.1
(N)	(OATS)	(OATS)	(OATS)
STRIP AVG.:	165.6	28,568	160.1
BLOCK:	149.5	23,486	160.3

the combine monitor prevented Paul from measuring the effect of grasshoppers on soybean strips. Intercropped corn yields next to oat strips were still higher than in the center of the corn strips.

Common stalkborer may also have used strips as highways to travel into the field from the grassy borders where their eggs hatch. Any stray grass left between strips can also harbor these stalkborer eggs and young larvae. PFI coordinator Rick Exner and ISU entomologist Kris Giles applied an experimental biological control for stalkborers when they were migrating out of field borders on Jeff and Gayle Olson's farm. That information is being evaluated. Next year New Melleray Abbey may use its flame cultivator to singe the grass in field borders where stalkborers reside in spring.

Finally, SDSU entomologist Mike Ellsbury continued his study of corn rootworms in strip intercropping. In 1995, Mike found evidence that western corn rootworm larvae were migrating underground into the first row of a corn strip next to the previous year's corn. In 1996, those data did not show strong trends. However, Mike did test several methods for interrupting the rootworm migration, and those results appear in the side-bar and Figure 2.

Trichogramma Wasps for European Corn Borer at New Melleray Abbey

Joe Fitzgerald, New Melleray Abbey farm manager

The monks of New Melleray Abbey farm nearly 2,000 acres as their primary source of income and have farmed since 1849. A three-year "discernment" process begun in 1991 led to a renewed commitment to farm sustainably. To this end, a portion of the farm has been certified organic, and the organic acres are expected to grow. In all facets of the farm we seek to protect and enhance the environment while providing a profit. We are constantly experimenting and are happy to be cooperating with Practical Farmers of Iowa in our pursuit of sustainability.

In 1995 and 1996, with the assistance of ISU entomologists, we sought to control the European Corn Borer in field corn with timed releases of trichogramma wasps instead of chemicals. The ISU entomologists scouted fields to locate plots that offered the possibility of corn borer infestation. Once identified, the plots were flagged for eventual release of wasps. Later scouting determined whether enough corn borer larvae were present to warrant releasing the wasps.

Michigan State University research showed a 78 percent reduction of European Corn Borer larvae with the release of trichogramma (Orr and Landis, 1993). This was more effective than Dipel (Bt) At 34 percent, Pounce at 65 percent, and Lorsban with a 66 percent reduction. The tiny wasp parasitizes the corn borer by laying its eggs on the larvae. These eggs grow and develop at the expense of the corn borer larva, eventually killing it.

We found that European Corn Borer egg masses were 73 percent parasitized where there had been a release of the wasps. There was zero parasitism in the control plot, where no wasps were released. The trichogramma wasp shows promise as a chemical-free control for corn borer. At present the method is expensive and best suited to high-value crops such as sweetcorn and organic corn.

The recent introduction of Bt corn is giving farmers a new tool to control the corn borer. We grew some demonstration plots of Bt corn in 1996. The technology is new enough to lack a track record on effectiveness, environmental impact, and resistance by the corn borer. It seems prudent to maintain and utilize a variety of pest control options.

With ISU, we also tried a biological control for common stalkborer. A nematode that is lethal to the stalkborer was applied in a water suspension to the field. The spray was timed to coincide with the migration of the stalk borers out of grassy areas near the edge of the field. Numerical data were not collected, but there was a visible difference between treated and untreated plants. We will participate in more research using the nematode in 1997.

IPM Projects: Learning to Work with the Agricultural Ecosystem

In addition to PFI projects with management of insects in strip intercropping, cooperators have been working in two projects that seek to expand the toolbox for insect management in corn and alfalfa. In 1995, PFI and ISU entomologists began a two-year investigation of biological control of the alfalfa weevil and the European Corn Borer. With support from the Leopold Center for Sustainable Agriculture, each year two farms worked on alfalfa weevil and two farms concentrated on corn borer. Integrated Pest Management (IPM) involves field sampling for pests to see if they have reached the threshold at which treatment is justified. "Treatment," as we understand more about the ecology of insects, increasingly includes more practices than spraying insecticide. Among these, "biological controls" manage pests by manipulating the agroecosystem.

Part of IPM research today is refining those thresholds. There are good economic reasons for this. Let's say you have scouted your hay field and found an average of two alfalfa weevil larvae per stem. Present guidelines say that is the threshold above which you will suffer losses if you don't do something. (Incidentally, a certain amount of insect feeding actually stimulates alfalfa leaf production, and that response also happens to peak at two larvae per stem.) But what if you knew half those alfalfa weevil larvae would be dead in a week? You might take a wait-and-see approach.

In fact, several organisms can devastate weevil populations. A variety of tiny wasps lay their eggs in the weevil larvae, and a common fungus, *Zoopthora phytonomi*, attacks the larvae under the right conditions. If farmers could make their own judgements about the "health" of alfalfa weevil populations, they could often save money and avoid insecticides, which may be harder on the weevil's

Improving IPM

Mark and Julie Roose, Pella

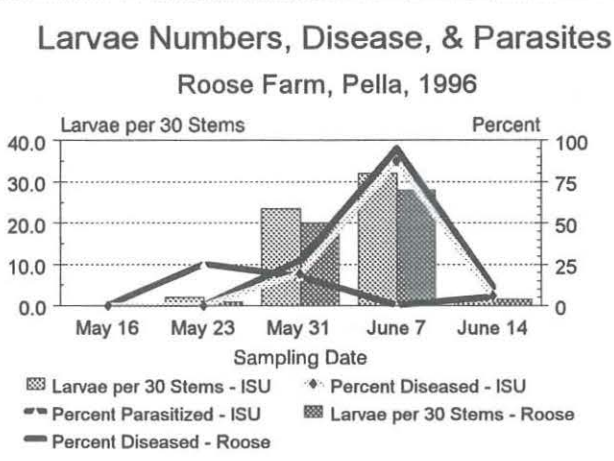
In 1996 we continued the project begun the previous year, a study of alfalfa weevil and other insects in alfalfa supported by the Leopold Center for Sustainable Agriculture. We worked with the ISU Entomology Department through graduate student Kris Giles, who was on the farm regularly.

We monitored alfalfa weevil populations weekly during May and June to see if parasites or diseases of the weevil affected their populations (Fig. 3). When we harvested the first cutting of hay, we left a windrow unharvested in the center of the field.

Our unseasonably wet weather allowed the fungus disease *Zoopthora phytonomi* to drastically reduce weevil populations. When the wet weather turned abnormally dry, our focus shifted to the potato leafhopper. We hoped the adult leafhoppers would congregate in the uncut hay strip in the center of the field, allowing the new growth to develop unhindered. We believe we lessened the leafhopper impact, but we're not sure how much.

Farmer involvement was a very important part of this project. Early in 1995, we invited neighbors in to talk with Kris about the project, and there has been continuing interest in what the research was finding. Last August we held a field day to share results and talk about our diversified farming system.

IPM and sustainable farming practices have been useful to us. We are appreciative of PFI, and the IPM Issues Team of the Leopold Center for their work on this project.



Hay harvested June 27 through July 3, delayed by weather.
Data from Giles.

Figure 3. ISU and cooperator data from Roose farm.

The study was designed to see if farmers can learn the necessary skills. The answer according to this project is "yes."

enemies than on the alfalfa weevil itself. The study was designed to see if farmers can learn the necessary skills. The answer according to this project is "yes." As Figures 3 and 4 show, there was very good agreement between the scouting information collected by PFI cooperators and ISU entomologist Kris Giles.

Biological control was the other focus of the project. One promising biocontrol is the use of unharvested strips described by Jeff Klinge and Mark and Julie Roose. Findings from this project are leading to more research on these unharvested strips. Corn borer biocontrol was addressed both by the Leopold Center study, as reported by Joe Fitzgerald, and by the SARE-funded (Sustainable Agriculture Research and Education, USDA) research described by Dennis McLaughlin, Ron and LaDonna Brunk, and Doug Alert and Margaret Smith. ISU Entomologist Les Lewis also provides background on that project in the following pages.

Corn Borer Control with the Fungus *Beauveria*

Les Lewis, ISU

Beauveria bassiana (say "bo-vária") is a widely distributed fungus that kills insects including the European corn borer, *Ostrinia nubilalis*. Recent research at the USDA-ARS, Corn Insects Research Unit demonstrated what we call an endophytic relationship between *B. bassiana* and corn plants. *Beauveria bassiana* applied to corn in the V7 stage of plant development enters the plant, colonizes the tissues and kills European corn borer larvae that bore into the stalk.

Together with PFI, we applied for and received a SARE grant to evaluate *B. bassiana* as a component to manage European Corn Borer on the farm. Three farms were involved in this research.

My Experience With IPM and Biological Control of Alfalfa Weevil and Potato Leafhopper

Jeff Klinge & Deb Tidwell, Farmersburg

In 1996 I learned how to:

- Use a sweep net;
- Identify insects at different stages of growth;
- Raise captured weevil larvae and determine how many of them were infected with the *Zoopthora* fungus.
- Carry out on-farm research so that the results are useful.

Although alfalfa weevils were not a big problem this year, I now feel I can determine when they are a big enough problem to justify action.

ISU entomologist Kris Giles suggested we leave a strip of alfalfa uncut at first harvest to attract adult alfalfa weevils and leafhoppers. We found that the leafhoppers were attracted to these strips and basically left the rest of the field alone. I plan to leave strips in the alfalfa fields next year.

During the field day there was discussion of insect pests, alfalfa management, and crop rotations. We toured the farm, and people were interested in my Austree windbreak for the feedlot as well as in our native prairie planting.

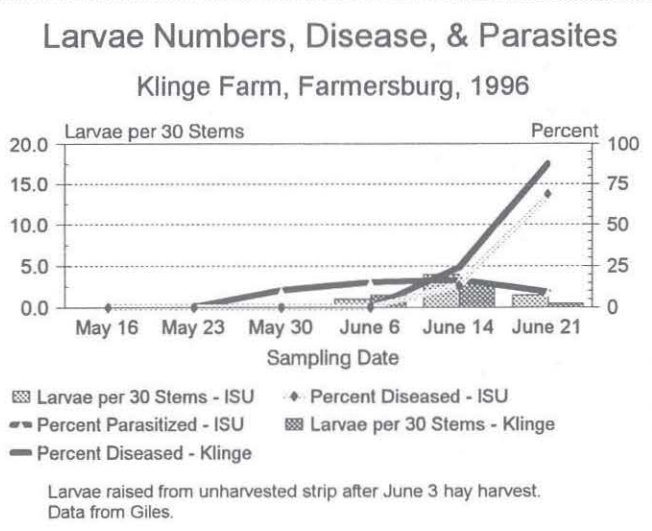


Figure 4. ISU and cooperator data from Klinge farm.

Research on the Doug Alert/Margaret Smith farm, Hampton, IA had four treatments - 1) *B. bassiana* applied at V7 stage of corn development, 2) *B. bassiana* applied at R3 stage of corn development, 3) *B. bassiana* applied post harvest to crop residue and, 4) an untreated check. Research on the Ron and LaDonna Brunk farm, Eldora, IA and the Dennis and Kate McLaughlin Farm, Cumming, IA had treatments 1, 3, and 4. The *B. bassiana* (726 Mycogen Corp., Butte, MT) was applied to the respective plants at 0.4 grams/plant using a hand-held applicator. Treatment 4 (post harvest) was applied with a hand-operated cyclone spreader. (Editors' note: the V7 stage of development is roughly equivalent to seven fully expanded leaves and typically occurs in early June. R3 is about the "sweetcorn" stage of ear development.)

The design of the experiment was similar to PFI field trials but with more treatments. A replication contained five rows of corn 400 ft. long at the Alert Farm, six rows 400 ft. long at the Brunk Farm, and four rows 400 ft. long at the McLaughlin Farm. At

ISU entomologist Les Lewis passed around samples of infected corn borers at the Brunk field day July 9.

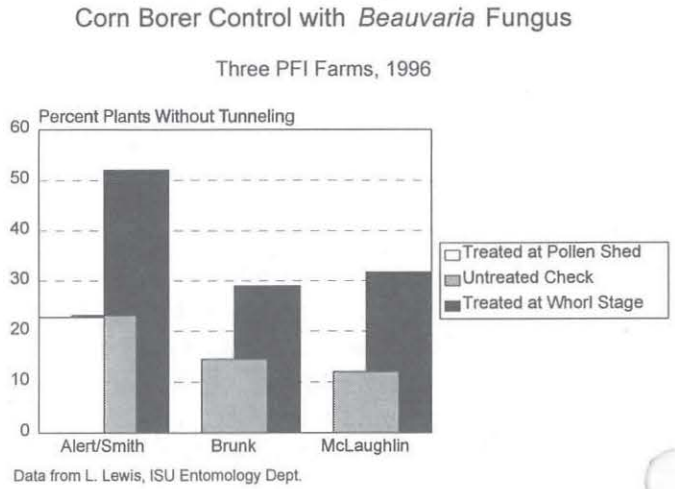


Figure 5. Effect on corn borer tunnelling on three farms.

TABLE 3. OBSERVATIONS WITH THE FUNGUS *BEAUVARIA BASSIANA*

FARM/ TREATMENT TIME	TUNNELING/PLANT (cm)	% PLANTS WITH NO TUNNELING	NUMBER OF LARVAE PER 2 m²
ALERT/SMITH			
WHORL STAGE	3.0 c	52.0 a	2.5 a
POLLEN SHEDDING STAGE	5.1 b	22.8 b	4.8 a
POST HARVEST	–	–	–
UNTREATED CHECK	6.6 a	23.2 b	5.7 a
BRUNK			
WHORL STAGE	3.1 b	29.0 a	2.5 a
POST HARVEST	–	–	3.5 a
UNTREATED CHECK	6.5 a	14.5 b	2.1 a
MCLAUGHLIN			
WHORL STAGE	4.7 b	31.7 a	3.0 b
POST HARVEST	–	–	7.3 a
UNTREATED CHECK	8.7 a	12.0 b	6.8 a

MEANS FOLLOWED BY THE SAME LETTER, WITHIN A FARM, ARE NOT SIGNIFICANTLY DIFFERENT FROM EACH OTHER.

black layer (physiological maturity) the number of plants in two adjacent rows 22 ft. long were counted and the ears harvested. These ears were stored in burlap bags, and the corn will be shelled and weighed. The plants in each sample were split from tassel to base and the inches of tunneling was measured. An additional five plants were harvested and will be evaluated for *B. bassiana*. Following harvest two 1-meter squares of crop residue within each replicate were dissected. Number of live larvae and number of *B. bassiana*-infected larvae were counted.

Data from these studies are presented in Table 3 and Figure 5. Preliminary results suggest to us that an application of *B. bassiana* at whorl stage reduces tunneling by the European Corn Borer and decreases the percentage of plants with insect damage.

Testing the Fungus Beauveria on Corn Borer: Three Cooperators' Perspectives

Ron and LaDonna Brunk, Steve and Tara Beck-Brunk, Eldora

We are interested in the possibility of controlling corn borers in field corn without chemical insecticides. An insecticide program is costly, takes accurate timing, and includes the inherent problems of chemical residues and human exposure in the field. The plan to infect a field with a perennial fungal disease fatal to European corn borer seems feasible and would certainly be of practical and economic value. When the opportunity arose to cooperate with PFI and the Iowa State Entomology Department in an experiment with an endophytic fungus, we were interested and willing. We hope this experiment will add to knowledge on the degree of control this fungus could provide and its persistence in a treated field.

Doug Alert & Margaret Smith, Hampton

Margaret and I have been cooperating with Les Lewis and associates of the Agricultural Research Service on a project evaluating the fungus *Beauveria bassiana* for long-term suppression of European Corn Borer (ECB). Our role in the project included normal crop production tasks with some additional assistance to facilitate efficient plot harvest. We also politely deactivated electric fences when researchers doing plot work and collecting data!

After seeing the early data showing the naturally-occurring fungus had already killed a significant percentage of ECB larvae, we were curious why most of our neighbors' fields were treated for corn borer this season. We are hopeful that the additional application of the fungus (seeding the field) will increase the percentage of larvae killed. This seems to us a promising area of research that would give us another tool for the pest management "toolbox".

Dennis and Kate McLaughlin, Cumming

In 1996 ISU researchers Les Lewis and Bob Gunnarson came to our farm to evaluate in-field applications of a naturally occurring fungus known as Beauveria that infects the corn borer in the larval (worm) stage. As I understand it, the basic strategy is to increase the prevalence of this "good guy" fungus.

Resistance is a term we hear in connection with pests like weeds and insects. Nature is creative and pests tend to evolve ways around our defenses. The classic examples are those insecticides and herbicides whose effectiveness has declined due to their widespread use (and misuse). Even a safe product like Bt corn may well have a very limited "shelf life," leaving us with an "evolved" corn borer and a prematurely obsolete tool. Assuming Nature "bats last" in the game of resistance, Beauveria, being a living organism itself, should evolve right along with the corn borer.

At this point there are more questions than answers from the trial. Corn yield seems almost secondary to issues like application methods, timing, infection rates, and winter survival of the fungus. Time will tell how the Bt story turns out, but Beauveria may provide a way to keep Nature "at bat" for us long term in our struggle with the number one economic pest of corn.

FOOTPRINTS OF A GRASS FARMER

Landscape Descriptions – Daydreams, Dead-ends, or Decisions...

Tom Frantzen, Alta Vista

A common topic in discussion about sustainable agriculture is the land itself. People who care about the land show consideration for how it is treated. If they happen to practice Holistic Management, they are asked to describe what the future landscape needs are in order to produce the forms of production that sustains their quality of life.

Last November, our family worked at defining what our farm should look like. We know that this description is important in supporting our values. The real issue is how our described landscape will support us far into the future. We know why we seek protected soil and shelter from high winds and a home for wildlife. But what specifically do we desire on our land to create these effects? Where would it be established? When can it be achieved? These questions sound overwhelming but with open lines of communication, long nights, and plenty of "cabin fever" weather, we made good progress.

Each year, our farm is guided by a written holistic management plan. Writing this plan begins in November and is usually complete in early January. This plan is put together in a 3-ring binder, currently named our Sunlight Harvesting Manual. This book has 12 chapters. Each chapter has its own table of contents. Chapter 4 covers our landscape description.

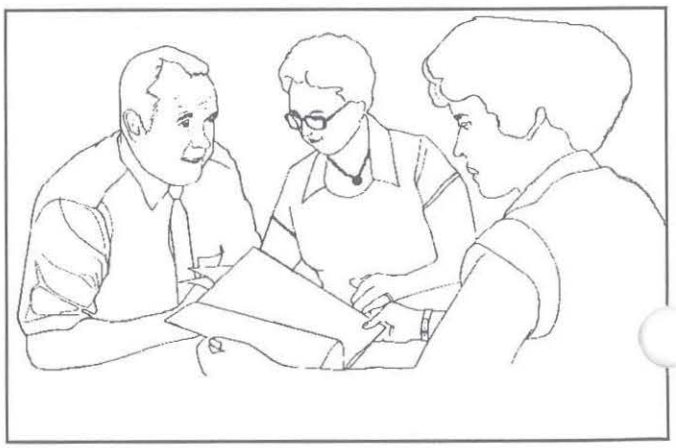
Our general futuristic plan follows our table of contents in Chapter 4. Ideally, we desire no erosion, we want windshelter, good habitat for wildlife, and recreational use. Water should infiltrate the soil profile effectively, and minerals should be efficiently recycled. We are uncertain about what level of plant succession would be appropriate. The sun should power our farm. That is the reason for entitling this book Sunlight Harvesting Manual rather than a crop and livestock notebook. This general description, although somewhat vague, tentatively guides our planning.

The remainder of this chapter includes: a general description of a five year plan for our land; fencing projects; wildlife and shelterbelt plantings and intentions; building plans; and permanent pasture arrangements. An overall farm map drawn to scale with a matrix lists field numbers, acres, and crop intentions. To map the future of our crop and rotated pasture lands, we needed alternative cropping systems to compare. Six strategies were compared to our existing practices, each over a five year span. Each rotation scheme was examined for economic performance, soil protection and maintenance of productivity (whole ecosystem), monthly workload, compatibility with livestock, amount of tillage, and overall effect on our quality of life.

From the group of seven rotations, we eliminated four on grounds of incompatibility. The three remaining – two organic and one 7 year non-organic – were than compared using the Holistic Management testing guidelines. One rotation package, a split five year corn, bean, oats, hay, pasture / corn, bean, corn, oats, hay, emerged as the most likely practice to produce our desired quality of life. Following the tradition of Holistic Management, we assume that this choice is wrong and will monitor its adaptation using early warning criteria. Soil loss, weed problems, and crop yields constitute most of the criteria.

To achieve the physical environment that we desire requires a lot of decision making. The very first one is to decide to do the planning. Daydreaming can be a healthy exercise. Goal setting helps us plan for the future. Dead-ends can be avoided by careful monitoring.

We now have a map, a selected decision-making process, and an activity manual to guide us. The future looks interesting!



FROM THE KITCHEN

Marj Stonecypher, 1321 March Ave.
Floyd, IA 50435-8058
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The Farmer's Almanac says, "nicer weather from February on," sure hope so. Time to think about spring and summer? My cousin from McKinney, Texas and I are trying to plan a family reunion for summer. He is deep into doing family geology. So we need to get the families together again for more information for him to put into his computer. Thinking about reunions, here is a recipe that my late Aunt Mollie always brought. She left us a year ago at the age of 94. Now someone else has to bring her dish. She gave the recipe to me a few years ago. I'm wondering if she meant for me to carry on with her beans? It was simply delicious, and never a bean for her to take home.

AUNT MOLLIE'S BAKED BEANS

2# assorted dried bean - soaked over night in plain cold water

Add: ¼ tsp soda - Boil for 2 or 3 minutes, drain and rinse.

Add: 2 cups brown sugar

desired bacon (not fried).

½ cup dark molasses

½ tsp. dry mustard

salt and pepper

½ stick of butter

Bake 3 hours or more till done - 350 degrees. Keep moist with water. You don't like baked beans? – You will these!

SOUR CREAM CHOCOLATE CAKE

3 blocks (3 oz) baking chocolate

1½ tsp. baking soda

½ cup butter or margarine

1 tsp. salt

1 cup boiling water

2 eggs

2 cups light brown sugar, packed

½ cup dairy sour cream

2 cups all purpose flour

1 tsp. vanilla

Combine baking chocolate, margarine and boiling water in a small bowl; stir until chocolate and margarine are melted. Thoroughly combine brown sugar, flour, baking soda and salt in a large bowl. Gradually add chocolate mixture beating thoroughly. Beat eggs, sour cream and vanilla. Blend into above and beat one minute at medium speed. Pour into a greased and floured 13 x 9 x 2 inch pan. Bake at 350 degrees for 35-40 minutes. Cool and frost with your favorite frosting. Note: If you do not have baking chocolate bars, you can use ½ cup cocoa plus 1½ tsp. shortening.

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