the Practical Farmer

Practical Farmers of Iowa Newsletter

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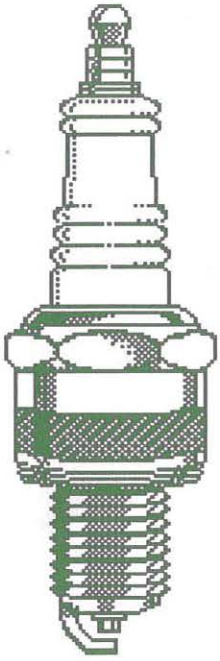
Spring 1997

POWERHOUSE FARMS

Vic Madsen, Audubon

Today is one of those foggy, drizzly April days. Soybeans are down the limit because, among other things, the Louis Dreyfus Company has 53,362 tons of Brazilian soybeans on the way to New Orleans. Those of us who grow oats have watched imports for years. Apparently soybean traders have discovered that boats sail both ways.

And if I hear that stupid weed-eating bear commercial *one more time...*



But then a farmer from the other side of the county called. He was looking for alfalfa seed. The corn on last year's plowed sod yielded over 160 bushels per acre with only a little starter fertilizer. His next comment was that the beans this year will be better too, thanks to the rotation effect.

He is not a PFI member, should be, but more importantly he "gets it." The crop rotation production model makes the farm powerful.

When Allan Nation writes in *The Stockman Grass Farmer* about grass-based dairies, stocker cattle, beef cow and sheep farms, he is talking about production models that strengthen farms and ranches.

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IN THIS ISSUE

In the pork industry, the farmer-farmer or farmer-investor or house-hog house struggle is mostly a production model problem.

The point is that we can make our farms financial powerhouses by using production models that develop internal farm strength. These models tend to be high-information, high-management, medium-investment, people-friendly systems.

For example, the 30-cent drop in soybean prices is a bigger deal if the farm is a cash grain operation that only sells corn and soybeans than it does to a farm that has 25 per cent of the acres in beans and also sells two or three species of livestock. It doesn't take a rocket scientist to figure which farm is internally stronger, even if they have exactly the same net worth. Or, the up-ticks in interest rates are at a different point on the panic scale if one has a 300,000-dollar hog production model heavily leveraged versus a 100,000-dollar production model with the same equity.

In the pork industry, the farmer-farmer or farmer-investor or house-hog house struggle is mostly a production model problem.

After many years of working with various forms of alternative agriculture, it seems that we can only tweak an inappropriate production model so far. If we are still not satisfied, then a different model is needed. If we can break away from the commercials and mob mentality, I am convinced that we have only begun to discover production models that will develop powerhouse farms with internal strength and resilience. ❦

We Apologize

This newsletter is late, as were the last two. We apologize.

A newsletter is an important part of organizations like PFI. It is a way members and others can learn about the organization and related topics and events.

The reason the newsletters have been late is we have been busy trying to secure funding to continue PFI's mission (see "Planning for PFI's Future" on page 9). This work begins with discussions with potential partners about ideas, which in the end leads to writing grant proposals by deadline dates. Sometimes other work gets delayed.

So again, we apologize.

Also, please note: inserted into this newsletter is a survey we would **very much appreciate having you complete and return**. We are interested in how much of the newsletter you read, what you want to read about, and what you think about its appearance and length. This information will help us evaluate the type of newsletter we should be providing you.

And finally, we thank you for your understanding and patience about the lateness of this one and the last two.

1997 PFI FARM FIELD DAYS – NEW SKILLS, NEW QUESTIONS

As a new growing season rolls around, PFI field days are firming up with some new faces, some new questions to answer, and new ideas to implement. There will be something for almost everyone: beginning graziers to old pros; row crop farmers to prairie enthusiasts, "sheep people" to "tree folks."

The new season of PFI field days gets under way July 1 and runs through September 14.

Table 1. Combined Northeast Iowa Pasture Walk Schedule

Date	Host	Location	Topics
June 25 1:00 pm	Bonnie and Vance Haugen Canton, MN (507-743-8326)	At intersections of Hwys 44 and 52, take the county gravel N about 1 mile, turn right about 1.5 miles.	Experimental midsummer grazing (kale, canarygrass, rye), seasonal, spring calving, barrel-feeding calves,100+ milking herd.
June 26 10:00 am	Doug and Janet Hoefler 28412 Tom Lucas Rd., New Vienna, (319-921-3485)	N. fr. Farley or S. fr. Holy Cross on Y13 to Tom Lucas Rd., then W. 3 miles.	Dairy herd: development of 4-yr pasture in crop ground. Establishing and maintaining grass-legume pastures.
June 29	Andrew Jackson Demonstration Farm. Contact Jackson Co. Extension (319-652-4923)	N. of Andrew on Y61.	Annual Farm Field Day.
July 2	Farm Progress Hay Expo	Robert McSweeney Farm, Arlington, IA	
July 9 1:00 pm	Don Baker West Union (319-532-9530)	1 mile, N. on Kale Rd to last farmstead.	Multiple corn planting dates for summer strip-grazing, Calves on spring-seeded rye. Pasture management in hot weather (with Brian Lang, Extension Crops Specialist).
July 15 1:00 pm	Chris Riniker Strawberry Point (319-933-6804)	2.5 miles S. of Mederville, R. on Evergreen Rd., name is on sign next to road.	Strip grazing 55-Holstein herd, rye and red clover, above-ground watering system.
July 29 6:30 pm	Ron and Maria Rosmann 1222 Ironwood Rd., Harlan, IA 51537-4102 712-627-4653	From intersection of Hwy 59 and 44 in Harlan, 2 miles W. on Hwy 44, then N. 2 miles on Ironwood Rd., W. side.	Pasture walk
August 6 1:00 pm	Brad Bergan Strawberry Point (319-933-2308)	9 miles S. of Elkader or 5 miles SE of Strawberry Point on Hwy 13, 1/2 mile W. on Crystal Rd., first place on left.	Grazing 75 Swiss and Holstein on permanant pasture and converted cropland. Haylage clamp.
August 12 10:00 am	Jerome Gaul 13126 Fishpond Rd., Epworth (319-876-3813)	Take Old Hwy. Rd. W. fr. Epworth to Fishpond Rd., then N. about 3 miles.	Dairy herd: grazing management of hay fields, pasture feed budgeting.
August 20 1:00 pm	Art and Rick Matt Castalia (319-423-7360)	4 miles S. of Castalia on Deerfield Rd. or 4 miles N. of Clermont.	Converting CRP to pasture for beef, interseeding and frost seeding CRP for hay and pasture.
August 28 6:30 pm	Andrew Jackson Demonstration Farm, Contact Jackson Co. Extension (319-652-4923)	N. of Andrew on Y61.	Beef steer grazing: variable density grazing, summer slump pasture management, feeding grain on pasture.
September 3 1:00 pm	Don Baker West Union (319-532-9530)	1 mile, N. on Kale Rd to last farmstead.	Turnip establishment on grazed corn ground, fall grazing management for spring performance (with Paul Brown, ISU Extension).
September 4 10:00 am	Larry Thier 13938 Hickory Valley, Farley (319-875-7664)	Y13 N. from Farley, W. on Dyersville East Rd. about 3 miles.	Dairy herd: out-wintering strategies for dry cows and for heifers, frost seeding development, poultry on pasture.
September 17 1:00 pm	Nick and LuAnn Rolling Waterville (319-535-7160)	1.25 miles E. of Rossville on Hwy. 76, N. on X32 about 3 miiles, turn left onto Paint Creek Dr. About 1 mile.	Permanent and improved CRP pastures for seasonal, fall-calving Jersey herd. Corn silage for winter feed. Working dog demonstration.
September 18 10:00 am	Pat and Marion Freiburger RR 2, Delhi (319-932-2933)	S. of Delhi on X31, W. on D42 about 3 miles, S. 1 mile.	Dairy herd: fall grazing strategies, remodeled parlor, preparing for winter.
November 5 1:00 pm	Don Baker West Union (319-532-9530)	1 mile, N. on Kale Rd to last farmstead.	grazing turnips, stockpiling forage, planning winter feed supply, cattle body condition (with Jim Ranum, NRCS, on cost-share practices).

PFI research cooperators met Feb. 20-21 to "refocus" and to lay the groundwork for 1997 activity. Since then several more PFI members have signed up for field days and on-farm research. Tom Wahl, a member of the Louisa County *Farms Forever* group of *Shared Visions*, received support for a *Sustainable Projects* proposal to evaluate nut and fruit trees and host a field day to show these underutilized crops. Steve and June Weis (Osage), members of the *CHARM Shared Visions* group, volunteered to show their new hoophouse hog production system. Several PFI members also responded to the note in the last newsletter to farmers growing food grade soybeans. As a result, Dennis and Eve Abbas (Hampton) will hold a field

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day focused on their production of organic soybeans, and that will be followed by a visit to the new hoophouse hog system of Fritz and Dawn Groszkruger, of Dumont. Other members, like Craig and Katia Milius, Plainfield, were asked by their PFI neighbors to co-host a field day.

Members received the complete guidebook of PFI field days in June. Below are the dates and a few of the highlights at each farm. If you would like a copy of the complete field day guide, contact the PFI/ISU Extension coordinators at 515-294-1923. In addition, Table 1 (page 3) gives information on the many pasture walks sponsored by the Northeast Iowa Demonstration Project, ISU Extension in Dubuque, Delaware, Jones, and Jackson Counties, and other groups. Plan to visit a few of these farms this summer!

July 1 - Dennis and Kate McLaughlin, Cumming
preplant vs. sidedressed N, beginning rotational grazing

July 9 - Walt and Gartha Ebert, Craig and Katia Milius, Plainfield
rotational grazing for sheep, exotic annuals for short-term grazing

July 10 - Mike Natvig, Cresco, Tom and Irene Frantzen, Alta Vista
rotationally grazing native perennials, hazelnut production, low-investment hog expansion, tillage rotation

July 12 - Iowa Valley CSA producer tour (Iowa Falls area)

July 12 - Organic Farmer Mentor Program tour, Steve and Roxanne Hickenbottom (Fairfield)

July 15- Ron and LaDonna Brunk, Steve and Tara Beck-Brunk, Eldora
nitrogen management in corn, corn borer biological control

July 17- New Melleray Abbey, Peosta
compost for corn production, flame cultivation, leafhopper and alfalfa weevil biological control

July 19 - Jeff and Gayle Olson, Mt. Pleasant
feedlot runoff containment system with composting and liquid application, oats after corn or soybeans, strip intercropping and stalkborer

July 20 - Magic Beanstalk CSA producer tour (Boone and Story Counties)

July 23- Jeff Klinge and Deb Tidwell, Farmersburg, Dan Specht, McGregor (with NE IA Demo Project)
malting barley, organic corn, sweetcorn, alfalfa biological control, rotational grazing native perennials, nursery for prairie plants

July 24 - Audubon Graziers Pasture Walk, Jim and Mary Bradford, Guthrie Center

July 26- Mark and Julie Roose, Pella
intensive rotational grazing, alfalfa weevil and leafhopper biological control, hoophouse hog production, diversified farming

July 28-29 - *Prairie Pastures: Native Plants and Wildlife for Rotational Grazing Systems,* Laura Jackson, University of Northern Iowa
pasture restoration workshop (see page 16)

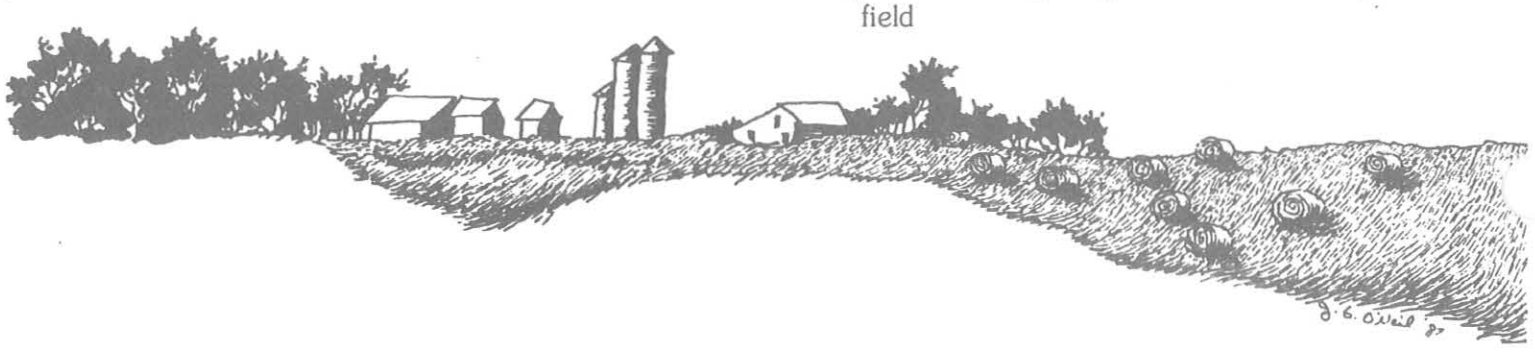
August 15 - Paul and Karen Mugge, Sutherland, Colin and Carla Wilson, Dan and Lorna Wilson, Paullina, Dordt College Ag Stewardship Center, Sioux Center
corn response to manure and purchased N rates, tofu soybeans, deep-banded P & K (residual), strip intercropping, Swedish hog production system, Bt corn, waxy corn, intensive rotational grazing, calcitic vs. dolomitic lime for alfalfa, cover crop for N and weed mgt., Roundup-Ready™ soybeans

August 19 - Steve and June Weis, Osage
hoophouse hog production

August 21 - Dave and Lisa Lubben, Monticello
Bt corn, seed firmer, corn population

August 25 - Dennis and Eve Abbas, Hampton, Fritz and Dawn Groszkruger, Dumont
soybean production for the organic market, hoophouse hog production

August 28 - Neely-Kinyon Research Farm, Greenfield



specialty soybeans, polyacrylamide gel for crop nitrogen absorption, 15" vs. 30" corn rows, Roundup-Ready™ corn and soybeans, hay preservation methods, stockpiled forage

September 2 - John and Pam Cowles, Bloomfield
intensive rotational grazing Jersey dairy

September 4 -Ron and Maria Rosmann, Harlan
tillage systems and weed management in an organic system, intensive rotational grazing (beef), diatomaceous earth parasite control, grazing maize

September 10 - Matt and Diana Stewart, Oelwein (with NE IA Demo Project)
strategies for fall grazing, season of calving study, pasture improvement with liquid dairy manure, "liquid seeding" forages in manure

September 11 - Richard and Sharon Thompson, Boone
cropping system economics, A-frame farrowing results, rotary hoe repair, double-throw ridges, liner under gravel lane, tub grinding stalks and hay, the moldboard plow, pasture walk

September 13 - Ken Rosmann, Harlan
purchased poultry manure vs. on-farm manure for organic corn production, intensive rotational grazing (beef)

September 14 - Tom Wahl and Kathy Dice, Wapello
demonstration and evaluation of pecan, hickory, hican, walnuts, heartnut, pawpaw, persimmon, hazlenut and chestnut ❦

REFLECTIONS ON SPRINGBROOK

Nan Bonfils, Boone County

(Editors' note: Eighteen women attended the PFI Women's Winter Gathering March 1-2, 1997.)

Assembling at Springbrook Conservation Center, it was initially hard to discern what common bonds drew us together for the PFI's Women's Winter Gathering. Yes, we were certainly all female, and it was definitely winter, albeit on the cusp of spring. But not everyone was a PFI member (witness Cheryl from the land down under), or even a rural Iowan (witness Virginia from Des Moines).

There were women who came from fourth generation family farms and vocalized their pride. And women who had recently purchased forty acres and radiated zeal through their eyes. Some were newcomers to farming, others were veterans, a distinction that followed no correspondence to age. There were women with dishwashers and women with privies. What would draw such a group together and what could sustain us?

There were women who came from fourth generation family farms and vocalized their pride. And women who had recently purchased forty acres and radiated zeal through their eyes.

Early in our 24 hours together we found an answer by first asking ourselves "What has sustained me in the last six months?" After a ponderous pause, responses, as diverse as the women who revealed them, filled the room. What had sustained us was time to meditate, read, or write; the rhythm of chores or swimming; midnight fire duty and predawn paper routes. But from the very groundedness of these activities arose a higher common dimension. We shared an affection for the earth, a reverence for nature, and tremendous capacity for reflection. What sustained us all winter would bind us through the retreat.

And speaking of sustenance, Bonnie, at the Springbrook kitchen is quite the chef. Her board was promptly laid and plentifully laden. With Saturday night stomachs well satisfied, we sat, sharing books around a circle, like sitting among old friends.

Leadership sustained us too. We owe gratitude to the designated workshop leaders who outlived their possible role as "one in command of followers" to model something closer to "leadership as a process of group interaction." Each was thoroughly prepared to direct, yet knew exactly

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when to get out of the driver's seat. Trademark of outstanding leadership!

- Danielle Wirth: Outdoor Program
- Carol Smith: Building our Strengths
- Betty Wells: Women & Sustainable Agriculture: Sharing our Stories
- Pam Neenan: Ag and Everywoman

We thank them for their wise counsel. Special thanks also to the planning committee: Donna Bauer, Deanna Hansen, Cindy Madsen, Rhonda Yoder, Margaret Smith, and Jan Reynolds.

We were more than sustained; we were replenished, with enough spare energy to launch plans for next year's retreat. Mark your calendar now for **February 28-March 1, 1998.** If you'd like to volunteer to help with planning the retreat, call Sara Andreasen at 515-791-2740. But most important, plan to attend. Give yourself the gift of time for reflection and sustenance among friends.

PLANNING FOR PFI'S FUTURE

Gary Huber

The PFI board and staff have been planning for PFI's future. This planning is needed because the Kellogg Foundation grant that pays for the on-farm research and community groups of Shared Visions is ending. Various activities have been a part of this planning.

One activity was to develop this mission statement to provide direction for future PFI activities:

"PFI is farmers helping farmers make better decisions. We do this by using on-farm research and demonstrations and by working with each other and agricultural scientists. The results are farming systems that are ecologically-sound, profitable, and good for families and communities."

Another activity was to develop a logo that better captured the essence of PFI (see graphic below). The main purpose of this logo would be for a member recruitment brochure where more information than the traditional logo would be useful. The traditional logo would continue to be used for PFI caps and roadside cooperator signs because people have come to recognize the design.

These activities were part of a larger effort. To help with this effort, the board hired Duane Sand of Norwalk to develop a strategic plan and funding study for PFI.

Using discussions with PFI leaders and other sources of information, Mr. Sand developed the model on the accompanying page to visually depict areas that could be part of PFI's future. Included is a shortened version of the PFI mission statement above the model. At the center are PFI farmer cooperators and members, indicating their importance to PFI's future. As Mr. Sand noted in the accompanying report, "The dedication, determination and leadership of practical farmers and members of their communities will be central to success."

Around the outer edge of the model are six areas of possible future activities for PFI. The three areas on the right involve activities that occur on farms or are directly related to farming practices and systems.

Area 1 has always been a core activity of PFI and the board feels strongly that farmer-managed on-farm research should continue to be a focus. Thus, this area is a priority for PFI's future.

Area 2 would broaden this on-farm research by helping PFI cooperators examine their operations as systems. Many cooperators want to examine,

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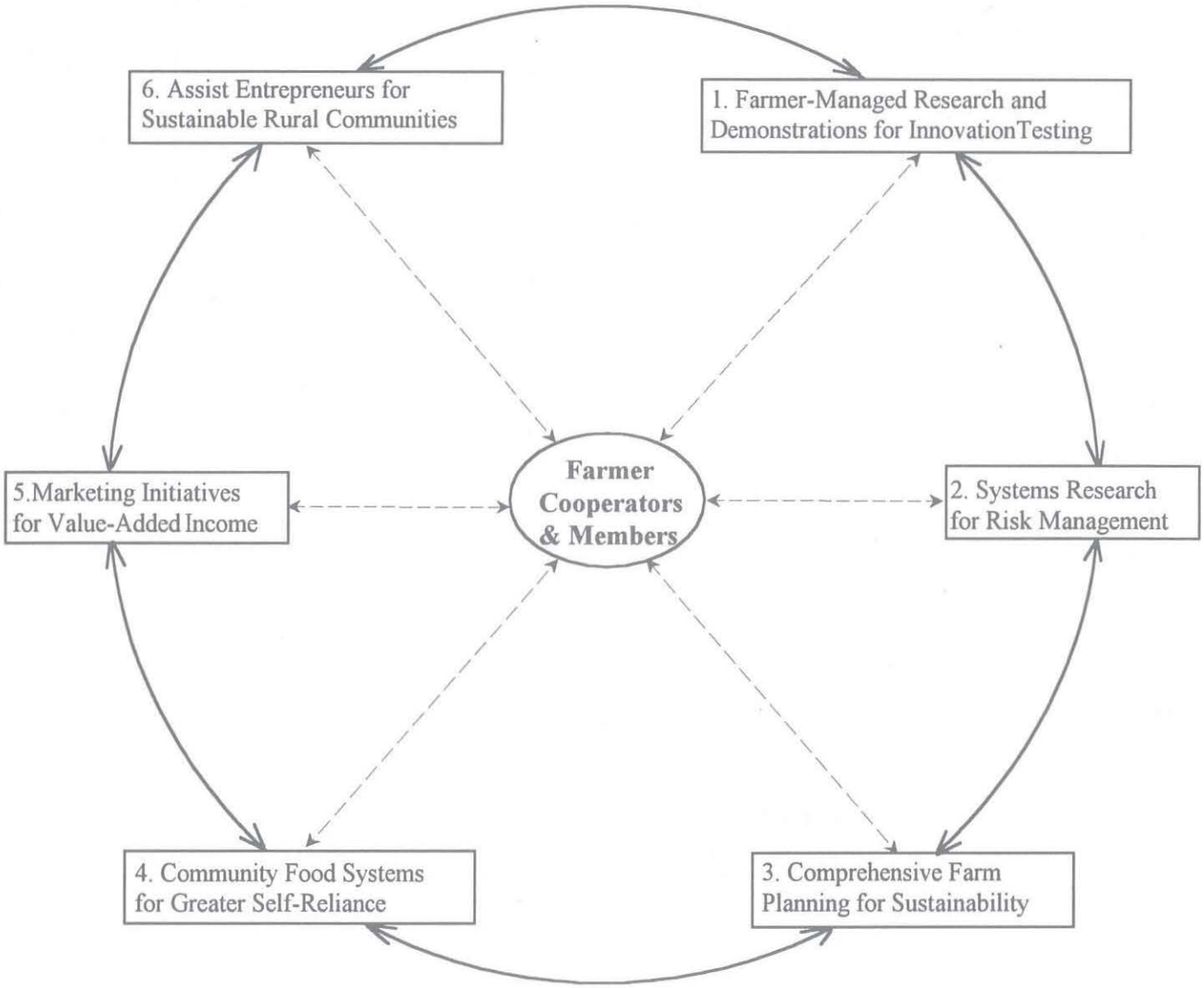
Practical Farmers of Iowa
Stewards of the farming future
PFI
Farms • Families • Communities

PRACTICAL FARMERS OF IOWA Tomorrow

"Farmers helping farmers make better decisions ."



- **This model helps farmers reduce production costs, conserve resources and increase market revenues.**
- **This model helps rural residents work together to enhance the vitality of their farms and communities.**
- **This model helps institutions, agencies and organizations provide timely and appropriate information and technologies to farmers and communities.**

analyze, and improve their entire production systems, not just the component parts. As well, others in PFI want more information on how these systems work and perform before they attempt to adapt them to their own operations.

Area 3 would expand PFI efforts to encourage better farming systems by actively helping other farmers develop comprehensive farm plans using models like Holistic Management. This proposed activity area, which would build on PFI's on-farm research, is in response to growing interest in whole farm planning for environmental and financial benefits.

The three areas on the left of the model would extend possible roles for PFI beyond the farm gate. These roles were included in response to members who felt their success depended ion being involved in components of the food system that add value to their products.

Area 4 would build on the successes of Shared Visions groups that have focused on creating local food systems. The core of this activity area would be community-based teams that develop and implement efforts to increase local self-reliance.

Area 5 would involve marketing options that increase income to producers. Examples of activities in this area include market research, business planning, and technical assistance to advance marketing ventures.

Since the report was presented to the board, work has focused on seeking partner organizations and funding.

Area 6 would develop entrepreneurial skills among beginning and active farmers to pursue opportunities in areas unfamiliar to many lenders, landlords, and development officials. PFI's experience with CSAs, grass-based farming, alternative pork production, and other marketing and production innovations, can help entrepreneurs manage risk as they pursue timely opportunities.

Mr. Sand's report also included cost estimates for implementing activities involved in the six action areas and information on possible partners and funding sources. Since the report was presented to the board, work has focused on seeking partner organizations and funding.

For example, last December PFI President Dave Lubben and staff member Gary Huber made a presentation to leaders of the Iowa Cattlemen's Association. The presentation focused on possible collaborative activities, including intensive grazing research and demonstrations. The response was positive with a recognition that mutual interests existed.

As well, proposals to fund activities in Areas 1 and 2 were submitted to the Iowa Corn and Soybean Promotion Boards. The project proposed to the Corn Promotion Board would have examined and demonstrated options for using the production freedoms of the new Farm Bill to develop low-cost corn production systems. The project proposed to the Soybean Promotion Board would have examined and demonstrated systems to produce organic or pesticide-free soybeans. Both proposals were turned down.

Discussions on partnering options with NRCS related to Area 3 led to a $15,335 proposal to the USDA SARE Professional Development Program. This proposal for three 1998 on-farm workshops on innovative practices and farming systems for NRCS and Extension staff was approved.

Discussions with Iowa State University led to support in the form of $3,000 from Dr. Stan Johnson, Vice-Provost for Extension, to help write grants that would build on the collaboration between PFI and ISU. This support helped the development of two proposals through assistance from Diane Mayerfeld.

One was to the USDA Fund for Rural America program for a project to develop production expertise and marketing avenues for high quality beef and pork. The beef and pork would be raised in environmentally-sound systems without antibiotics and synthetic hormones. This project would cut across Areas 2 and 5 of the model for PFI's future.

The other proposal was to an EPA pesticide reduction program for a pilot project to work in two counties with landowners not involved in farming, their tenants, and their farm managers. The focus would be on options for moving their farms towards sustainable systems that would require less pesticides. This project would focus on Area 3 of the model.

Another proposal prepared in cooperation with leaders of the Magic Beanstalk CSA and Field to Family project in central Iowa was submitted by PFI to the USDA Community Food Projects competitive grant program. This project would work to increase the self-reliance of the Ames area in providing for its food needs, with the plan being to try to take the model to other locations in Iowa in subsequent years. This project would focus on Area 4 of the model for PFI's future.

Discussions with Dennis Keeney, Director of the Leopold Center for Sustainable Agriculture, led to PFI submitting a one-page proposal to establish a working partnership between PFI and the Leopold Center. Reaction to the proposal by the Leopold Center Advisory Board and Dr. Keeney was positive, and it appears the Leopold Center will be helping support PFI's on-farm research activities.

Other options for funding are being investigated and pursued. Time will tell whether these options come to fruition, but it is clear a solid foundation for the future of the PFI organization is possible.

SENATE AG COMMITTEE TESTIMONY OF RON ROSMANN

(Editors' note: Ron Rosmann of Harlan was invited to testify to the Senate Committee on Agriculture, Nutrition, and Forestry by Senator Richard Lugar. The Committee was receiving testimony regarding the agricultural research system. Ron presented the following testimony at the Committee's hearing on March 18, 1997.)

Thank you for this opportunity to testify and your willingness to listen to a farmer's point of view. My name is Ron Rosmann. Along with my wife Maria, and our three sons (ages 11, 13, and 15), I operate a 480-acre diversified crop and livestock farm near Harlan, Iowa. We have a stock cow herd of 80 cows and have 60 sows in a farrow-to-finish operation. All of our crops are certified organic and we are certifying our cow herd this summer for pending organic meat sales.

Ron Rosmann with Senator Richard Lugar after Ron's testimony to the Senate Ag Committee.

We started out on this path as far back as 1982. What enabled this to happen with favorable results was our participation in on-farm research trials conducted through an organization called the Practical Farmers of Iowa. This group, now numbering over 500 members, has teamed farmers and researchers at Iowa State University in looking at agronomic, economic and community related problem-solving. This partnership, now it its 12th year has been modeled by land grant universities and farmer groups in other states. For the past four years, we have also worked very closely with the Kellogg Foundation as a participant in the Integrated Farming Systems Project.

1. My first point in terms of the topic of research is this: Accountability for USDA research could be improved by requiring more on-farm research components. On-farm research is very cost effective as well. It can be done quite a bit cheaper than comparable research done at field stations or at universities.

If shrinking budgets are inevitable for agricultural research, what should some of the parameters be in guiding research?

2. Farmers and other rural community stakeholders need to have meaningful involvement in

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setting the research agenda both at the federal and state level. Funding needs to be as close as possible to the people being served. For example, what do we need in rural Iowa? It is well known that the producers' share of the agricultural dollar keeps shrinking compared to the supply and marketing sectors. About the only way for small and medium-sized farmers such as ourselves to survive in the long term is to add value to the products we produce. One way to add value is through organic production.

We are organic farmers for environmental and stewardship reasons but we are also for economic reasons. Contrary to the myth, our yields have gone up under this system and our production costs have gone down. In 1994, our organically grown soybeans yielded 62 bushels/acre, which was far above the county average for that year. This industry is growing 20% per year. This is consumer-driven. Consumers want and ought to have a choice in what kinds of food they purchase.

According to the National Organic Research Policy Analysis Project conducted by the Organic Farming Research Foundation, there is little institutional commitment to organic research. Both the foundation and I have made several recommendations to the USDA which are contained in my written testimony. They can be summarized by the following quote from the article entitled "Sixteen Years After the Task Force: Report and Recommendations on Organic Farming/USDA."

Farmers and other rural community stakeholders need to have meaningful involvement in setting the research agenda both at the federal and state level.

"Despite a stated national goal to dramatically reduce pesticide use, despite more than a decade of debate about the meaning and content of 'sustainable agriculture', there has been no deliberate implementation of the 1980 Report's recommendations for organic farming research. There is no analysis of the role that organic farming can play in meeting national agricultural and environmental needs, and there is no explicit policy commitment to even explore these questions."

3. My third point for research prioritization is that we need technical assistance in the development of farmer and community-owned and operated cooperatives and processing facilities. We need assistance in formulating feasibility studies, writing sound business plans and finding new markets. The Rural Development Agency within USDA and the Extension Service should take the lead in this.

...we need technical assistance in the development of farmer and community-owned and operated cooperatives and processing facilities.

4. I agree that a greater percentage of federal research grants should be on a competitive basis. This could lessen duplication of research substantially. It is a very legitimate question to ask how ARS research is determined, distributed and who the end beneficiaries are. If the majority of benefits go to large farms and private industry, at the expense of smaller farmers and rural communities, then has the public interest been fully served? There is mounting evidence that public policy and research have historically encouraged a farming system that relies on large amounts of inputs, capital and land. If agriculture is to be dominated by 20,000 acre farms in the Midwest as one agricultural economist predicts, the profits and benefits will accrue to the very few while the costs will be accrued by many. Rural areas will continue to decline under this system.

5. My last point has to do with accountability. Federally funded agricultural research results need to be measured and their impacts need to be evaluated. A number of years ago, I helped formulate a simple one-to-five rating scale of sustainability for all ARS research. This met with quite a bit of resistance and was never implemented. Again this past year, I participated in a hearing at the University of Maryland regarding the USDA's Research, Education, and Economics Strategic plan. The final

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SHARED VISIONS

farming for better communities

MORE PROJECTS APPROVED

Earlier this year another eleven projects from groups involved with Shared Visions were approved for funding. Total funding for these projects is $25,943, bringing the total for all thirty-two projects that have been approved to date to $68,233. Another $15,175 was provided to groups for planning purposes, making the total for both planning and implementation $83,409.

A listing of groups that had this last set of projects approved follows along with the amount requested and short descriptions of the projects.

Prairie Talk - $2,514.44 to incorporate the group as a non-profit and continue to develop and facilitate the use of its resource library on organic agriculture.

Farms Forever - $2,866.81 to develop and facilitate the use of a resource library on alternative agriculture housed at the Wapello Public Library.

Ag Connect - $2,058 to support mediation training for staff and a board retreat to address issues related to the group's transition to a statewide organization.

Total Resources Management Services - $2,055.35 to support an alternative pork production conference and the group's manure brokering project.

Audubon Graziers - $886.02 to continue their pasture walks, data collection, grazing library, and scholarships to allow local graziers to attend educational events. Funds will also cover the costs of bringing in speakers for public meetings and for member presentations to other groups.

Cattle Feeders' Community Alliance - $3,465 to continue their project to develop local networks and relationships aimed at producing superior quality beef.

Farm Fresh CSA - $687 to establish a youth-operated farmers' market in Blairstown.

Growing the Future - $2,696.10 to continue and expand their project to field test alternative crops and practices and reach out to others in their community.

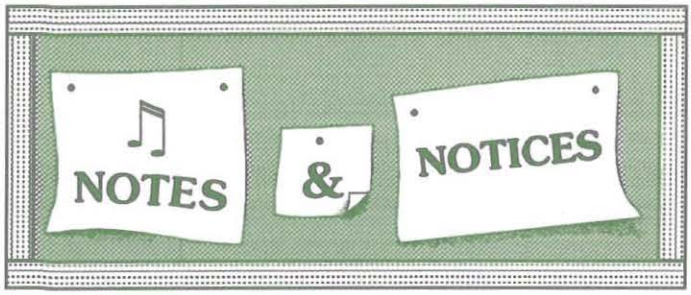
Neely-Kinyon Farm Committee - $3,961.15 to increase community involvement in the Neely-Kinyon farm.

The Promised Land - $2,673 to finish developing a beginning farmer guidebook.

Tri-State Growers Alliance - $2,080 to continue the farmers' market on the west end of Dubuque and begin a community garden project.

wording does not go nearly far enough to be more responsive to the mandate of sustainability.

In closing, I would like to say that a backdrop to keep in mind as a nation as we discuss agricultural research is its relationship to land ownership. Owning land is something that many of us are willing to sacrifice a great deal for. It goes to the very heart of why America was formed as a country and a sovereign nation. As wealth and land ownership continues to be placed in the hands of fewer individuals, this fundamental right is being jeopardized. The steps that I have proposed today for agricultural research address that issue and others so important to our nation's well-being.



Minnesota Establishes Endowed Chair in Agricultural Systems

The University of Minnesota has announced a unique new position in sustainable agricultural systems. The "chair," established with $1 million in endowed funding, will "have a strategic opportunity to explore and influence the future of Minnesota agriculture at a time when it must increasingly respond to both global markets and local pressures such as low farm profitability, environmental degradation, and shrinking rural communities. . . The Endowed Chair is based on the recognition that every element in the agricultural system is interdependent. It acknowledges that farming systems must embody a stewardship ethic toward natural resources and at the same time be profitable for individual farmers, who will in turn help to support a network of rural communities."

"The position will rotate, and it may be held by farmers, businesspeople, and leaders in government or nonprofit organizations, as well as academics."

"The intent is to combine the collective experience and expertise of these three individuals to address the concerns of hog production systems in Minnesota."

The position will rotate, and it may be held by farmers, businesspeople, and leaders in government or nonprofit organizations, as well as academics. This inclusiveness reflects the steering committee for the position, which is composed of producers, educators, students, members of the nonprofit and agribusiness communities, and members of the U of M School of Agriculture Alumni Association. The program is managed by MISA, the Minnesota Institute for Sustainable Agriculture, which itself represents a collaboration of the University of Minnesota and the Sustainers' Coalition, a group of nonprofit community organizations.

The School of Agriculture

Endowed Chair in Agricultural Systems

"The College of Agricultural, Food and Environmental Sciences at the University of Minnesota is pleased to announce the first holders of the Chair: Dr. Robert von Bernuth brings experience in Agricultural Engineering, water quality, waste management, and publication of research material. Ms. Pat Henderson brings a communication background, work with a number of producer, industry and international clients, and an interest in the social ramifications of agriculture production issues. Mr. Carmen Fernholz brings hog production experience and experience with alternative, sustainable systems." **(Editors' note: Carmen Fernholz is an organic farmer and board member of the Institute for Sustainable Agriculture.)**

"The intent is to combine the collective experience and expertise of these three individuals to address the concerns of hog production systems in Minnesota. The goals are to produce an assessment of University capabilities related to the subject, make presentations to faculty, develop a continuum of viable hog production practices, present opportunities for faculty to participate in dialogues in rural areas, publish works, and possibly establish a model for addressing future agricultural issues in the state."

♫ New Farm Editors Launch Website

(Editors' note: Since The New Farm Magazine ceased publication, there has been much discussion of how, and in what form, to replace it. Apparently after examining the financial situation, the former editors decided that the Internet offered the most flexible and cost-effective means of reaching readers. We received the following press release, and we visited the site, shown below.)

Two former editors of The New Farm magazine have launched *Sustainable Farming Connection*, an interactive World Wide Web site where farmers and others forging more sustainable food systems can find and share valuable information.

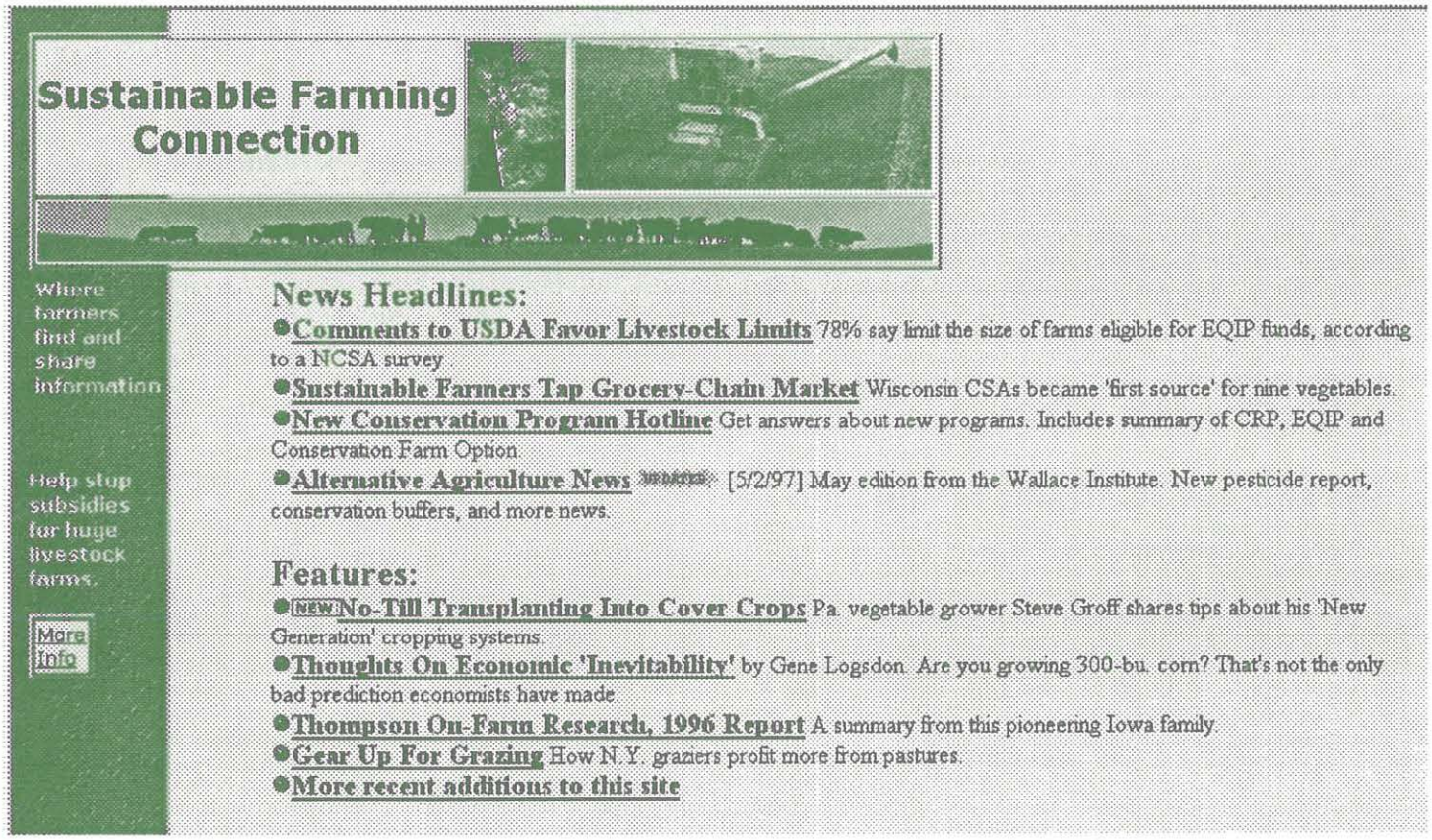
"Our site offers innovative production and marketing stories to help you cut costs, improve soil, protect the environment and add value to healthy food," says site author Craig Cramer. The SFC webpages include commentary by rural writers such as Gene Logsdon, timely news and action alerts, archived material and links to other key sites.

Discussion groups also provide a forum for farmers to ask questions, exchange tips and "talk" with others about topics of importance to them.

Rural Internet access has soared in recent months, notes Cramer. "With a website, we can reach more farmers and bring them even more of the practical information they want than we could in print. Instead of getting an issue every couple of months, readers will want to check in daily to see what's new.

"We're calling on farmers and other ag professionals with Internet access to serve as information 'hubs' to help spread the word to others," he adds.

(Continued on page 14.)



SunSITE at University of North Carolina has volunteered to host Sustainable Farming Connection. Support from the Wallace Genetic Foundation and the encouragement of many well-known organizations including the Wallace Institute for Alternative Agriculture also have played key roles in the site debut, notes fellow editor Christopher Shirley. "Your 'on-site' comments will help ensure we meet your needs," he says.

Stop in for a visit at:
http://sunsite.unc.edu/farming-connection
For more information about the site and sponsorship information, contact:
Christopher Shirley
cdshirley@aol.com
Committee for Sustainable Farm Publishing
609 S. Front St.
Allentown PA 18103
(610)791-9683

♫ Dordt College Staff Opening: Farm Steward

The agriculture department at Dordt College is seeking a farm steward for the 160-acre Agriculture Stewardship Center. Responsibilities include the day-to-day operation of crop and livestock enterprises for education and research.

A master's degree and farm management experience are preferred. The farm steward works closely with faculty, students, and the college constituency. Qualified persons committed to a Reformed, Biblical perspective and educational philosophy are invited to send a letter of interest and curriculum vitae by June 15.

Dr. Rockne McCarthy
498 4th Ave. NE, Sioux Center, IA 51250-1697
fax: 712-722-4496 e-mail: vpaa@dordt.edu

♫ PFI Membership Holds at 500

Every spring PFI loses some good people. These are your neighbors who didn't get around to renewing their membership. In some cases, they decided PFI just wasn't what they were looking for. But many expired members say they weren't even aware that their membership had run out – even after a letter from the PFI president, several newsletter reminders, and a final, personal letter from their district board representatives.

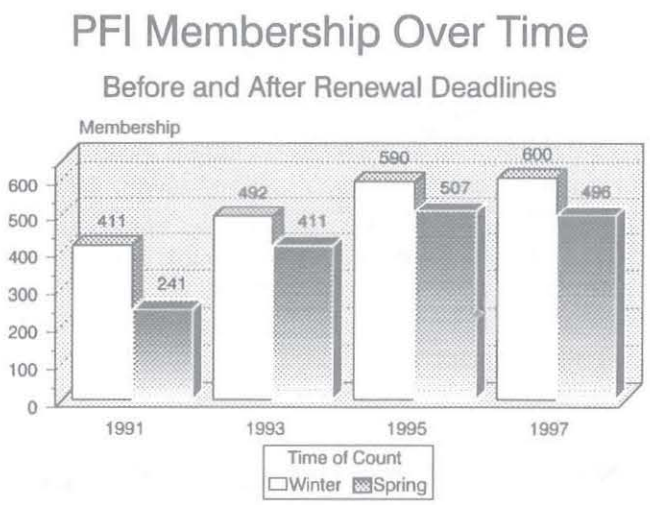


Figure 1. Membership reflects renewal rates and new

This spring PFI membership reached 600 – just before 104 memberships were purged for nonrenewal. Membership went back down to 496 (see Figure 1). If you would like to do a little organizing for Practical Farmers of Iowa, you can request extra copies of the newsletter, other descriptive material – even the names of newly expired members in your locale. Contact the PFI/ISU Extension coordinators at 515-294-5486.

♫ Awards and Appointments

Several PFI members have recently stepped forward to accept recognition or volunteer for committee work. In mid-April, Richard and Sharon Thompson, Boone, were featured on the Iowa Public Broadcasting Network program *Living in*

Ten-year PFI member Doug Hertz, Nevada, was killed in an auto accident on May 23. Doug was an early experimenter with crown vetch cover crops on his farm, which lies on the bluffs of a terminal moraine in southern Story County. In recent years Doug was active in county government and conservation causes. Contributions in his memory are being accepted on behalf of the 4-H Foundation, the Story County Conservation Board, and for the education of his 11-year old son. Contact Randy Hertz, (515) 382-6596

Iowa. PFI President Dave Lubben, who farms with his wife Lisa near Monticello, has been recognized for environmental stewardship and leadership by the Iowa Cattlemen's Association. As the Iowa winner of this award, Dave will also be among the candidates for a regional citation.

SARE, the Sustainable Agriculture Research and Education program of the USDA, is known to many PFI members for its research grants, its producer grants, and its "train the trainer" program. SARE functions through a representative structure of farmers, scientists, and extension personnel. Recently Jeff Olson, Monticello, agreed to serve on the Technical Committee that annually reviews several hundred SARE proposals from the north central U.S. Dan Specht, McGregor, accepted an appointment to the SARE Administrative Council for the North Central Region. The Administrative Council reviews recommendations from the Technical Committee and also considers political and program priorities in approving proposals. Congratulations and thanks to these folks!

PFI-Sponsored FFA Environmental Science Proficiency Award Winners

From 1991 to 1995 PFI sponsored an FFA sustainable agriculture award. Then starting last year, PFI began sponsoring the Environmental Science proficiency award. This year's first and second place winners were Scott Johnson of Guttenberg and Jody Bierstedt of Algona.

The program Scott implemented on his family's farm to win the first place award involved annual soil testing, nitrogen credits for manure and legumes, cultivating to reduce the herbicide use, and various conservation practices, including terracing, conservation tillage, and growing crops on the contour. He also remodeled their dairy facility to improve the manure handling system and installed energy efficient lighting.

Scott noted that he was concerned about environmental issues "because I hope to return to our family farm someday and I wanted to make sure that the farm I come home to is environmentally

PFI coordinator Gary Huber with FFA Environmental Science Proficiency Award winners Scott Johnson and Jody Bierstedt.

stable." Scott is a member of the G & G FFA Chapter. His FFA advisor is Steve Zaruba and his parents are Tom and Sheila Johnson.

Jody Bierstedt's program was recycling effort based out of his family's appliance and hardware store in Algona. Jody dismantled and salvaged materials from old appliances, which lowered the amounts that would otherwise be sent to the landfill. As well, Jody went through training and was certified to recover Freon, which allowed him to prevent the release of this gas from old refrigerators and freezers he salvaged. Jody is a member of the Algona FFA Chapter. His FFA advisor is Brad Greiman and his parents are Mark and Vickie Bierstedt.

Leopold Center Wins State Science Honor

The Leopold Center for Sustainable Agriculture received the Iowa Academy of Science Distinguished Service award for an organization at ceremonies held April 25 in Dubuque. The award recognizes exceptional service in the areas of science, technology, and application of science to public service.

The award stated, in part, that the Leopold Center has worked with the Practical Farmers of Iowa to initiate on-farm research in

LEOPOLD CENTER

(Continued on page 16.)

sustainable agriculture, thereby empowering farmers to pursue their own research questions in cooperation with university research. Through its grants program, interdisciplinary research teams, and education and outreach programs, the Leopold Center has taken a major role in the effort to champion the profitability of farming.

The Leopold Center, marking its 10th anniversary this year, conducts research and education programs to ensure profitable, environmentally-sound farming in Iowa. The Center was created by the 1987 Iowa Groundwater Protection Act and is housed at Iowa State University, Ames.

Since 1987, the Leopold Center has funded more than 140 competitive research and education projects on issues including soil fertility, pest management, livestock management, water quality, rural sociology, and economics. Under Director Dennis Keeney's leadership, the Center created interdisciplinary research teams to attack problems normally considered too diverse for a single scientific discipline.

The Center's outreach efforts have been conducted in cooperation with the ISU Cooperative Extension Service and numerous nonprofit and educational organizations statewide. Since 1993, more than 6,000 farmers, educators, and community leaders have attended regional conferences supported by the Leopold Center.

♫ Tri-State Conference Set for July 23-24 near Dubuque

The Churches' Center for Land and People of Sinsinawa, WI, will host a July 23-24 conference titled *Creating Communities of Healing and Creativity in Rural Wisconsin, Iowa, Illinois*. Presentations, workshops, discussions will focus on trends and challenges in the three states, as well as creative movements for sustainability.

The conference is a joint effort of the National Catholic Rural Life Conference and the Churches' Center for land and People. Call 608-748-4411, extension 805, for more information.

♫ Leopold Center 10th Anniversary Conference: *Taking Stock, Moving Forward*

On July 30-31, the Leopold Center for Sustainable Agriculture will host a conference in Ames marking its tenth birthday. Entitled *Taking Stock, Moving Forward*, the meeting will feature keynote presentations from NRCS chief Paul Johnson and Pat Boddy of Iowa Public Broadcasting.

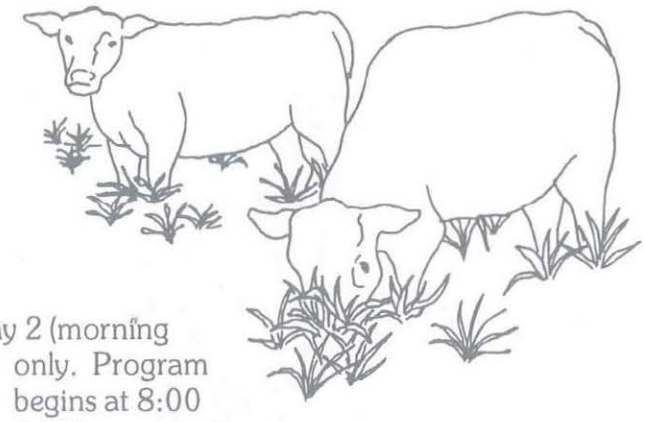
The two days will also include roundtable discussions, early morning field trips, a film, posters, poet Michael Carey, and many workshops. Workshop topics include streambank management, grazing and cropping systems, swine production options, organic and community-supported agriculture, manure and nitrogen management, and the future of sustainable agriculture. Nina Leopold Bradley, daughter of Aldo Leopold, will take part in the program as well.

Registration before mid-July will cost $60 (including meals) for both days, or $40 for the first day and $30 for the second day of the conference. For additional information and a registration brochure, contact the Leopold Center for Sustainable Agriculture, 515-294-3711, 209 Curtiss Hall, Iowa State University, Ames, Iowa 50011-1050.

♫ *Prairie Pastures: Native Plants and Wildlife for Rotational Grazing Systems*, July 28-29

Organized by Laura Jackson, University of Northern Iowa, this July 28-29 workshop in a biologically rich region of Iowa will bring together scientists and farmers to share their experiences integrating agriculture and native species.

Day 1 (from Mike Natvig farm, Cresco. Program begins at 9:00 A.M.): prairie pasture establishment and use, production and quality, experimental prairie forages, frost seeding/identifying seedlings, making your pasture attractive to birds, oak savannah pasture management, fencing materials for rotational grazing, wetland restoration, caravan to Hayden Prairie.



Day 2 (morning only. Program begins at 8:00 A.M.): caravan to Matt and Diana Stewart farm (Oelwein), Vic Collins farm (Oelwein), native grass demonstration plot (Jim Ranum, NRCS).

Preregistration is encouraged. Contact Laura Jackson, University of Northern Iowa, Department of Biology, McCollum Science Hall 2438, Cedar Falls, IA 50614-0421, or call (319) 266-5468, or (319) 273-2705, jacksonl@uni.edu.

♫ Direct Marketing Tour Planned for Missouri in August

August 2 through 4 are the dates for a three-day bus tour planned by the North American Farmers' Direct Marketing Association. The tour will begin in St. Louis with a stop at Souland Farmers' Market, one of the nation's oldest. From there the tour will visit 13 farm markets.

The tour will provide opportunities to see farms and markets during the peak season when marketing concepts and ideas are on full display. Contact Paul Peters at 816-493-2902 or ppeters@juno.com for further information.

INCA: A NEW SHOOT FOR CSA IN IOWA

Jan Libbey, Kanawha

Like a new shoot from a main raspberry cane, the Iowa Network for Community Agriculture (INCA), is branching out from the support of groups like PFI and the Magic Beanstalk CSA. This new shoot focuses specifically on the community agriculture models that are growing in Iowa.

INCA grew out of a statewide workshop on Community Supported Agriculture (CSA) in January 1996. This workshop was organized by the Magic Beanstalk CSA. The needs identified at that event led to a proposal for a one-year SARE (Sustainable Agriculture Research and Education) grant that was awarded in the fall of 1996. INCA's goal is to encourage and support connections between producers and consumers of local food systems.

To pursue this goal, INCA held a workshop in Dec. 1996, has a database of individuals interested in community agriculture, is building some of the infrastructure of a young group, and is networking with other partner groups in and outside of Iowa.

While INCA will emphasize CSAs in its early stages, it's helpful to discuss the broader context of community agriculture also. Community agriculture comes in various forms. Common characteristics of the various models typically include systems that: provide locally grown food; grow food sustainably or chemical fee; build relationships between people; build relationship between people and the land; bring consumers into the food system as a more active player; and allow producers to have more control of how they farm.

Models of community agriculture may include: Community Supported Agriculture (CSA), on-farm direct marketing, subscription farming or farmers' markets and roadside stands.

Continued INCA projects include a 1997 summer field day being planned in conjunction with the Seed Savers Exchange Summer Campout in Decorah, IA, July 20-21, a newsletter, and a winter workshop.

Interest in and the growth of community agriculture ventures in Iowa are exciting. Partners that have lent so much support to CSAs in Iowa will continue to be important as these ventures grow and mature.

If you are interested in more information about or from INCA, contact Jan Libbey, Education Coordinator, 1465 120th St., Kanawha, IA 50447. Phone: 515/495-6367 or e-mail: Libland@kalnet.com.

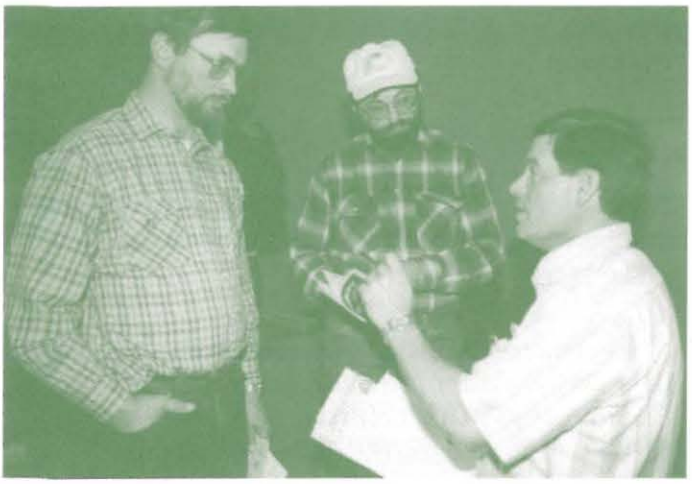
A COMEBACK FOR SMALL GRAINS?

Rick Exner

There was good attendance at both PFI Northeast District meetings March 1. I attended the Calmar session with ISU oats breeder Jim Holland; the program was repeated in Independence in the evening. The featured presenter was Ron Doetch (pronounced "Dutch"), an Illinois consultant with an unusual message: "You can't afford *not* to include small grains in your crop rotation."

The audience for the district meeting seemed to be folks who are already raising oats or other small grains because the crop is an integral part of their diversified farming system. The oats supports the forage, which supports the livestock, which brings down the cost of row crop production, and so-on. But, except for the drought of 1988-1989, either yields, price, or both have been dismal. It hasn't helped that processors have imported over half of their supply.

Doetch attacks these problems one at a time, as he outlines in *A Farmer's Guide to Quality Oat Production*, a 20-page reference for seedbed preparation, varieties, planting dates and methods, fertilization, weed management, handling, and marketing tips. Doetch includes in the guide yields, soil test levels, test weight, expenses, price, and net profit from 20 Illinois growers he worked with in 1996. Their average yield was 84 bushels per acre (35.2 lb test weight), and average price received was $2.02 per bushel.



Consultant and small grains advocate Ron Doetch (right) spoke with Jeff and Jason Klinge at the Northeast District meeting in Calmar.

Through discussions with Quaker Oats and other millers, Doetch has been able to increase the receptivity of these processors to domestically produced small grains. European suppliers have recently appeared less reliable, which has helped change the business climate. Doetch has also been able to put together large deliveries, further increasing the price paid, but he points out that any farmer should expect better than $2.00 per bushel for milling-quality oats this year.

Doetch includes in the guide yields, soil test levels, test weight, expenses, price, and net profit from 20 Illinois growers he worked with in 1996.

A Farmer's Guide to Quality Oat Production and a newsletter called *Small Grain Update* are available through:

Michael Fields Agricultural Institute
W2493 County Rd ES
East Troy, WI 53120
414-642-3303
Fax 414-642-4028.

Keep in mind that the varieties recommended are best adapted to the Tri-State area. For a comparison of small grain varieties around Iowa, see ISU Extension bulletin Pm-1645-6, *Iowa Oat and Barley Variety Tests 1993-1996 Report*, and AG-6-6, *Iowa Winter Wheat Variety Tests – 1993-1996*. Questions may also be directed to ISU Ag Specialist Ron Skrdla (515-294-2732) or ISU small grains breeder Jim Holland (515-294-4153).

ROLLIN' THE COB

(Editors' note: Planting season was in full swing when the four "cob rollers" got together for this issue. Their thoughts turned to putting seeds in the ground.)

What are the barriers to adding new crops to the rotation? What crop would you like to add, and what strategies would you use to overcome the barriers?

Tom Frantzen

1. Growing new crops presents several large barriers. I think that the greatest obstacle to new crops is the way traditional crop check-off funds are used to research only established crops. With declining public support for agricultural research, it is very difficult to find money for research on alternative crops.

A specific example of this is the current problem facing conventionally grown grain amaranth. Grain amaranth is easily grown with ridge-till practices, and we grew amaranth for 6 years. A farmer can expect 600 to 1,000 pounds of grain per acre. Research on just seed shatter would likely double those yields. Higher yields of conventionally grown amaranth would be economically beneficial for processors and farmers alike:
(yield × price) – cost = profit.

2. Every aspect of agriculture would be more sustainable with more perennial crops in place of annuals. This is one of the reasons we planted 1,100 nut-bearing hazel bushes.

Margaret Smith
"Enriching" Our Crop Rotation

We are changing the quarter section where we live to a five-year rotation: corn-soybeans-corn-oats/hay-pasture. This rotation will allow us to raise organic soybeans and organic corn, if we can locate a market. We looked into the possibility of raising sweetcorn on contract in the third year of the rotation, which would have allowed us to establish our oat and forage seeding in the fall following sweetcorn harvest. The biggest constraint was that we farm in 38" rows, and the harvesting equipment for sweetcorn is on 30" spacings. In addition, the pest control requirements would have ruined our possibility of organic certification.

We can grow almost anything in Iowa if we set our minds and backs to it, but who will want to buy it?

With the advent of "Freedom to Farm," we have moved our other crop ground from corn-corn-soybeans, to 50-50 corn and soybeans. Beyond these two rotations, the crop prospects become quite a bit dimmer. The constraints to adding a crop are economic, not agronomic. We can grow almost anything in Iowa if we set our minds and backs to it, but who will want to buy it?

Of course, part of the problem may be our mind-set. We rather expect someone in our nearest town to be willing to take what we can grow for a nice, profitable price. Our cultural background has not conditioned us to go out and find a market for

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." Your response to this column is welcome. Contact the contributors directly or the PFI/Extension coordinators (address on back of newsletter).

what we may be able to produce. I admire the herb growing cooperative in Benton County for their willingness to take on difficult crops to both grow and market. It seems as though a group of growers and business minds may be needed when trying something far from the ordinary.

I still toy with the idea of sunflowers, not for oilseed, but for birdseed. Again – the marketing challenge looms in front of us. The birdseed market is fairly mature and would be a challenge to enter. The hope is that there are more people interested in feeding birds still to enter the market.

Ron Rosmann

Since we decided to become certified organic farmers on 480 acres in 1994, diverse crop rotations have become even more important to us than previously. We were "90% organic" since 1983, but never decided to go the final step until the last few years. Now diverse crop rotations have taken on a whole new meaning, partly because of Organic Crop Improvement Association standards (OCIA), but also because of our goal of building on resources internal to the system for good soil and farm health.

We currently grow corn, soybeans, oats and barley for organic food sales as well as for our cattle and hogs. For our cow-calf grazing and beef finishing program, we grow turnips, rye, alfalfa and orchardgrass hay, cool season pasture mixes, warm season prairie pasture mixes, and grazing maize (our first year). The core of our rotation has been corn, soybeans, corn, oats, hay, hay (six year).

Another increasingly important rotation is: corn, beans, oats or barley with turnips and rye the same year in a double cropping situation (3 year). There are not very many barriers to adding new crops in our situation. In fact, one of the standards of OCIA regarding rotations is inclusion of non-perennial crops that are as varied as possible and that aim to maintain or improve soil fertility, reduce nitrate leaching, and reduce weed, pest and disease problems.

We found that with a continuous corn-soybean rotation with no herbicides and using ridge-tillage, weed pressure began to increase somewhat. Nutrient requirements increased also. The ground needs to be stirred up periodically. Experience and OCIA standards have provided the impetus to stricter rotation procedures.

We found that with a continuous corn-soybean rotation with no herbicides and using ridge-tillage, weed pressure began to increase somewhat.

A continuous row crop system in conventional agriculture results in continuous and heavy dependence on herbicides and fertilizers to make it work. This system may work in the future for only those larger farms with small debt and efficient, volume production. Dick and Sharon Thompson's numbers clearly and dramatically show that their diversified, long term rotations are more profitable than a corn-soybean rotation in Boone County.

Then, why are corn and soybeans the norm? It is true that this is an easy rotation. It does not require all that much thinking and work beyond peak times. Twelve-to-24-row planters and deep pockets do result in "Canada in the summer and Miami in the winter." (By the way our family is going to Canada this summer, too.) The number of farms able to play the row-crops-only game will keep shrinking as farms get larger and larger. Whose interests are being served? It is certainly not the environment's, or those of rural communities. Yet it keeps going that way by and large because of the status and hype of "bigger is better."

Roger Schlitter

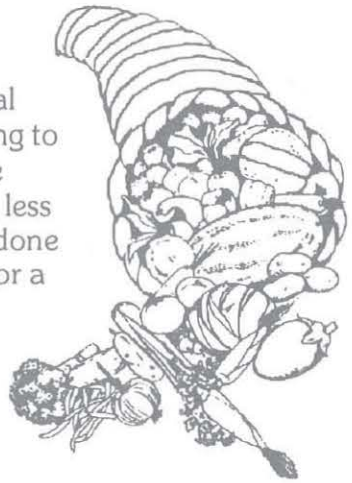
A few things come to mind. Social barriers can be and are very real in determining what crops we are willing to plant. It is "fashionable" to raise corn and soybeans in most of Iowa. Everyone else does it, and we might get some tough questions if we tried something different. Economic barriers also stop us from considering new crops. The new crops may require investment in additional farm equipment or handling and storage needs. They may require a long time to establish themselves and produce a reliable cash flow. Can we wait until they

If you can adapt to the social, economic, marketing and skill issues, you should consider trying something different. Approach your new venture from a position of strength. Seek out as much information as possible and evaluate all of it objectively.

produce cash flow? Can we afford the start-up cost?

Marketing can also present a barrier. There may not be an established market for a different crop. We may have to develop the market, or it may be very difficult to meet market standards. Do we have the labor and management skills to handle a new and different crop? It is often convenient to continue doing what we are used to doing. Our skills, equipment, markets and finances are known quantities, so why stress ourselves and our neighbors by being different?

If you can adapt to the social, economic, marketing and skill issues, you should consider trying something different. Approach your new venture from a position of strength. Seek out as much information as possible and evaluate all of it objectively. Carefully evaluate your commitment to something new. Develop a plan that takes into account the economics, labor needs and management requirements, and that is conservative. Risk only what you can afford to lose. If you have done a good job of preparing, you will have covered the potential problem areas. Something to consider: you will find the social issues will be much less of a problem if you have done a good job of preparing for a new crop and are successful with it. ❦



COMBINE MONITORS FOR ON-FARM RESEARCH

Rick Exner

Practical Farmers of Iowa has always been active in evaluating technologies and products for their economic benefit. One such new technology is the combine monitor. PFI began evaluating use of the monitor in on-farm research as early as 1988, when monitors were supplied to more than one dozen cooperators. The thinking was that monitors could be particularly useful in replicated research, since they would save the farmer many trips to a distant scale to weigh individual field plots.

The thinking was that monitors could be particularly useful in replicated research, since they would save the farmer many trips to a distant scale to weigh individual field plots.

However, PFI research cooperators seldom use their monitors for measuring yields now. Paul and Karen Mugge, Sutherland, have comparative data that illustrate why this is true. In 1991, Paul tested the new model of the monitor PFI cooperators were using. Paul recorded the monitor reading and the scale weight from each plot of experiments in 1991 and, again, in 1996.

Paul was aware of the need to calibrate the monitor to a scale before harvest or when changes in temperature, grain characteristics or moisture occur. He also knew the monitor, which computes yield from grain striking a baffle in the load-out auger, requires that the same load-out rpm and attitude (slope) be used when measuring as when calibrating. However, Paul and others have found that, despite their best precautions, this monitor has problems with both precision (repeatability) and accuracy that are not entirely predictable.

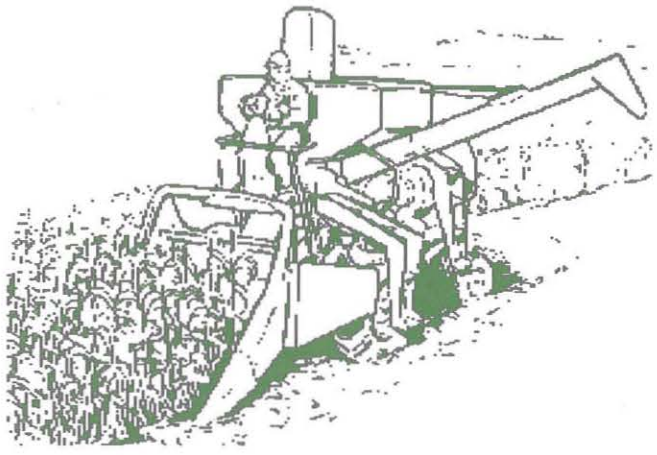
In Figure 2 (page 22), dots represent plots for which both monitor and scale weights were recorded. The dashed lines show the location of complete ("1:1") agreement between monitor weights and scale weights. The solid lines show the

(Continued on page 22.)

range in which 95 percent of readings would be expected, given the scatter observed. In 1996, that 95 percent prediction interval hardly even included the 1:1 line, so the monitor was not functioning accurately. In 1991, the prediction interval was centered over the 1:1 line. In this case, the *average* of monitor readings was very close (0.15%) to the scale weight. However, individual monitor readings were off from the scale an average of 1.8 percent (a repeatability issue). Is this good enough for research?

Let's look at a trial Paul carried out in 1992, the year after doing the first monitor evaluation. This was a comparison of deep banded and broadcast fertilizer (yes, we should have included a zero-fertilizer check treatment). He used a weigh wagon, not the monitor, to measure yields, and he analyzed the results in the manner typical for a paired-comparison trial. Using statistics, he looked at the stability of the difference between the two fertilizer application treatments. The stability (scatter) of the difference tells whether that difference was more than a change occurrence, that is, whether it was probably due to the treatments themselves. The handy "yardstick" in these trials is the "LSD," the least significant difference. If the observed treatment difference is more than the LSD, we conclude that more than chance was involved.

Paul's fertilizer trial, measured with the weigh wagon, gave an LSD of 1.8 bushels per acre, so he could have detected a treatment effect of only 1.8 bushels. That is a relatively small figure and suggests that the trial kept the "background noise" of field variability to a minimum. However, if Mugge had instead used the combine monitor to measure yields, and if the monitor performed similarly to the year before, the trial LSD would have been 2.5 bushels per acre. That is because the monitor would have introduced an additional source of variability (scatter) in the data. (In statistical terms, the monitor variance is added to the variance caused by background variability in the field.)



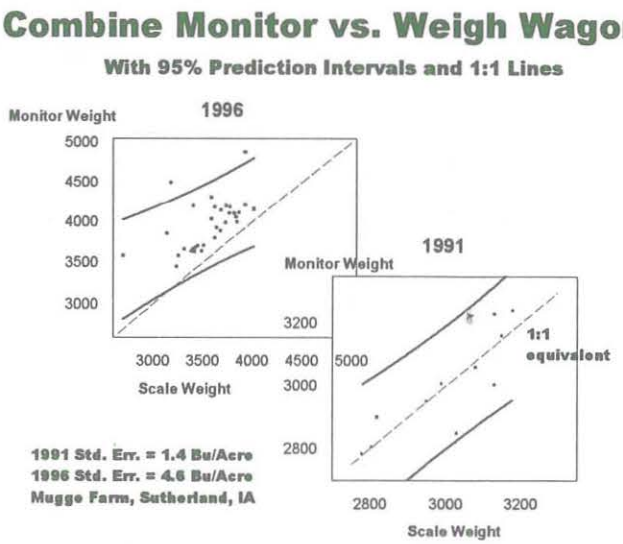


Figure 2. Monitor weights varied from scale weights.

Let's say we wanted to design an experiment to detect a treatment difference of 3.0 bushels per acre at the 95% level of confidence, and we wanted to be right at least 80 percent of the time we made that judgement. If we could count on the kind of field variability Paul encountered in 1991 (a big if), we would require six replications. If, instead, we wanted to use the combine monitor (and it performed as in 1991), ten replications would be necessary to achieve the same level of precision.

That isn't an insurmountable obstacle. If land is available, the monitor may make it relatively convenient to harvest the additional reps. But be aware that the monitor is an additional "filter" between you and the experiment.

Some people say that the new monitors do not have the same problems as the model tested by PFI. We need similar evaluations for this generation of products (any volunteers?). And, aside from the kind of problem recorded in 1996, even the older monitor would have accurately recorded yields for

. . . for the present, weigh wagons and drive-on scales are the research tools of choice.

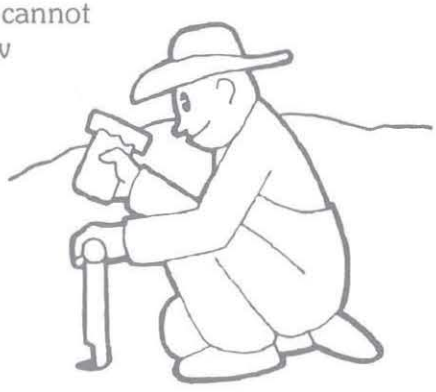
a whole field or a large tract that represented the average of many readings. Many PFI cooperators also keep the monitors in the combine to measure field length, something they do accurately and reliably. But for the present, weigh wagons and drive-on scales are the research tools of choice.

"NEW" NITROGEN RECOMMENDATIONS FOR IOWA

Rick Exner

The publication of Iowa State University Extension Bulletin Pm-1714, *Nitrogen Fertilizer Recommendations for Corn in Iowa*, represents a minor revolution in thought for most Iowa producers, but for many PFI farmers it merely fine-tunes concepts and methods they have used for some time. The bulletin, included as an insert for recipients of this PFI newsletter, recommends the late spring soil nitrate test – used in several different ways – and the end-of-season corn stalk test. Testing-based approaches officially supercede the time-honored "yield goal" method of determining N fertilizer rates. Farmers previously were advised to base N rates on the calculation: (1.2 lb N per bushel x the projected yield goal in bushels) minus credits for previous legume crops and manure.

Research by ISU agronomist Alfred Blackmer found no correlation between yield goal-based N recommendations and observed optimum rates of nitrogen (Figure 3). In 74 replicated on-farm trials, PFI research cooperators using the late spring test were able to save an average of $6.64 per acre using the late spring test instead of the yield goal method (Figure 4, page 24). That was an average of 54 lbs per acre less fertilizer nitrogen. However, the whole point of using the late spring test is that 54 lbs N – or any single "magic number" – cannot be extended to new fields or other years. The late spring test gives producers a recommendation for a specific field in the year the samples were taken.



Testing-based approaches officially supercede the time-honored "yield goal" method.

The new bulletin provides broad recommendations for farmers who apply all nitrogen before or at planting. These producers are encouraged to use the test over a period of years to learn how their customary fertilization practices compare with actual crop needs. The end-of-season corn stalk nitrate test is another "after the fact" measure of N sufficiency that any farmer can use to inform future management decisions.

(Continued on page 24.)

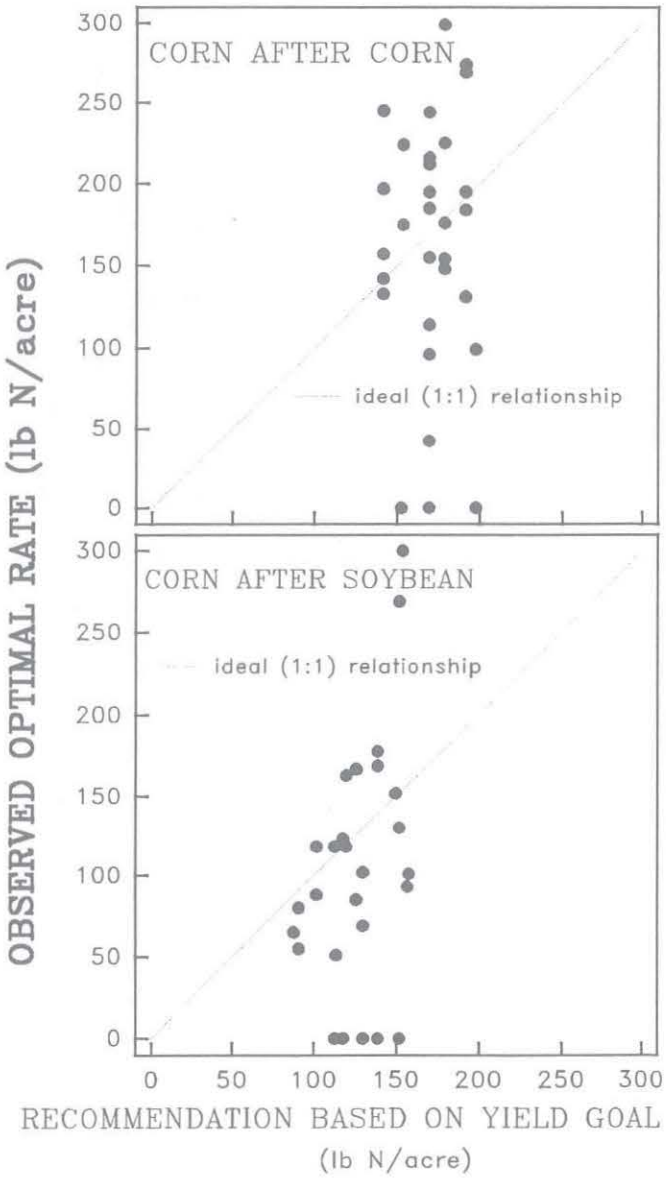
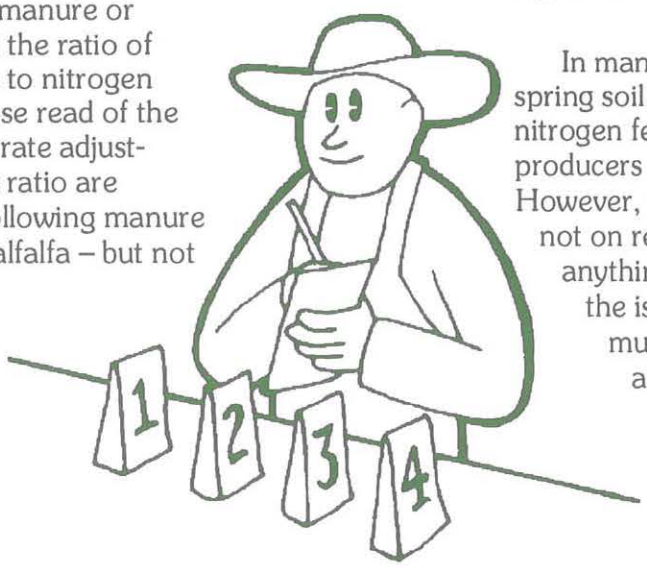


Figure 3. No correlation between optimum N rates and yield goal recommendation in these observations.

...the bulletin provides methods to adjust the soil test recommendation to reflect field history (manure or alfalfa), rainfall, and the ratio of expected corn price to nitrogen fertilizer cost.

For farmers willing to sidedress nitrogen midseason, the bulletin provides methods to adjust the soil test recommendation to reflect field history (manure or alfalfa), rainfall, and the ratio of expected corn price to nitrogen fertilizer cost. A close read of the bulletin reveals that rate adjustments based on this ratio are provided for corn following manure and corn following alfalfa – but not for corn that follows neither. ISU is still a year or two away from determining this particular correction.



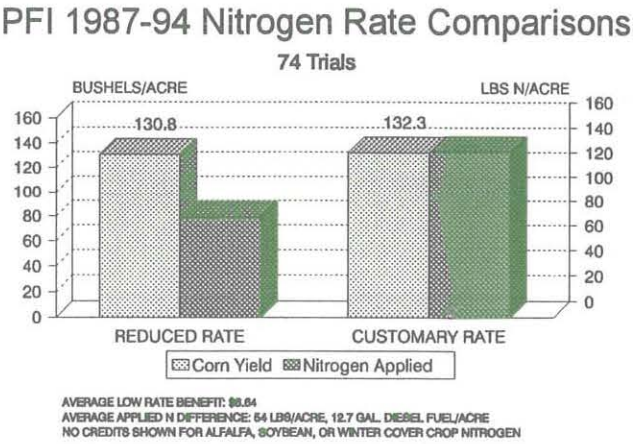


Figure 4. The late spring test saved farmers money.

In many cases PFI farmers have used the late spring soil test and the stalk test to markedly reduce nitrogen fertilizer rates. Data show that Midwest producers as a whole could profitably do the same. However, the emphasis in this latest publication is not on reduced rates. The recommendations, if anything, are conservatively high. As a result, the issue the bulletin presents is not how much N to apply but how to determine that amount. If producers and consultants do take these new methods seriously, nitrogen use over time may fall.

Table 2. "A/B" FERTILITY TRIALS

COOPERATOR	CROP	TREATMENT "A"			TREATMENT "B"
		DESCRIPTION	YIELD (bu.)	TREATMENT COST	DESCRIPTION
DAVIDSON	SOYBEANS	PELL LIME	35.2	$15.24	NO LIME
MUGGE	SOYBEANS	SOYBEAN INOCULANT	58.5	$0.60	NO INOCULANT
DAVIDSON	CORN	5+15+5 STARTER FERTILIZER	154.9	$11.91	NO STARTER
OLSON	CORN	DEEP BAND P&K (13+62+72)	146.2	$32.18	NO DEEP BAND

PFI 1996 ON-FARM TRIAL RESULTS - II

(Editors' note: Results of PFI 1996 on-farm research are appearing 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 soil fertility. Cooperators tested nitrogen rates or timing, or manure management. Others continued working with ISU soil scientist Antonio Mallarino to evaluate deep banding of P and K in reduced tillage systems. A full report of the banding work with Mallarino will appear later this year.)

P, K, and Lime

When does it pay to spend money? When it comes to soil fertility and fertilizer, there are so many nutrients and so many differences from one soil to the next that producers may need their own trials. Don and Sharon Davidson, Grundy Center, found a significant 1.7 bushel gain to ridge-till soybeans receiving 15+15+15 starter (Table 2). This was despite the fact that potassium and phosphorus soil test values were both in the very high range. But 1.7 bushels of soybeans did not pay for the starter fertilizer.

Jeff and Gayle Olson, Mt. Pleasant, evaluated the effect on corn of a 13+62+72 fall deep band in the ridge of a field testing very high in P and K (Table 2). Leaf tissue showed a significant increase in potassium, and the nearly 12-bushel yield increase was statistically significant, but it did not pay for the fertilizer. If the cost of the band were prorated over two years, however, the economics of the practice would be positive.

(Continued on page 26.)

Doug Alert, Hampton, and ISU soil scientist Antonio Mallarino.

"A/B" FERTILITY TRIALS

TRT "B"		DIFFERENCE				
YIELD (bu.)	TREATMENT COST	YIELD DIFF.	YLD LSD (bu.)	YLD SIG.	$ BENEFIT OF TRT "A"	COMMENT
35.3	$0.00	-0.1	1.2	N.S.	–$15.24	
58.4	$0.00	0.1	0.9	N.S.	–$0.60	
153.3	$4.08	1.7	1.0	*	–$3.66	
134.5	$0.00	11.8	3.7	*	–$2.80	PRORATING FERTILIZER COST INCREASES PROFITABILITY

Paul and Karen Mugge, Sutherland, also evaluated deep-banded fertilizer (24+62+81) ahead of ridge-till corn in a field with very high P and K (Table 3). For good measure, they included both a "do nothing" control and a knife-only control treatment. The trial also contained both the fall deep band a treatment of the same fertilizer plus 135 pounds of pell lime. The response to the deep band was greater than 15 bushels per acre, easily paying for the fertilizer. There was no significant difference in yield between the fertilizer and the fertilizer-plus-pell lime treatments on this field, whose soil pH registered a slightly acid 6.4.

Don and Sharon Davidson, Grundy Center, also evaluated pell lime in 1996, broadcasting 200 pounds per acre ahead of ridge-till soybeans. Soil pH in the field was around 6.0. There was no yield difference from the pell lime. Pelleted limestone flows well through equipment and can be distributed from planter boxes directly into the seeding row. On the other hand, its effective calcium carbonate equivalent is about the same as that of other ag limestone, and the cost of pell lime is about ten-times greater.

N and Manure

Two cooperators conducted nitrogen rate trials in 1996. Ray and Marj Stonecypher, Floyd, used the late spring soil nitrate test (Figure 5) and then sidedressed two rates that were close to the recommendation (Table 3). Testing and sidedressing both took place in late June due to wet and cool spring weather. There was no yield difference between 130 pounds N and 150 pounds, and the late season stalk nitrate test suggested no shortage of N in either treatment. On the other hand, Ray reported the whole field appeared N deficient before he sidedressed the crop.

Table 3. MULTIPLE-TREATMENT FERTILITY TRIALS

				TREATMENT "A"				
COOPERATOR	CROP	PREVIOUS CROP	YIELD SIGNIFI-CANCE	DESCRIPTION	YIELD (bu. or T)	STAT.	TRT COSTS	$ BENEFIT
MUGGE	CORN	SOYBEANS	*	CONTROL	147.4	b	$0.00	$0.00
BRUNK	CORN	SOYBEANS	N.S.	ZERO N SIDEDRESS	170.9	a	$0.00	$0.00
STONECYPHER	CORN	SOYBEANS	N.S.	120 LBS N SIDEDRESS	165.6	a	$31.71	$7.93
THOMPSON	CORN	SOYBEANS	*	NOTHING SINCE '93 PLOWDOWN	158.2	b	$0.00	$0.00

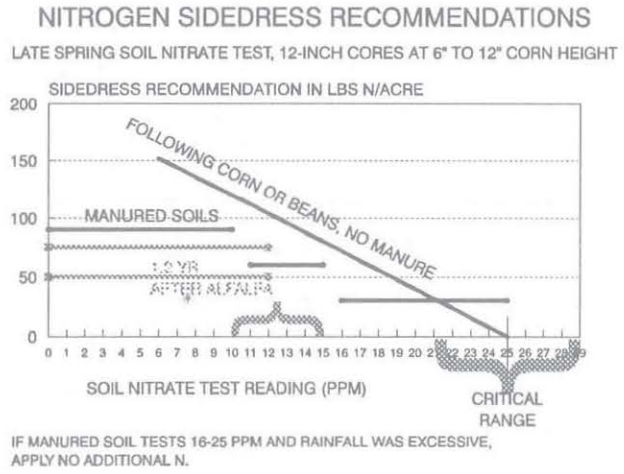


Figure 5. Nitrogen sidedress recommendations for the late spring soil nitrate test for corn.

Ron and La Donna Brunk (Eldora), and their son and daughter-in-law Steve and Tara Beck-Brunk, compared three nitrogen rates in a field that received 3,300 gallons of liquid hog manure in the fall of 1995 (Table 3). Despite the manure, corn stalk analysis at the end of the 1996 season showed the crop was short of N. However, with only three replications in the trial, it was not possible to see a statistical response to nitrogen. Other fields tested much higher for stalk nitrate but yielded about the same as the corn in this trial.

Richard and Sharon Thompson, Boone, continue to search for the best way to manage manure in their farming system. In 1995, they compared spring applied manure, planter row fertilizer, and a check treatment in soybeans. The planter row fertilizer increased soybean yield significantly over the other treatments but did not pay for itself in the application year. In 1996, the experiment was continued on the same ground. The treatments

MULTIPLE-TREATMENT FERTILITY TRIALS

TREATMENT "B"					TREATMENT "C"					
DESCRIPTION	YIELD (bu. or T)	STAT.	TRT COSTS	$ BENEFIT	DESCRIPTION	YIELD (bu. or T)	STAT.	TRT COSTS	$ BENEFIT	OVERALL COMMENTS
KNIFE-ONLY	150.0	b	$5.23	–$5.23						
P&K BAND	165.4	a	$33.45	$11.72	P,K, & LIME	161.8	a	$41.38	–$5.17	
30 LBS N SIDEDRESS	172.1	a	$7.93	–$7.93	60 LBS N SIDEDRESS	179.2	a	$15.86	–$15.86	3,300 GAL MANURE PREVIOUS FALL, BUT STALK NITRATE LOW IN THIS FIELD
150 LBS N SIDEDRESS	166.0	a	$39.64	$0.00						SIDEDRESSING DELAYED BY RAIN, STALK NITRATE ADEQUATE
'95 SPRING MANURE	169.2	a	$1.46	$25.90	'96 SPRING MANURE	169.9	a	$2.93	$26.26	'95 MANURE PRORATED AT 25% OF COST
					'96 SPRING MANURE + '95 PRF	174.9	a	$15.06	$26.66	'96 MANURE AND '95 PLANTER ROW FERTILIZER PRORATED AT 50% OF COST

were: 1) no manure or fertilizer since the 1993 plowdown of hay; 2) 1995 spring-applied manure; 3) 1996 spring-applied manure; and 4) 1996 spring-applied manure following 1995 planter row fertilizer.

Table 3 shows the no-fertilizer-no-manure treatment was outyielded by the other three. Calculation of economics is problematic for a trial like this, because both manure and fertilizer can have value beyond the year of application. In the table, treatment costs were prorated to reflect the residual value of the treatments: 1995 manure was charged at 25 percent of original cost, while 1995 fertilizer and 1996 manure were charged at 50 percent. By this economics, 1996-manure-plus-1995-fertilizer came out slightly ahead of the other two manure treatments. Incidentally, ISU Extension Economics has recently reduced its estimated costs for manure spreading, as reflected in bulletin Fm-1712, *Estimated Costs of Crop Production.*

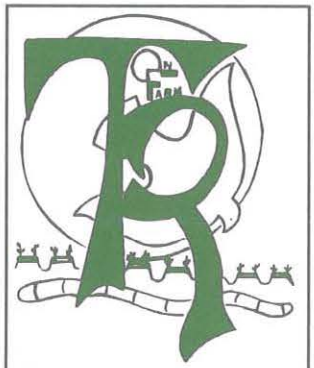
PFI PROFILES: RICHARD AND SHARON THOMPSON, BOONE

Jenny Kendall

- began farming sustainably in 1968
- no herbicides or insecticides used
- practice five-year crop rotation
- numerous on-farm research trials covering multiple practices

Dick Thompson attended Iowa State University in the 1950s and received a B.S. in Animal Husbandry and an M.S. in Animal Production. The Thompsons were high input farmers from 1958 to 1967, changing to a more balanced farming system in 1968. Founding members of Practical Farmers of Iowa in 1985, the Thompsons have given farm tours to over 6,900 people from more than 40 different countries. They have also traveled extensively and spoken with over 24,000 people.

These days, the Thompson farm serves as a model for the diversified farming enterprise. Dick practices alternative weed management strategies, crop rotation, tillage rotation, farm diversification with crops and livestock, use of cover crops, and utilizing livestock and human manure for farm fertility.



Thompson on-farm research logo.

Dick is a firm believer in the concept of 'enough is enough.' . . . "Picking 100 acres in the ear is enough. Mowing and baling 40 acres of hay 3-4 times during the summer is enough. Looking after 75 cows during calving is enough. Cleaning pens every two weeks for a 75-sow farrow-to-finish hog operation is enough."

Dick is a firm believer in the concept of 'enough is enough'. He believes the size of a farm will have to be restricted when the major part of weed control depends on the use of the rotary hoe and the cultivator. As he says, "an 8-row cultivator will handle 300-400 acres of row crops, but not thousands of acres." Harvesting ear corn puts another restraint on farm size. In his words, "Picking 100 acres in the ear is enough. Mowing and baling 40 acres of hay 3-4 times during the summer is enough. Looking after 75 cows during calving is enough. Cleaning pens every two weeks for a 75-sow farrow-to-finish hog operation is enough."

Although the Thompsons have been implementing sustainable farming practices for over 25 years, they still don't feel as if they have all the answers. Says Dick, "We find ourselves asking more questions each day and hope that we are asking the right questions."

Dick maintains meticulous records, and has compiled his years of on-farm research in a notebook called the Thompson Farm Report that he updates each year. He makes this notebook available to those who are interested in sustainable practices and would like to learn the details of the how the Thompsons have implemented their ideas.

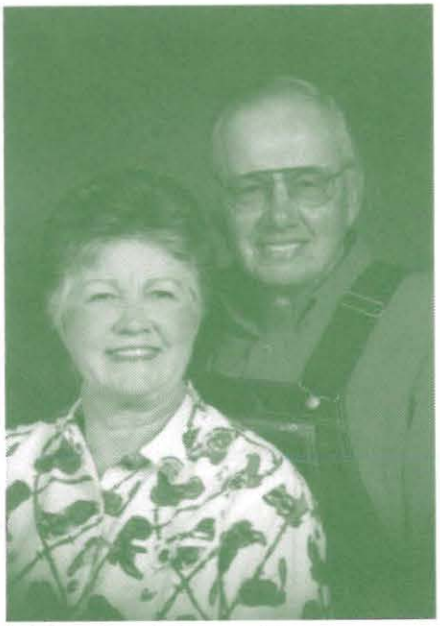
Summary of Thompson Enterprise Farm Data

Category	Description
Farm size	300 acres 200 in 5 year-rotation, 80 acres in pasture rotation, 40 acres hay (from the 5 year rotation, 75 cows, son Rex has 75 sows pigs
Equipment	Buffalo cultivator, rotary hoe, moldboard plow, Buffalo planter, JD tractors
Seed varieties and seed rates	soybean/oat system - plant soybeans thick at 180,000/acre to 12 seed/ft/36-in row, use straight thin-line bean varieties, with medium maturity, broadcasting oats at 3-5 bu/acre, in August, high-yielding corn at 29,000 for weed control
Labor & mgmt practices	family-managed and worked with son Rex, grains and forages cycled through on-farm livestock, nearly closed farming system
Livestock mgmt practices	RX3 cows with intensive grazing, open front housing for hogs with farrowing isolits, ground corn cob and corn stalk bedding
Marketing	conventional, beginning to market beef and pork via CSA
Agriculture organizations	Practical Farmers of Iowa
Weed mgmt	rotation, cultivation, ridge-till, cover crops
Insect mgmt	rotation, cultivation, fly traps
Disease mgmt	diatomaceous earth for worming, grazing mgmt, agricultural lime
Soil Fertility mgmt	rotation, ridge-till, manure, municipal bio-solids from Boone, cover crops for soil quality
crop yields	corn 98-193bu/acre, soybean 32-72 bu/acre, hay 8000-11000 lbs/acre, oats 37-142 bu/acre
profitability indicators	self-developed indicator that uses readily available agricultural statistics with actual farm yield and ISU rates of custom machinery operations and year-end prices.

Profitability and determining profitability are always important. Dick has created an economic indicator that incorporates statistics available from ISU and from the state that enables him to compare how well his farm is doing on a comparative basis with other farms. His process for determining this indicator is detailed in The Thompson Farm Report.

A hallmark of their philosophy is the use of farmer-managed on-farm research. The Thompsons encourage other farmers to ask questions as they seek answers as well. "We would like you to consider *adapting* these ideas to your situation, rather than outright adopting them."

On-farm Research The Thompsons view their role in the ecological field as one of investigation and experimentation. They have designed the research on their farm to answer questions such as; What kind of rotation is needed when chemicals are reduced or eliminated? What happens to crop yields and quality in a farming system that relies primarily on internal resources? What is the best method for handling livestock and human waste? How can a reduced herbicide system fit with a minimum tillage system? Can we use certain weeds or crops to control the weeds that are causing problems? Is there a connection between high nitrogen soils, high protein food and disease? The accompanying table of Thompson Farm Collaborations outlines the many on-farm research trials that have taken place or are in progress at the Thompson farm.



Richard and Sharon Thompson.

Impact of Sustainable Farming The Thompsons manage their farm as a complete and complex system. The operation hinges upon their 200 acre 5 year corn-soybean-corn-oats-hay rotation. One outcome of this alternative cropping system is that the Thompson farm has been managed without insecti-

(Continued on page 30.)

cides and herbicides for more than 25 years. Another 80 acres is involved in a 6 year rotation that includes hay and pasturing.

Dick and Sharon integrate their strong faith with their farming practices. Indeed, they will tell you, quietly, and without fanfare, that they were initially moved to change their farming practices because of their strong faith. Says Sharon, "If we are really going to be serious about agriculture and the problems of erosion, pollution, high input cost, then we have to realize that the change must first come from within." They saw a conflict with their Christian heritage and the overaggressive direction of modern capitalism, and determined that they could shift down a gear and live their lives according to their own values.

"We go by our 'operator's manual that says we are to be led by the Spirit and walk by the Spirit.

"Our first priority is stewardship of the land, not feeding the world."

This is to be a normal, natural way of life, not something spectacular or spooky. We mention this third dimension because this has had a great impact on our lives and, for us, contains the answers for the problems we face at this time."

They feel strongly that with freedom comes responsibilities; that we are not free to exploit ourselves, our fellow humans, or our natural resources and environment. Dick and Sharon believe that positive thinking and positive actions are the key to encouraging others to adapt sustainable practices in their operations. "We can change perceptions by emphasizing positive practices as diverse rotations, rotation of tillage and various

Thompson Farm Collaborations

Collaborators	Project
Henry A. Wallace Institute	General funding for research, demonstration and education on the Thompson farm.
Iowa State University Extension and Dr. Jerry DeWitt	Video and SA2 bulletin production of "Walking the Journey...Sustainable Agriculture that Works" video
Rodale Institute with Dr. Joe Ritchie, funded by Ruth Mott	Five foot soil samples, nitrogen rates of 60 and 120 units, ridge-till with and without herbicides
Agriculture Research Service	Nitrogen availability with conventional tillage compared to ridge-till with hairy vetch cover crop
Iowa State University and Dr. George Beran	Swine feeding without antibiotics
Iowa State University and Dr. Fred Blackmer	Late spring soil nitrogen kit. Potassium uptake in corn
Agriculture Research Service National Soil Tilth Lab and Dr. Doug Karlen and Dr. Tom Colvin	Comparing conventional and alternative farming systems.
Iowa State University with Dr. Rick Cruse and SARE funding	narrow strip cropping
Iowa State University with Dr. Tom Jurik and Leopold Center for Sustainable Agriculture funding	Weed measurements, ridge-till with and without herbicides
Rodale Institute with the University of Wisconsin and Dr. Jerry Doll, SARE	Fall cover crops effects on weeds.
Rodale Institute, coordinated with Dr. Jim Tjepkema. University of Minnesota and Dr. Craig Schaffer, SARE	Using medic's as a cover crop
National Soil Tilth Lab	Ridge-till planting in the dark
National Soil Tilth Lab with Dr. Doug Buhler, Dr. Doug Karlen, and Keith Kohler	Stratification of weed seeds and soil nutrients before and after moldboard plowing.
Iowa State University and Dr. Antonio Mallarino	Phosphorus and potassium fertilization for corn and soybeans
Iowa State University and Dr. Gary Osweiller, D.V.M.	Managing worms in beef cows with diatomaceous earth
Practical Farmers of Iowa with coordinator Rick Exner	Planter row fertilizer, ridge-till without herbicides and manuring experiments.

kinds of conservation practices that increase profit, take better care of resources, and are ultimately kinder to people. For example, a more diverse rotation produces 5 times more net income than the standard corn-soybean rotation. This allows for the smaller sized farm to prosper and thus invites and provides for more farmers into the rural community."

Dick and Sharon have been heavily involved with Practical Farmers of Iowa since its inception. Field days and workshops are an integral function of PFI. For the Thompsons, it's important kinds of farmers are welcome and comfortable at summer field days and winter workshops.

The Thompsons believe that the best way to incorporate sustainable farming practices is use the practical and sensible approach of moving one step at a time, rather than trying to make sweeping changes all at once. At the same time, the Thompsons are firm believers in a systems view of the farm management.

"Farmers need to take back control in the decision making of the type of research needed. On-farm testing managed by farmers is one way for this to happen. Farmers who conduct research on their own farms get a deep understanding of the interactions that are occurring on the farm."

HOOP BULLETIN FROM MIDWEST PLAN SERVICE

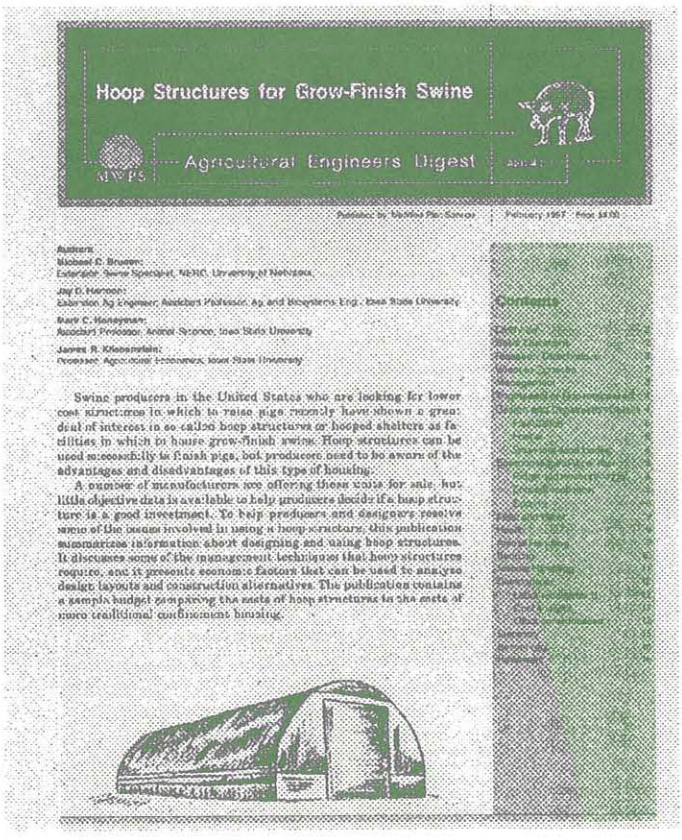
Rick Exner

A new bulletin, *Hoop Structures for Grow-Finish Swine* (AED 41), provides an introduction to this new hog production system. Authored by University of Nebraska and Iowa State University scientists, the 16 page document includes references to additional reading and research cited. *Hoop Structures for Grow-Finish Swine* is available for $4 from Midwest Plan Service, 122 Davidson Hall, ISU, Ames, IA, 50011.

Among other topics, the bulletin touches on:

When to consider a hoop system and when it may not fit the farm or farmer;
Engineer-certified structures versus "non-engineered" design and construction;
Design and construction details;
Environment and ventilation;
Feed and Water;
Health;
Animal handling;
Bedding;
Manure handling; and
Comparisons to other confinement systems.

Although the bulletin provides figures for labor requirements, feed efficiency, bedding requirements, and overall economics, these parameters are not yet precisely determined for hoophouse systems. For example, the bulletin states that hogs produced under hoops have an additional one-tenth inch of backfat compared to hogs in confinement. However, those data were produced feeding identical rations to both groups. Adjusting hoophouse rations for the greater feed consumption typical of the system removes the backfat difference and improves profitability. Nevertheless, the "ball park" values in the publication will provide a broad "first look" at the system for those farmers interested in hoophouse hog production.



FOOTPRINTS OF A GRASS FARMER

Sows, Cows, and Plows

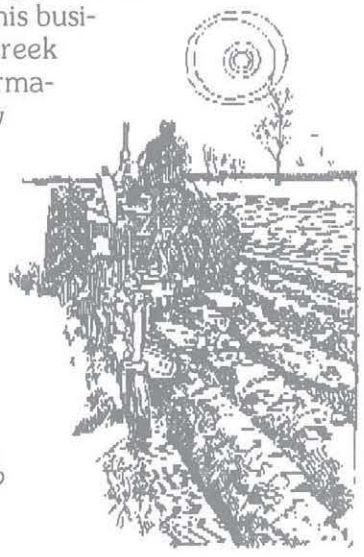
Tom Frantzen, Alta Vista

I view sustainable agriculture as a journey (not a destination) towards food and fiber production that will last. While we will use different approaches as we move toward this ideal, the basic tenets of sustainability will likely remain. Agricultural practices need to be socially responsible, and society, in turn, must be responsible to agriculture. There will always be a struggle to maintain profitability. A wide variety of practices will be employed in the pursuit of ecologically sound practices.

Our farm has employed an array of management practices since I began farming in 1974. Tillage practices I have used include: moldboard plowing, chisel plowing, some no-till, and ridge-till. Cropping patterns have spanned a wide spectrum, too: corn following corn, corn rotated with soybeans, and corn-soybeans-oats in sequence. Portions of our acres were seeded down. This is where we pasture farrowed.

As we mapped out a 5-year plan for our farm, we examined all of our experiences from cropping practices. No-till and the planting of small grains after corn were abandoned due to bad experiences. All short rotations and the use of narrow strip intercropping were dropped. The practice of haying the end rows is being phased out due to poor yields.

To build what we hope is a sustainable farm plan, we incorporated the good features we observed in past experiences. Ridge tillage and the occasional use of a plow are part of this business plan. Highly erodible soils and creek riparian areas are seeded down to permanent pastures. Our beef cow and sow herd, as a combination, graze these areas. Harvesting perennial plants with animals is the most sustainable practice we employ. Why not graze the entire farm planted to permanent grass? This is a tough question. The bottom line is our belief that row crops and annual plants have an appropriate place. Can they be grown in a way that is as ecologically sound as perennial grass? That is a major concern.



Why not graze the entire farm planted to permanent grass? This is a tough question.

Our approach to what we hope is sustainable crop production is presently based on these principles: Crop rotation should include at least 4 crops grown in as long a sequence as possible. Corn and soybeans in permanent rotation don't provide enough ecological diversity to suppress disease and pest outbreaks. Soybean white mold and cyst nematode, as well as corn rootworm, extended diapause, and gray leaf spot are current examples of cropping problems that we believe arise from a lack of diversity. Our plan is based largely on a corn-soybean-oats-hay-pasture rotation.

What type of tillage would be appropriate in a lasting cropping system? Ridge-till has worked well for us for 14 years; however, continuous row crop ridge-till provides a good environment for perennial weeds. Moldboard plowing suppresses perennials but presents erosion hazards. The plow also distributes soil fertility uniformly. Tillage use is a balancing act between benefits and liabilities.

Our intended cropping practices will begin with one year of organic corn grown on moldboard plowed pasture. Second cultivation will build the ridges in this corn where we will grow organic soybeans the next year. The soybeans will be cultivated but not ridged. Oats underseeded with a diverse hay and pasture mix will follow the soybeans. A field cultivator will prepare this seedbed. Oat straw combined with corn cobs from our ear corn harvest will provide the bedding for our hoop buildings, where we will finish hogs. Hay following the oat crop will feed our growing stock cow herd. The following pasture will be grazed by our cow and bred sow herd. A diverse crop of forages digested by ruminant animals is a key component in managing our resource base.

This cropping plan has passed our evaluation using holistic management. Our early warning criteria areas are soil erosion, profitability, and work load. We will monitor this system with an eye on further refinements. We hope that our integrated package of tillage and rotation will provide us with a sustainable operation.

FROM THE KITCHEN

Marj Stonecypher, 1321 March Ave.
Floyd, IA 50435-8058
515-398-2417

Crops are going into the ground, when it is not raining. Our hoophouse for big bales of hay is going up, and the cattle are on the grass. (A little earlier than last year, so we are rotating them every day instead of every other day for the first time through the pastures.) All but three of the cows have had their new calves. We had one pair of twins, but also had a breach delivery the same morning that did not make it, so we gave that mother one of the twins. All doing fine. Even going to get the deck built for the patio that I have been waiting for for the past three years. Family reunion this summer – that is why the deck is getting some priority.

May 9th, and we have had rhubarb and asparagus this week. It is so good to have fresh from the garden. Didn't get my spinach in last fall. Won't do that again – I sure miss having fresh spinach greens for salad in the spring! Here are a couple recipes for you to try.

RHUBARB SALAD

2 cups rhubarb, washed and cut up
½ cup broken nutmeats
½ cup water
¾ cup sugar
½ cup celery - cut small
1 small box Strawberry Jell-O
¾ cup boiling water

Cook rhubarb, water and sugar together. Dissolve Jell-o in boiling water. Mix all ingredients. Refrigerate overnight or until well set.

ASPARAGUS CASSEROLE

1 ½ cups fresh or frozen
¾ cup cracker crumbs
1 cup grated sharp cheese
1 can Cream of Mushroom soup
½ cup milk
1 tsp. Worcestershire
½ cup blanched almonds
1 Tbsp. butter
dash paprika or nutmeg

Butter casserole dish and line with cracker crumbs. Alternate asparagus, cheese and crumbs, reserving ¼ cup of crumbs. Add milk and Worcestershire to soup and seasonings and heat. Pour over asparagus and top with remaining crumbs. Bake for 45 minutes.

CORRESPONDENCE

Correspondence to the PFI directors' addresses is always welcome. Member contributions to *the Practical Farmer* are also welcome and will be reviewed by the PFI board of directors.

District 1 (Northwest): Paul Mugge, 6190 470th St., Sutherland, 51058. (712) 446-2414.
Colin Wilson, 5482 450th St., Paullina, 51046. (712) 448-2708.

District 2 (North Central): Doug Alert, PFI Vice President, 972 110th St., Hampton, IA 50441. (515) 456-4328.
Don Davidson, 18711 250th St., Grundy Center, 50638. (319) 824-6347.

District 3 (Northeast): Walter Ebert, RR 1, Box 104, Plainfield, 50666. (319) 276-4444.
Dan Specht, RR 1, McGregor IA 52157. (319) 873-3873.

District 4 (Southwest): Robert Bahrenfuse, 15365 S. 12th Ave. E. Grinnell, IA 50112. (515) 236-4566.
Donna Bauer, 1667 Hwy. 71, Audubon, IA 50025. (712) 563-4084 phone and fax.

District 5 (Southeast): David Lubben, PFI President, 24539 Hwy 38, Monticello, IA 52310. (319) 465-4717.
Jeff Olson, 2273 140th St., Winfield, 52659. (319) 257-6967.

PFI Executive Vice President & Treasurer: Dick Thompson, 2035 190th St., Boone, 50036. (515) 432-1560.

Coordinators: Rick Exner, Gary Huber, Room 2104, Agronomy Hall, ISU, Ames, Iowa, 50011. (515) 294-1923.
Internet: dnexner@iastate.edu x1ghuber@exnet.iastate.edu

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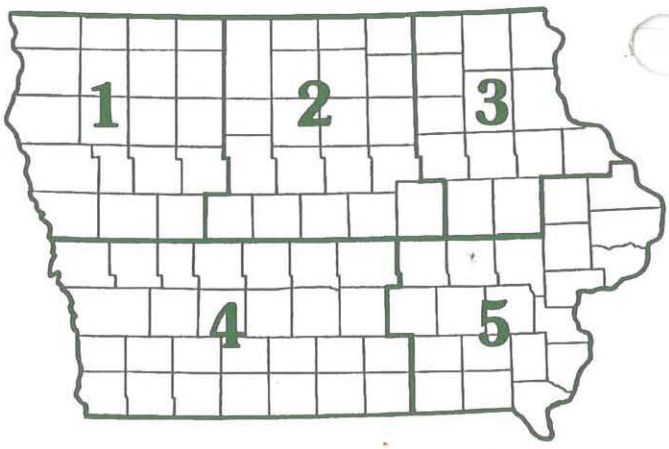

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2035 190th St., Boone, Iowa 50036-7423

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