

working together, always learning

the Practical Farmer

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the Practical Farmer keeps farmers and friends of farmers in touch with one another and provides informative articles about the latest on-farm research, demonstration and observation to help all types of farming operations to become profitable, while caring for the land that sustains them. Provided as a member benefit to PFI supporters, **the Practical Farmer** also serves to update members on PFI programming.

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(Back issues are available upon request.)



LEOPOLD CENTER



Always learning

Well, I have been at Practical Farmers of Iowa for six years now. I continue to be amazed at what I learn doing this job. (And the more I learn, the more I realize I don't know.)

For example, I am learning:

- Just how important Practical Farmers is to so many people and how carefully we as Board and Staff members need to listen to those members and maintain their trust.
- How wonderful is the nonprofit community, where people come together in groups like ours to do what needs to be done to make the world a better place.
- How to integrate such a diverse group into one organization. In a country of increasing strife, we need good examples of groups that can accommodate widely different approaches to life (and to farming).
- How interesting and challenging it can be to strengthen an organization's fiscal health, and to make decisions about which programming to take on and how many resources to save for that rainy day that is sure to come.
- How complicated are the issues surrounding getting beginning farmers started, such as how they can make a living wage and how to help them access land in a climate of intense consolidation in farmland ownership.



Sweet rewards! PFI member Gary Guthrie (center) fed the PFI staff in February to thank us for our work on the Annual Conference and the Cooperators' Meeting. On the menu? Lamb, bread, carrots, pesto, stewed peppers, Black Aztec corn polenta, plus rhubarb and berry pie. Says staffer Tomoko Ogawa, "That meal reminded me of the Japanese saying 'ishoku dogen,' which means food and medicine are of the same source."

About 10 years ago, I became a nonfarmer member of this organization. I still remember getting my Field Day guide in the mail and flipping through it, excited about all this organization had going on. I still feel that excitement every year when we get the Field Day guide back from the printer. One final thing I've learned since working at Practical Farmers: What a staff commitment it is to put on each one of the Field Days. And just how much sweat and heart members put into getting ready to show off their farms!

Happy spring!

Teresa



Emmy, a yellow lab/Chesapeake Bay retriever mix strayed onto the farm of PFI members Mark and Melanie Peterson and never left. Emmy is now the chief owner of the Polaris Ranger in which she is seated above with canine companion Riley. She lets her humans borrow the Ranger as long as she gets to ride along. Also a rescue dog, Riley, the black lab/chow mix tag teams with Emmy to retrieve things and protect the property from strange critters, like the coon that showed up in the middle of the night recently. The pups couldn't be quieted, and the coon was cornered in a protected spot, safe from the dogs but unable to run away. Wanting to get back to sleep, Mark started up the Ranger, and without a word, the two abandoned their prisoner and came running for a ride. The coon escaped and the Petersons resumed their slumber.

What one change to Iowa agriculture could do the most good?

Twenty hearty souls gathered at the end of the PFI annual conference to talk through this question. Here are some of their responses:

- "Educate on the benefits of eating local fruits and vegetables."
- "Recognize there is room for all styles of agriculture."
- "Take pride in your local community of food."
- "Move back to low-energy farm use."
- "Just enforce existing environmental regulations."
- "Work for smaller farms so we have more vibrant communities and schools."
- "Maximize value (not just profit) with our decisions."
- "Remove all commodity subsidies and mandates."
- "Know your food and where it comes from."
- "Help more people get connected to the land. Education is key!"
- "End cheap energy."
- "End the concentration of ownership of land that is occurring."

Set goals to improve your farmer's market sales

by Sally Worley

The bustle of farmer's markets—tables brimming with wares, customers browsing and buying—offers fruit and vegetable farms a promising market. However, there are costs associated with these markets that subtract, zero out and sometimes exceed sales. This article will detail considerations to make when assessing whether a farmer's market is bringing in enough revenue to balance out the generated cost and provide a net income. The article will also discuss how to generate market revenue goals along with tips to reach those goals.

Richard Wiswall provides a sample breakdown of expenses for one farmer's market visit in his book *Organic Farmer's Business Handbook* (Table 1). While expenses will be unique to each farm, this table provides an example for reference and also outlines things to include so you can calculate your farmer's market expenses. This table includes labor related to packing, delivery and vending but not for labor (or expenses) required to grow, harvest and package produce for market.

Once you know your expenses, it is possible to set sales goals. When setting goals it is important to determine what you hope to achieve by selling at farmer's market. Is this market one of your main revenue streams? Do you use the market as a Community Supported Agriculture (CSA) drop-off point, or to advertise other facets of your farm such as a U-Pick operation? Is your primary goal to strengthen the local food system in your community by increasing access to fresh fruits and vegetables?

If the market serves as a main revenue point for you, take the portion of net profit you aspire to achieve for your farm through farmer's market sales, divide that by number of market days for the year and add that amount to expenses per market to create a sales goal for each market. If you have sales records from previous market years, you can vary sales goals over the season based on historic sales peaks and valleys. Do this by calculating total sales for the previous year; then calculate percentage of sales per market week. Apply this percentage to total market net revenue to create a more

Table 1

Cost to attend Farmer's Market			
Farmers' Market Expenses:	Cost	Calculate for ONE market	
Labor: load truck(s)	12.55	1 hr	(2 people @.5 hrs each)
Labor: travel to market, set up	50.20	4 hrs	(2 people)
Labor: market vending	100.40	8 hrs	(2 people)
Labor: pack up, travel home, unpack, tally sales	37.65	3 hrs	(2 people)
Vehicle(s) cost at .40/mile	8.00	20 miles round trip	
Rental fees	30.00	per market	
Amortized FM equipment	7.67	scales \$1500, umbrellas \$400, tables \$200, signs \$200=\$2300/15-year useful life/20 markets per season = \$7.67 per market	The base cost for attending one market is constant irrespective of the amount of product sold (unless labor needs change). Gross sales at market must be higher than the cost; otherwise, you are losing money or personally subsidizing the market cost by not paying yourself the going labor rate. Sales need to be high enough to justify the cost of vending at market. If they are not, strive for higher sales or pursue alternative selling venues, such as CSA programs or wholesale accounts.
Subtotal, cost for one market:	246.47		
<p>The total expense for equipment needed at market is amortized over the useful life of the equipment and prorated for each market. As with delivery costs above, a percentage of farmers' market expense can be assigned to different crops. The important message regarding farmers' market costs, though, is that each market costs a certain amount to attend, and that farmers' market sales must justify that expense.</p> <p><i>Reprinted with permission from The Organic Farmer's Business Handbook by Richard Wiswall (Chelsea Green 2009)</i></p>			

accurate sales goal for each week. If this description is making your head ache, please visit www.practicalfarmers.org/programs/horticulture for sample calculation sheets.

If revenue is secondary to creating visibility for your farm, decide what percent of your marketing budget you are willing to designate to a visibility campaign via farmer's market. Take the dollar amount that equates to, divide it by number of markets, and add that amount to your per market expenses. You also want to make sure your market stand is generating enough traffic (i.e. revenue) that the endeavor is beneficial to your farm's reputation.

If your main goal in participating in your local farmer's market is to strengthen your local food

system by increasing access to fresh produce, you will only succeed if you meet your bottom line at the same time. Repeatedly losing money will eventually put your farm out of business, regardless of your philosophical commitment to improving what your community eats.

With good records and sales goals, viable revenue, farm publicity and improving your food system can all be achieved collectively by selling at farmer's market.

Here are tips from fruit and vegetable farms around Iowa who have created successful farmer's market sales. They often echo each other, emphasizing ubiquitous strategies for success.

Eric and Eve Menzel *Salt Fork Farm near Solon*

Eric shares some things he employs at the Iowa City farmer's market.

Know good quality produce, grow good quality produce and charge accordingly. "With a long background in professional cooking, I know when vegetables are at their peak in the field, and what stage in their life cycle they're going to be most delicious." Eric sets the bar high, and produces products that embrace culinary bliss. "We don't compromise our price for quality, and our prices aren't always competitive with others

at the market. Enough people who value what we produce that this works well for us."

Educate market-goers. "I provide information both on how we operate as a farm and how to prepare the food I sell." Eric likes to introduce people to new foods and ways to cook them. "We try to promote a few atypical items each week. It is a great way to engage customers



and broaden their palates. You can't just present something completely foreign and expect it to sell well without identifying and suggesting how to prepare new items." Eric balances out the unique with staple products to attract a wide audience.

John and Janna Wesselius *Cornucopia near Sioux Center*

John shares how they have created good sales at their Sioux Center and Sioux Falls farmer's markets.

"Choosing the right market for you is imperative." Interview markets beforehand, find out about their traffic, rules, fellow vendors and the general atmosphere. "I staff the Sioux Falls market and Janna the Sioux City. Sioux Falls starts off as a mad rush where the Sioux City crowd sleeps in. If I'm going to open at 8, I want to sell right away. Janna is more patient and doesn't mind the trickling start before the boom at Sioux City."

Signage is important. "The signage needs to tell people what it is, how much it is and how it's sold- pound, bunch, each, etc. You just can't say carrots, \$1. My best competitor puts detailed information in her signs, including variety, use and health benefits. Some day we will spend January making detailed signs like these." Make your farm name prevalent. "We have a ten foot by three foot banner with our farm, name, website and phone number."

Bold, alternating colors attract customers. "We alternate colors to create attractive displays. I always strive to have multiple varieties of each item. I prefer to have red, blue, white and gold potatoes than just one kind." Use up your space. Don't bring too little product.

Bring clean produce. "Chefs comment that my product is the cleanest they've gotten. That keeps them coming back."

Be professional. "Put on clean clothes before every market. Polos or farm t-shirts that identify you contribute to your look." Work and engage customers. "Wipe your table and rearrange your product while greeting people and smiling. Don't talk or play on your phone."

John recently presented in-depth on increasing farmer's market scales via a PFI Farminar. Visit <http://practicalfarmers.org/farminar> to watch the archive of the event.



Salt Fork Farms has a single, small booth at the market, so they are limited in the amount of printed materials they can give out. Conversation is their main education tool. "I try to be intuitive to who wants to talk and who wants to shop without interruption. I am open to them asking questions and engaging in conversation."

Keep your display clean and stocked. "Retail 101: create a look of abundance and don't have sparse amounts. If we run low on something, we take it out of circulation or bag it alone to display better." Eric's diverse vegetable, fruit and flower displays attract

customers, which draws in poultry sales as well. "It's hard to make just a bunch of coolers or large freezer look attractive."

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Set goals to improve your farmer's market sales

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Chris and Kim Corbin Sally and Luke Gran TableTop Farm near Nevada

Kim shares how her and Chris' art backgrounds contribute to their farmer's market stands at the Ames and downtown Des Moines markets.

Create a color showcase. "We create a rainbow or contrasting color scheme so everything stands out. We also consider where the sun will be during the market so things that can stand heat get the hot side of the tent."

Approach "less is more" using levels. "From a retail background, research finds that the fewer items you have, the more you sell. With fewer options, consumers do



TableTop seasonal employee Colette Vander Plas sells fresh produce at the Ames Main Street Farmers Market in 2011.

less comparison shopping and buy more." TableTop constructs levels on their farm stand and repeats each produce on these levels—carrots, level one, two and three. "Your eyes only see orange in that area."

Maximize the texture of your vegetables. "Carrots displayed in a circular pattern rather than stacked will draw the passerby's eye."

Clean and condense as you go. "Nobody wants to buy the last of something."

Create unique signs and incorporate interesting objects into your stand. "Sally and Luke have a great red door, and Chris and I have an old white door. We cover these with burlap for a table. People respond to those "old" materials. However, looks are only part of the equation. "A good-looking table isn't everything. If people compliment our display, we always say 'It tastes good, too.' Display coupled with relationship-building sells produce."

Larry Cleverly Cleverly Farms near Mingo

Larry Cleverly is getting ready to embark on his 16th season of selling produce at the downtown Des Moines farmer's market. Here are some things he does to attract customers:

Have an eye-pleasing display. "Have your produce 'grocery-store' clean and merchandize it nicely. We display baskets overflowing with produce, like a Whole Foods display. You want it to look like there's an abundance of things. As well sell out through the day, we downsize our baskets."

Create good signage. "We don't simply write lettuce or squash on the sign, but include the variety so people can know what they are buying." Larry also displays that his farm is Certified Naturally Grown, and adds chemical-free signs to his displays for people who do not know what that means.

Create a sensory experience. "We think our food tastes so good, we want customers to try it." Larry uses a grill table and cast-iron skillet at the market to fry squash blossoms, grill summer squash, and spread roasted garlic on crostini. Sampling of everything is encouraged. "We don't pre-bag anything. We want people to be able to touch, feel, taste and smell our produce."



Gordon Murray-John Andon Acres near Maynard

Gordon sells produce he grows on his farm and at the Oelwein and Independence farmer's markets. He offers these tips:

Abundance and color attract: "Farmers markets have been successful for me as I always have a colorful display with plenty of produce available. If supplies get low I take the remainder off the table."

Conversation sells:

"Being active and engaged with the customers is a must."



Curiosity draws customers: Gordon grows, displays and talks about unusual vegetables with market-goers. "Items like blue potatoes, celeriac, green and striped tomatoes always cause a buzz and help bring in sales."

Through the Years
with PFI On-Farm Research



From the 1992 Membership Meeting and On-Farm Trials Report:

“PFI farmers have always been interested in the most efficient and profitable ways to use on-farm resources like livestock manure. [In 1992] field trials with manure looked at economics, timing, placement, comparisons with other fertilizers, and manure’s effect on soybeans.

Vic and Cindy Madsen, Audubon, applied 3,300 gallons of liquid hog manure to soybeans at planting time. There was no significant yield response in 1992, even though the field has tested low in potassium

Tom and Irene Frantzen, Alta Vista, compared: 1) manure preplant-broadcast; 2) manure sidedressed; and 3) no manure, in a three-treatment trial. The two manure treatments yielded significantly better than the no-manure treatment, but there was no difference between broadcast and sidedressed. The late spring (pre-sidedress) soil nitrate test showed there was no shortage of nitrogen available to the crop

Ron and Marian Rosmann, Harlan, compared: 1) manure at planting followed by sidedressed 28% N; 2) sidedressed N only; and 3) starter fertilizer followed by sidedressed N. Ron carefully adjusted the rates of 28% N so that there would be equal amounts of crop-available nitrogen in all three treatments. The manure treatment yielded significantly better than the sidedress-only treatment. Bringing up the rear was the starter-plus-sidedress treatment. Ron believes the 17 gallons of 9-18-9 fertilizer was too close to the seed, reducing the crop stand in the dry planting conditions of 1992.

These findings and many more, continue to guide farmers’ practices today. For more of PFI’s research and demonstration projects through the years, see www.practicalfarmers.org. And, read the adjacent story to see how you can ensure that PFI will be around offering research opportunities far into the future.

Leave A Legacy



“Our legacy? We want Practical Farmers of Iowa to carry on for generations to come so we have designated PFI as a beneficiary of our life insurance policy.”

Jill Beebout & Sean Skeehan
Blue Gate Farm

There are ways to provide for your loved ones AND leave a legacy for Practical Farmers of Iowa. You can do both, and it’s easy.

- Designate a portion of your retirement plan for PFI
- Leave a life insurance policy
- Make a gift through your will
- Make a gift now and receive income for life with a charitable gift annuity.

Many such gifts can help you and your family today as well as help our mission years into the future. You can put some in place today without affecting your cash flow during your lifetime.

Want to learn more? Contact Teresa Opheim, Executive Director, 515.232.5661 or teresa@practicalfarmers.org.

Important: Consult with your own legal and financial advisors before making any planned gift.

Strategies for mineral supplementation

by Kevin Dietzel

For all types of livestock, minerals are important. The major minerals, including calcium, phosphorous, magnesium, potassium, sodium, chlorine and sulfur, play key roles in metabolic processes and the structure and function of tissues. Trace minerals, including cobalt, copper, iodine, iron, zinc, manganese, molybdenum, boron and selenium, are important for enzymes, hormones and immune function.

The purpose of this article is not to tell anyone exactly what kind of minerals to give their animals. Rather, this article will explore how farmers make decisions about mineral supplementation.

Where does one purchase minerals and in what forms?

Where does one purchase minerals, the local farm store, the co-op or other specialty store? Many co-ops have standard mineral mixes, and can probably order or mix other products. But in areas that don't have much livestock, they may not have much selection or may not want to deal with small volumes, and also may not have certified organic minerals. The farm and home store will probably have the least selection. For certified organic minerals or other specialty mineral products such as kelp, apple cider vinegar or naturally-mined salt, one may have to find a dealer for each company. In the ad section of alternative farming magazines such as *Acres* or *Stockman Grass Farmer* there are companies selling different kinds of minerals and nutritional products. Most of these companies have websites or phone numbers listed, and the websites usually have information on where their products can be purchased.

Blocks, bags or tubs?

Probably the most common and easy method of feeding minerals is in block form. Mineral blocks will have most of the major minerals and trace minerals. There are different levels of phosphorous, sometimes there will be blocks with extra selenium, and there are blocks labeled

for sheep, beef cattle, dairy cattle, or other species. There are a lot of the same choices in bagged (loose) mineral. The main difference between blocks and loose is that the blocks are easier to transport and feed, especially on pasture. Some people say that if the animals need a lot of mineral, they won't be able to lick enough from the blocks. Another possible



Garth Lloyd
Triple L Angus Farm near Arbela, MO
Garth employs cafeteria-style mineral feeding.

For three years, Garth Lloyd implemented "cafeteria-style" mineral feeding, putting out 12 different individual minerals in separate boxes. He observed that his cows were only eating four of the minerals, so now he has made a mix of just those four elements (phosphorous, iodine, selenium and copper). He buys the minerals from his local co-op. He also offers his cows loose salt, a natural crushed rock salt mined in Kanopolis, Kansas. When he sees watery eyes, he puts out kelp. He used to offer kelp all the time but it became too expensive.

Garth Lloyd raises registered Red Angus seedstock as a cooperative producer with Pharo Cattle Company. The Lloyd family also raises chickens, pigs and grass-finished beef that they direct market. They practice high-density, year-round grazing and fall calving with their herd of 110 cow-calf pairs.

choice is lick tubs, usually with a protein or energy supplement in addition to the minerals.

Cafeteria style

Another way to feed minerals is to offer them "cafeteria style," where multiple minerals are provided in separate boxes in the mineral feeder. The idea behind this method is that the animals can balance their own mineral ration based on what they need. Farmers who do this say the amount the animals eat of each type of mineral changes with different paddocks and seasons. This takes a bit of an elaborate set-up and can be expensive, but many people say it is worth it because of the health and fertility benefits.

Nutritionist-tailored

Some farmers prefer to have a nutritionist calculate exactly what kind of minerals they need, especially with high-value animals. For dairy animals, this custom mineral mix is often mixed right into the total mix ration. The advantage is knowing exactly how much mineral the animals are taking in. The disadvantage is the mix may not be quite right, resulting in the animals having deficiencies. Minerals could still be offered free choice in addition to being mixed in the ration.

Other products

In addition to mineral supplements above, there are other products that supply minerals to animals. Some examples include kelp, apple cider vinegar, red wine vinegar and probably many others. Also, one should not forget the salt! Ruminants need calcium chloride in addition to all the other minerals, especially in the summer. Some salts also contain iodine and/or other trace minerals.

So how does one decide between all of these choices?

One can read books, articles, websites and labels but still be confused. How does one know if some element is deficient in the soil? How does one know if a company selling a product understands the relationships between the different minerals, to have them in the correct ratios? How much money should one spend on minerals?

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Beau and Shannon Ebersole *Ebersole Cattle Company near Kellerton*

Beau Ebersole prefers to use molasses-based lick tubs.

Beau uses molasses-based lick tubs containing chelated minerals for breeding animals, as these minerals are more readily available for uptake by the animals, and are essential for reproductive efficiency. The tubs contain four basic trace minerals: copper, manganese, zinc and cobalt. Beau stresses the importance of selenium in his area, as it helps absorption of other minerals. Along with the lick tubs, Beau offers iodized salt to his cows. When he has young calves in muddy environments, he feeds a loose mineral that contains “bio-moss”, from yeast cell walls, that binds pathogens and helps to pass them through the animal’s system. For their beef animals destined for slaughter, the Ebersoles use an economical mineral mix.

The Ebersoles have had a cow-calf operation for 10-plus years, and have been transitioning into producing

pasture-based beef the past five years. They direct market their meat through farmer’s markets, online sales, and some wholesale.



interpretations of which elements are high or low. Excess minerals that pass through the animals are added to the soil, and therefore are a good long-term investment for the land.

Diverse forage and healthy soils make the best mineral program—but in the meantime don’t short your animals on what they need to stay healthy and productive.

Ryan Marquardt *Wild Rose Pastures near Reasnor*

Ryan Marquardt uses mineral blocks.

Ryan uses mineral blocks (“Stockman” brand) from the farm store for both his sheep and cattle. He uses the same blocks for both species. He says he is not worried about the copper in the mix having negative effects on his sheep, since he selected a block with fairly low copper levels. At breeding time and when the ewes are lactating, he gives the sheep a sheep-specific mineral (three times as expensive), as these are times when the demands are higher on the animals.

Ryan and Janice Marquardt grow grass-based chicken, turkey,

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One good way to start is to talk to local experienced farmers and check out their mineral program. One should also track health problems encountered and consider whether mineral deficiencies could be the cause.

Diverse pasture plants

One should not forget that many essential minerals are in their most available form in plants! More diverse pastures generally have more diverse minerals. Many so-called weeds are the most rich in minerals. According to Dr. Paul Dettloff in his book, “Alternative Treatments for Ruminant Animals,” elemental minerals are only 9-10% available, chelated minerals are 40-50% available and colloidal minerals (in plants) are 100% available. To determine the levels of different minerals in plants, tissue samples can be sent to a lab for analysis. The lab report usually includes basic

lamb, eggs, and beef on 40 acres of sandy soils.

They market their products in Ames, Des Moines and Pella through their website, the Iowa Food Cooperative and November’s Picket Fence Creamery Sample Sunday.



PFI farmers add cover crops without sacrificing yield

by Sarah Carlson

PFI farmers find no reduction in corn/soybean yields following cover crops in 2011 research. This is good news especially in light of alarming soil losses due to erosion in the state. Iowa's land has lost significant amounts of soil since annual crop farming began. Average erosion across the state is 5.2 tons/acre/year, with some areas losing significantly more. Cover crops protect the soil year-round, capture sunlight to grow plants that build soil and sequester excess nitrogen, which can stop soil and nutrient loss.

A few of the benefits of cover crops include soil quality improvements by protecting soil from erosion, increasing soil microbial activity and cycling nutrients, decreasing excess nitrogen or adding to soil carbon.

Conventional row-croppers, livestock producers, fruit and veggie growers and organic integrated crop and livestock farmers want to know more about cover crops and adding them to their current farming systems. Cover crops are normally planted without the intention of a direct harvest. Rather, they are planted for the multiple benefits they provide to the farmer and the environment. In Iowa, cover crops are

Table 1

Cash Crop and Cover Crop Management					
Location	2009 crop	2010 crop	2011 crop	2010-2011 cover crop planting	2011 cover crop termination
Harlan	Corn	Soybean & Corn	Corn & Soybean	Aerial	Herbicide
Jefferson	Corn	Soybeans	Corn	Drilled	Herbicide
Plainfield	Soybean	Corn Silage	Soybean	Drilled	Herbicide
Coon Rapids	Soybean	Corn	Soybean	Drilled	Herbicide
Clutier		Corn	Soybean	Drilled	Disked & Soil Finisher
Kalona		Soybean	Corn	Aerial	Herbicide
Holstein		Soybean	Corn	Aerial	Herbicide
Fort Dodge		Soybean*	Corn	Aerial	Herbicide
West Chester		Corn	Soybean	Aerial	Herbicide
New Market		Corn	Soybean	Drilled	Herbicide

Table 1. Describes each location's cash crop and cover crop management.

usually planted into standing corn or soybean crops or are planted after grain harvest. However, difficulty may exist in planting cover crops during this time, a busy one for farmers. For corn and soybean farmers, adding a cover crop can be the first step towards adding a third crop or other diversity to the farming system. Because direct, immediate economic benefit is not necessarily derived

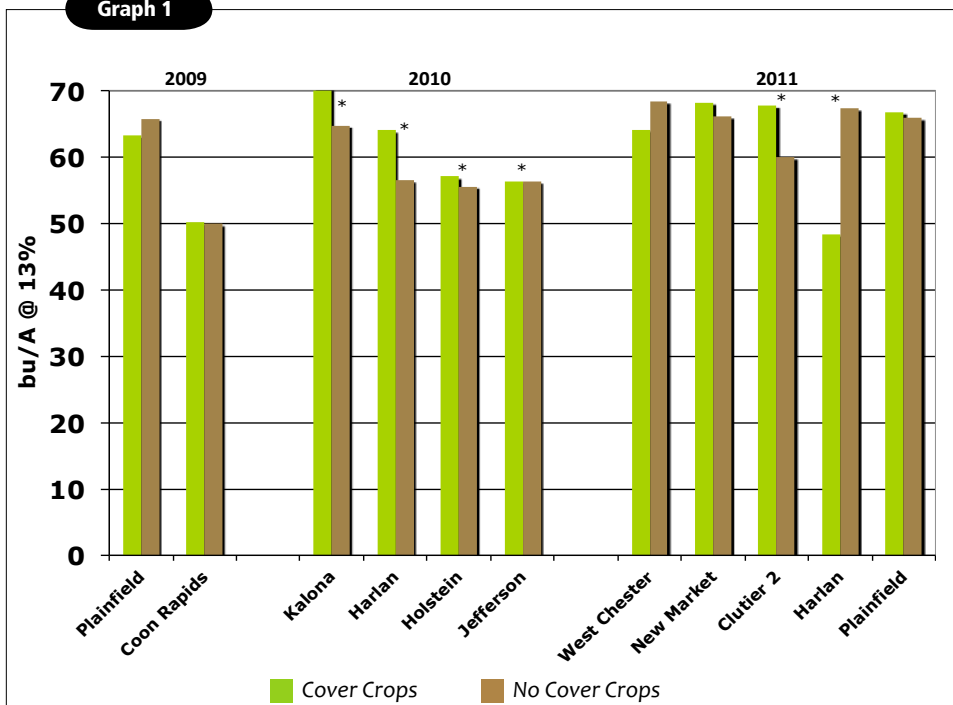
from cover crops, farmers must make profit on their cash grain crop. Ensuring that a cover crop does not significantly impair the cash crop is necessary for widespread adoption.

To begin addressing those concerns PFI farmers launched one of several studies to get answers. Practical Farmers of Iowa and Iowa Learning Farms recruited 10 farmers across Iowa to establish cover crop and no cover crop strips for four to five years on their farms. These farmers planted a winter rye cover crop in the fall, terminated the cover crop the following spring and then planted either corn, corn silage or soybeans. Then in the fall farmers harvested their corn, corn silage or soybeans and measured the yield of those cash crops on both the former cover crop or no cover crop strips. Below is a table of the different locations of the farms and how the cover crop is planted (aerial or drilled); terminated (usually with herbicide) and which crop is planted in which year.

Before the study began soil cores at each location were taken to measure various soil quality indicators, including soil organic matter and steady state water infiltration rates. At the end of the five years Practical Farmers and Iowa Learning Farms staff will re-sample these areas to determine cover crop effect on soil quality and water infiltration.

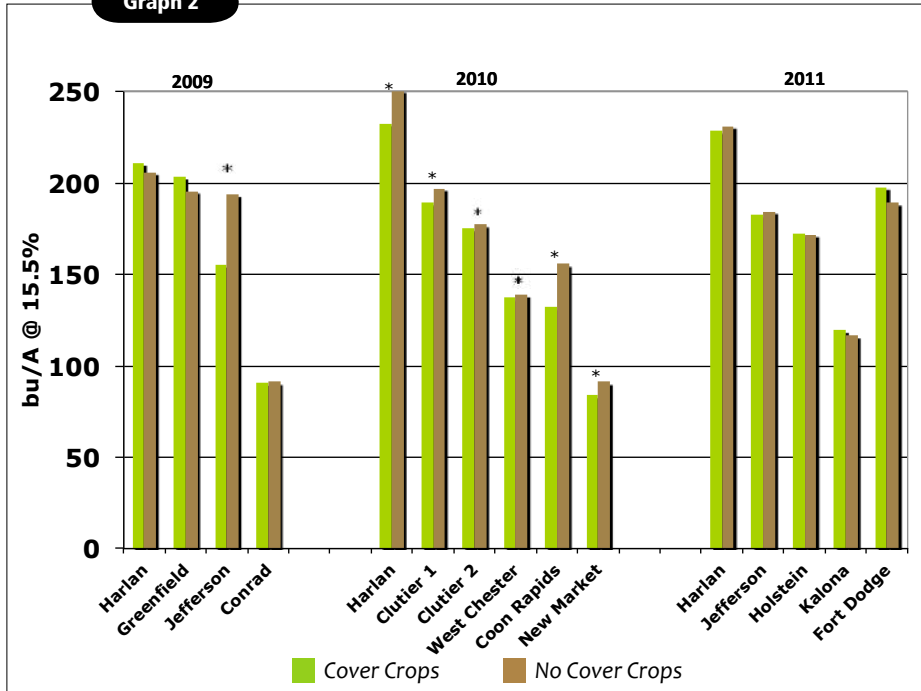
After three years of this study all cash crop results are similar to results reported from the

Graph 1



* indicates significant differences using Student's t-test at an $\alpha=.05$ level.

Graph 2



* indicates significant differences using Student's t-test at an $\alpha=.05$ level.

National Laboratory for Ag in the Environment (NLAE) and other published results.

Soybean Yield

Soybean yield ranged from 49.9 bushels per acre in 2009 at Coon Rapids to 70.4 bushels per acre in 2010 at Kalona. In 2009 soybean yields were not statistically different between the two treatments. In 2010, soybean yield at all locations in the cover crop treatment was statistically higher than in the no cover crop treatment. This resulted in a yield "bump" of 4 bushels per acre in the soybean plots where cover crops had been planted in the fall of 2009. In 2011, no difference in soybean yield was measured at three of the five locations. Soybean yield was greatly reduced at Harlan, yielding 18 bushels per acre less where cover crops had been planted in the fall of 2010 to the spring of 2011. This was due to extreme flooding in a part of the field. Bill Buman, farmer at Harlan, said that "the cover crop wasn't the culprit for the reduced soybean yield. We were in the shadow of the Missouri River flooding and just stayed wet for too long. All our yields were affected. We don't feel the cover crop was the problem."

At Clutier soybeans yielded 8 bu/A higher following a cover crop than in the no cover crop strips. Yield data from Coon Rapids is not available for 2011 due to a technical issue.

Corn Yield

In 2009 and 2011, corn yield was not statistically different when grown following a cover crop or no cover crop except at Jefferson in 2009, where failure to control the cover crop resulted in decreased corn yield following the cover crop. In 2010, corn yield following a cover crop was negatively impacted at all locations. This resulted in a decrease in corn yield of 12 bushels per acre when following a cover crop across all locations

Corn Silage Yield

Corn silage yields were not different whether grown following a cover crop or not.

There was an average of 711 pounds per acre cover crop biomass that grew. This biomass helps capture excess nitrogen and will add to the long term soil carbon in the soils. Pounds of nitrogen in the aboveground biomass ranged from 7.3 pounds per acre to 47.3 pounds per acre, greater amounts of aboveground biomass result in greater amounts of nitrogen that is captured and stored in the plant material.

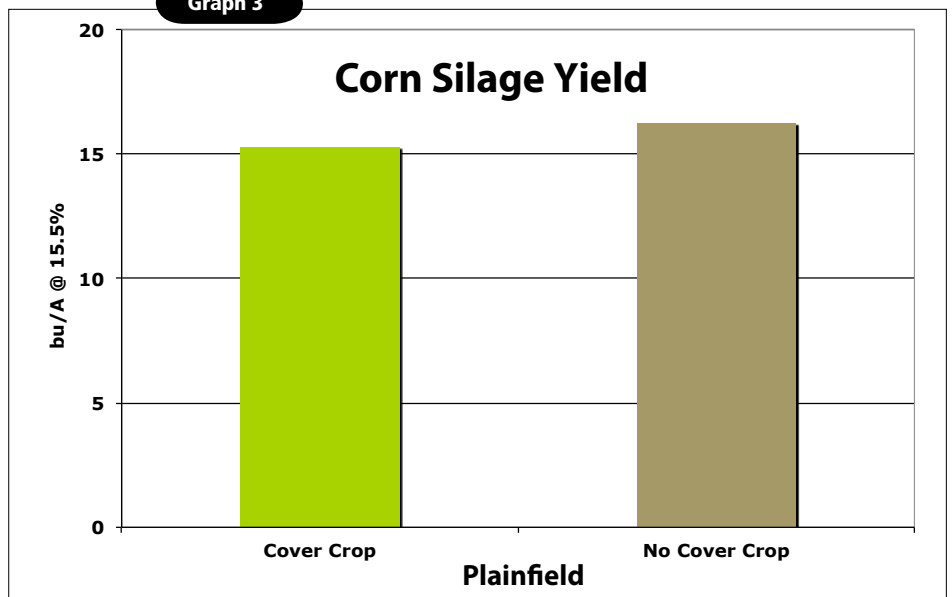
Conclusions

Overall, a fall cover crop had no significant impact on the following cash crop's yield for corn in 2011; however, at one location soybeans were negatively affected due to other circumstances than the cover crop and at another location was positively affected when planted following a cover crop in 2011. Additional years of this trial will determine longer-term impact of using cover crops on cash crop yield.

For more on this research, see the report, "Winter rye cover crop effect on cash crop yield," at <http://tinyurl.com/CCcash2012>.

Funding for this study was provided by Iowa Dept of Agriculture and Land Stewardship and the Walton Family Foundation. Special thanks to Dr. Tom Kaspar, Ben Knutson, National Laboratory for Agriculture and the Environment and Aaron Saeugling, Iowa State University.

Graph 3



PFI farmers test aphid-resistant soybeans

by Sarah Carlson

The soybean aphid is a bane for Iowa soybean farmers. Since 2003, aphids have been detected in every county in Iowa, reducing soybean yields by feeding on the plant and transmitting plant diseases. In hopes of countering losses caused by this pest, in 2011, four PFI farmers—Mark Peterson, Chris Goedhart (Dordt College), Paul Mugge and Ron Rosmann—tested varieties of soybeans with natural resistance to aphids.

At the Mugge, Rosmann and Dordt farms, aphid-resistant varieties had fewer aphids present during the height of the aphid season while yielding equal to or greater than susceptible soybeans. Only at Mark Peterson’s farm did the susceptible soybean significantly outperform the aphid-resistant soybeans.

Dealing with a “huge problem”

“Soybean aphids were a huge problem in 2007, 2008 and 2009, costing 15 to 20 bushels/acre yield loss,” Paul Mugge says. “It is much preferable to deal with them genetically rather than chemically.” Insecticides can damage natural enemy populations like lady beetles, which can greatly reduce aphid populations by feeding. And with decreased natural enemy populations, further aphid outbreaks can occur.



PFI farmer Paul Mugge records data during an aphid-resistant soybean trial.

Paul’s system is organic, so he is limited to only a few commercial products (Neem oil, mineral oil, insecticidal soap and Pyrethrins) to help control the aphids with a bio-insecticide. According to Paul, the products’ efficacy has been mixed at best. So Paul has been eager to try the aphid-resistant varieties screened by USDA and researchers at Iowa State University and the University of Illinois.

Paul planted both the aphid-resistant and susceptible soybeans on May 10 and harvested them October 5. He managed weeds with a

multiple rotary hoe and cultivator passes and took two aphid counts: One count on August 6 found statistically more aphids on the susceptible variety (549 aphids per plant) compared to the aphid-resistant variety (103 aphids per plant). Another count taken on August 20 found no difference between varieties and resulting aphid populations. At Paul’s farm, the aphid-resistant variety yielded significantly higher than the susceptible variety, 40.2 bushels per acres and 35.7 bushels per acre, respectively even under economically damaging aphid populations.

Fewer aphids, consistent yield with aphid-resistant soybeans

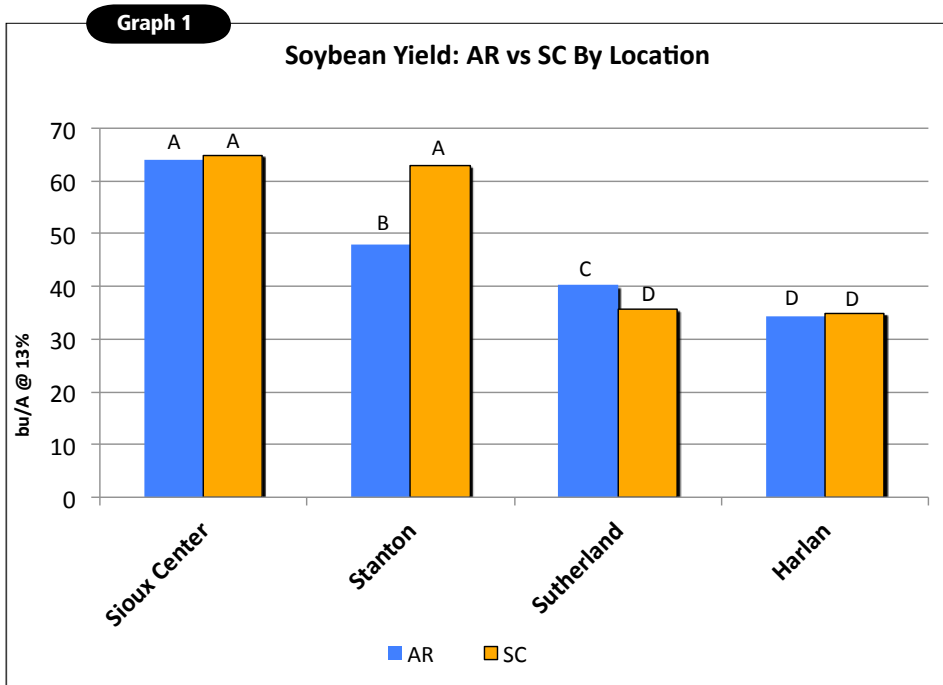
Ron Rosmann planted both types of soybeans on May 27 and then replanted the susceptible variety June 7 because of poor emergence. Like Paul, he also managed weeds with a multiple rotary hoe and cultivator passes. ISU researchers conducted aphid counts August 17 and aphid numbers were significantly less on the aphid-resistant variety (six aphids per plant) compared to 33 aphids per plant on the susceptible variety. In Ron’s field, no significant differences in yield were measured between the two types of soybeans.

Aphids skip the Peterson farm

A new PFI Cooperator, Mark Peterson, was motivated to participate in the study “to deter aphids without insecticide” and “better care of the environment.” At Mark’s farm, three types of varieties were compared:



PFI farmer Ron Rosmann participates in the aphid-resistant soybean trial.



*Different letters indicate significant differences using Student’s t-test at an $\alpha=.05$ level

1) aphid-resistant, glyphosate-tolerant,
 2) aphid-resistant, conventional and
 3) a susceptible, glyphosate-tolerant.
 Mark planted on May 7 and harvested
 October 1. Aphid-resistant and susceptible
 soybeans yielded similarly. The glyphosate-
 tolerant soybeans yielded 59.4 bushels
 per acre, statistically higher than the
 conventional variety of 51.5 bushels per
 acre. ISU researchers conducted the
 aphid counts on August 17-18, but no
 aphids were found at Mark's farm.



PFI farmer Mark Peterson tested aphid-resistant soybeans.



PFI member Chris Goedhart of Dordt College participated in the soybean trial.

Lessons learned

Potential lessons from the 2011 data? In highly impacted areas or where a lack of aphid management options exists, it may be beneficial to plant resistant varieties as insurance against aphid damage in some years. In a farming system where insecticides are available to control aphids, an aphid-resistant variety might yield as well as a susceptible variety even when an insecticide is applied. The cost of an insecticide application from the

2011 ISU Farm Custom Rate Survey ranges from \$4-\$14 an acre plus the estimated cost of a full rate of AsanaR XL insecticide at \$4.85 an acre for 2012. Additional charges for scouting soybeans would need to be attributed to the cost of managing the aphids in the susceptible soybean fields. Considering crop protection costs and yield and aphid pressure differences, an aphid-resistant variety might be a good insurance policy in both organic and conventional farming systems. More years of data with higher aphid populations will further confirm the expected performance of aphid-resistant soybeans.

Want more information?

For more on this research, including methods used, see the research report, "Aphid-resistant versus susceptible soybean varieties," on the PFI website: www.practicalfarmers.org

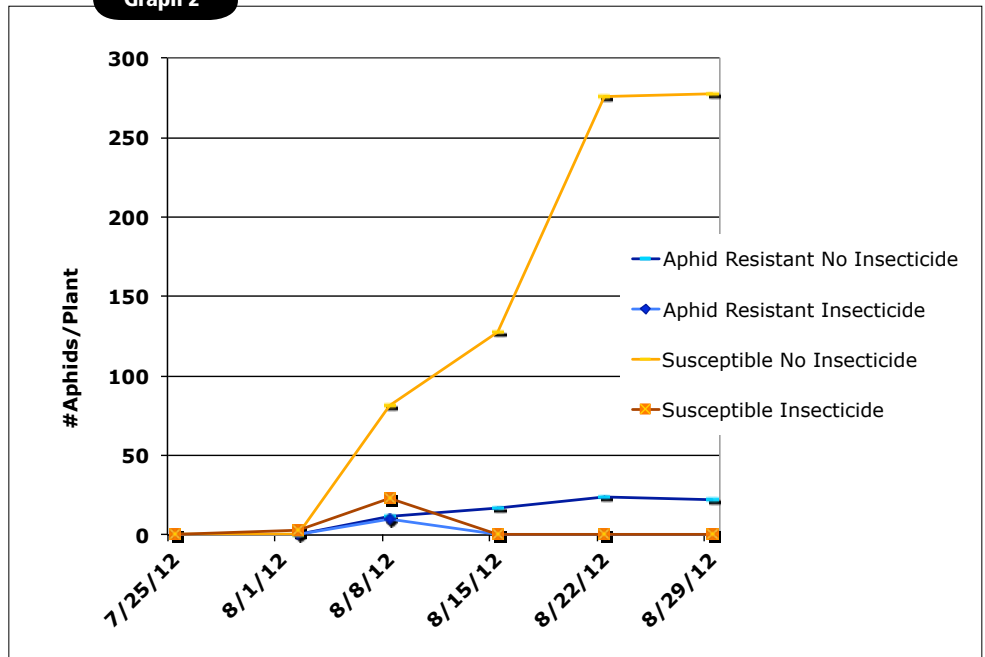
Funding for this study was provided by the Leopold Center for Sustainable Agriculture and the Iowa State University On-Farm Research Program. Special thank you's to Blue River Hybrids, Albert Lea Seedhouse, and Drs. Matt O'Neal and Walt Fehr at Iowa State University.

Dordt's Chris Goedhart joins study and counts fewer aphids

Finally, at Dordt, the planting date was May 10 and harvest was September 28. Both soybean varieties at Dordt College were glyphosate-tolerant and glyphosate was used to control weeds. Dordt took aphid counts weekly between July 25 and August 29. No significant differences in yield were measured between the two varieties (average yield was 64.5 bushels per acre).

Dordt researchers applied the insecticide Endigo (at four ounces per acre) to half of the plots to test the performance of the different varieties with and without an insecticide application. Aphid-resistant soybeans without an insecticide treatment (63.9 bushels per acre) yielded similarly to susceptible soybeans that received an insecticide treatment (66.9 bushels per acre) (Graph 2).

Graph 2



A farmer's tale: Raising hogs profitably without prophylactic drugs

by Suzan Erem

It is possible to raise hogs profitably without non-therapeutic antibiotics, but it takes a new way of doing things, explained Danish hog farmer Kaj Munck at PFI's Annual Conference at Iowa State University.

The moral of the story: "Handle your pigs the way you'd want to be handled."

Kaj (pronounced "k-eye") walked a full house of Iowa hog farmers through his 2,900 finisher operation with photos, graphs and straight talk at PFI's Annual Conference in January, which came on the heels of the FDA's January 4 announcement to begin curtailing the use of cephalosporins, a class of antibiotics used in industrial beef, pork and poultry production. The United States is the largest user by far of non-therapeutic antibiotics, and leading medical associations and public health agencies are warning of increased antibiotic resistance in humans.

Kaj said when he bought his farm in 1988, he had 60 acres, 60 sows and no workers. Then he ran headlong into a problem. His hogs were already resistant to almost every antibiotic. That combined with increasing regulation from the Danish government restricting the use of antibiotics forced him to take a new direction. Within 10 years, all growth-promoting antibiotics were banned by Denmark, which exports 90 percent of its pork. Despite the challenges, Kaj's operation has grown. He now has four employees for a 400-sow operation on 470 acres and exports 8,800 hogs per year.

Kaj's experience mirrors Denmark's overall numbers. The world's largest pork exporter has seen a 51 percent drop in antibiotic use on industrial farms while enjoying a 47 percent increase in pork production, according to information provided by Danish scientists. The average number of pigs produced per sow has increased from 21 to 29, and a Danish industry group says that the ban has not increased the cost of meat for consumers, according to Laura Rogers, a Pew Charitable Trust representative who has led tours of Danish industrial farms.



Kaj and Anette Munck talk about their 400-sow operation on 470 acres, where they export 8,800 hogs per year.

Going drug free

The trade-off for antibiotics is a combination of hygiene, feed mixes and watchfulness, in other words, "more and better management," Kaj says.

"First, sick pens for sick pigs," Kaj explained. "It took up a lot of space, but we learned they only have to be in those pens one to two weeks, and then they go into relief pens. And we learned only one to two pigs need intensive care."

Then comes the feed. "We had finishers getting 75 percent wheat and 22 percent soybean meal," he says. "We changed to 40 percent wheat, 36 percent barley, 20 percent soybean meal and 4 percent mineral mix. We saw a night-and-day change in the health of the pigs," he explains.

They also added more straw for more fiber.

Overall hygiene became much more important too, so they learned never to have workers moving from large pigs to small, only from small to large. If they must,

they change their boots and clothes before attending to the smaller pigs, reducing the risk of infecting the younger animals.

They also adopted an "all-in-all-out" transition between batches. This involves emptying the building, then spraying a lot of water, then heating the place to about 85 degrees, then 24 hours later, after making sure the place is completely dry, putting in the new pigs.

"I tell my workers, 'It must be so clean that if you drop a piece of bread with peanut butter and it lands the wrong way, you can pick it up and eat it,'" Kaj says. He emphasized using plenty of water 24 hours before. "Especially around the crib where they eat has to be particularly clean." Then they place "a lot of straw in the pens, food, water, and then the pigs are brought in."

Kaj says that he's seeing bigger sows with larger litters weaning at higher weights since Danish law requires an extra week, 28 days, to help build the piglets' immune systems. He has had to build bigger farrowing pens to accommodate them.



Kaj and Anette Munck's Danish hog operation.

The role of regulation

Denmark is no Iowa, and in that country a vet comes through every month to meet with the farmer, checking all of his records for how much of which prescribed drug was used that month on which pigs and why. In 1992, Denmark banned vets from being able to sell drugs directly to farmers, freeing them from potential conflicts of interest. Electronic ear tags track everything each pig has eaten, and the farmer tracks which pigs have been confined for illness, for how long and with what drugs they treated them. The vet goes through every building and checks all the pigs every visit.

"You can say, 'Oh it's so much papers,'" Kaj told his fellow farmers. "But we use it in a positive way. In the farrowing section we have a lot of infections in the legs. If we see code 162, died of hunger, and code 172, brain infection, we put it all in a computer and see how they were treated, or I can see why are all my piglets dying on day #2. So we're using it in a positive way."

Kaj admits that farmers bucked the regulations when they first came into effect. The transportation of pigs is so carefully regulated that even if a farmer gives or sells a couple of pigs to his neighbor, it must be documented and registered by the central register of all livestock.

"A few years ago there was a big problem with dioxin, and markets were shutting down all over Europe," Kaj recalls. "In 12 hours, Denmark determined it wasn't from their farms. The farmers breathed a sigh of relief and were thankful for the registration process because in 12 hours, the entire country knew it, and markets started opening to us again."

Know your pigs

Kaj says that this kind of intense management allows the farmer to know his pigs better. And out of that came a significant change in the increased use of pain killers. "Yes, pain

killers," he said to the raised eyebrows in the room. "When farrowing sows are lying around, no temperature, she just doesn't feel well, what do you do? In old days we gave antibiotic because 'must be sick,'" he says. "But now, like an athlete hurting, we give pain killer injection. It's a big difference to give painkiller because if you have a headache, antibiotic doesn't help, right? Now within days they are up and walking around."

Pain killers are also used for castration, in keeping with market demands from the European Union.

Workers also walk the entire facility every day checking for sick pigs. "Even on Christmas I was checking my pigs," Kaj says. Removing sick pigs from the population is key to keeping the rest healthy, of course, but also allows the farmer to treat that pig sooner. Still, pigs die, and one farmer asked Kaj what his leading cause of death was. On the Munck

farm, dead pigs are autopsied, and workers learn to cut a pig open and read its insides. So Kaj knows his pigs, alive or dead.

"Dying of hunger for the piglets in the farrowing section," he told the audience. "Normally you say it's just been laid on, but no, when you open it, there's no food in the stomach. Second is infection in the front legs in the small piglets. Not dying of diarrhea."

Kaj offered more specifics to the hog farmers for each step in the process. Feed sows five times a day so they eat more, be sure weaners get enough to drink and feed them 2,500 ppm of zinc oxide in the first seven to 10 days after weaning, move stragglers to "collecting sows" who can fatten them up, always have one spare teat so the piglets aren't fighting and other specific management improvements. In the end, he advised the farmers to do just what they were doing, coming to each other for advice and continuously learning new and better ways of doing things.

Kaj also sent farmers to the Danish research site paid for by Danish hog farmers for more information. The version in English is at www.pigresearchcentre.dk and contains information on all aspects of hog production in Denmark.



Kaj Munck's pigs bed down in straw (right).

(Below) Sick pigs are treated then isolated from the healthy for a week or two before going to relief pens and then back to the group.



2012 Cooperators' Meeting

PFI members select questions to answer and topics to explore with research and demonstration projects in 2012

Practical Farmers of Iowa members gathered in February to determine the focus for on-farm research and demonstration projects in 2012!

What are the energy savings and payback period for adding insulating foam? Does seeding hairy vetch with a cultivator at last cultivation increase nitrogen? Does planting thyme along with brassica prevent the damages of cabbage worms? Is linseed meal a viable alternative feed for pastured pigs? What is the cost of production, processing and marketing for my particular poultry system?

These are just a few of the questions that PFI cooperators said they would like to explore with on-farm research in 2012, during the PFI Cooperators' Meeting held in Ames. The complete list of top

project ideas are on page 17. Farmers also collaborated to design research projects that can give them the answers they seek.

PFI holds the Cooperators' Meeting annually to ensure that the group's on-farm research and demonstration efforts are focused on farmers' wants and needs. There were 106 individuals who registered and attended this year's planning event.

Some comments from participant surveys include: "This program not only helps us do valuable research, it teaches us how to better assess research we read." "The meeting was well-designed to show how important it is to have more farms involved in a particular experiment." "Thanks! It was a great meeting."



1. Cooperators Mark Gee, Ron Brunk and Dick Thompson fuel up for more brainstorming and learning with a buffet of food supplied by PFI farmers.
2. Dan Wilson and Dick Thompson listen intently during a field crop session.
3. Horticulture group participants consider research questions to explore in 2012.
4. Bruce Carney, Ray Bratsch-Prince and Dan Wilson talk about livestock.
5. George Schaefer and Jeff Olson discuss the day's events.



- 6. Long-time PFI member and cooperator Ron Rosmann addresses the group, emphasizing the importance of on-farm research.
- 7. Another veteran member and cooperator Vic Madsen encourages the group to be curious and commit to a research project in 2012.
- 8. Ron Brunk and Wade Dooley catch up during a break in a session on grazing.

Top Project Ideas for 2012

Energy Project Ideas

1. How does the energy use and cost for a farm-built, walk-in cooler using a CoolBot system compare to a commercial cooler of the same size?
2. What are the energy savings and payback period for adding insulating foam to the outside of a commercial vegetable cooler?
3. How does the energy use and cost in our newly constructed farmhouse, which is designed for energy efficiency, compare to our previous farmhouse?

Field Crops Project Ideas

1. What is a cover crop's effect on soil quality and weed control?
2. What are the differences between planting a cover crop with a hi-boy or no-till drill?
3. How does transgenic corn compare with same iso-line that is non-transgenic?
4. Does seeding oats and red clover cover crops decrease corn N use?
5. What are the yields and aphid counts of aphid-resistant soybeans?
6. What are the yields of improved organic and non-GMO corn hybrids?
7. Does seeding hairy vetch with a cultivator at last cultivation increase nitrogen?
8. Can tillage radish be established in a clover crop?
9. What cultivator modifications are best to improve weed control?

Grazing Project Ideas

1. How does stockpiling and grazing in fall and winter affect spring grass growth?
2. What winter feeding regimes work best in a no-grain system?
3. How do we monitor fly populations on cattle to determine threshold levels for animal welfare and profitability, and to determine the efficacy of a treatment?
4. Is high protein content in forages and feed affecting livestock health and the health of livestock products for people?
5. Can annual forages inter-seeded into a warm-season prairie grass stand improve forage quality?
6. Can compaction in pastures be alleviated using an Aerway or Keyline plow?

Horticulture Project Ideas

1. Will the yields of marketable tubers increase by lifting sweet potato vine?
2. Does planting thyme along with brassica prevent the damages of cabbage worms?
3. Are living mulches suitable for weed control without competing for nutrients and light with my peppers (cash crop)?
4. Can a soybean "smother crop" be used to effectively reduce weed pressure in organic asparagus production? What is the impact of a soybean cover crop on asparagus' fertility and yield?
5. Does organic commercial paper mulch control weed better than bare soil?
6. Which non-toxic methods (kaolin clay and row covers) are effective in controlling flea beetle populations?
7. Which cover crop species grow adequately between spring and fall crops to add a rotation, build soil and suppress weeds?



8. What are the Ideal green bean seeding rates?
9. Does planting clover as living mulch control weeds in sweet corn production?
10. How much cover crops benefit is eradicated with tillage?
11. Record-keeping project: Collect records on production and sales from fruit and vegetable farms to provide agencies with information to create better insurance options for fruit and vegetable farmers.

Poultry Production Project Ideas

1. What is the cost of production, processing and marketing for my particular poultry system?
2. What are economic and soil impacts of the rotation system in poultry production (cover crops-cash crop versus poultry-cash crop)?

Pig Production Project Ideas

1. How do alternative hog rations compare to typical corn-soy diet in terms of cost?
2. Is linseed meal a viable alternative feed for pastured pigs?

2012 Cooperators' Meeting



1

1. Doug Alert, Dan Wilson and Dick Thompson discuss current challenges in raising field crops.

2. Vic Madsen reviews the many research questions suggested for exploration in 2012.

3. John Gilbert presents on his role in the Conventional Corn Hybrid Strip Trial: Yield/Quality & Low-Trypsin Inhibition Soybeans Demonstration project.

4. Ray Bratsch-Prince and Dan Specht share a laugh and good times at the cooperator's dinner.

5. Doug Alert and Tim Landgraf discuss what's new on their farms.

6. PFI staffer Marc Strobbe, son Ethan, Susan Jutz and Jerry Peckumn are shown here mingling and catching up with old friends and new at the PFI social hour.



2



3



4



5



6

Mark Quee closes PFI 2012 Cooperators' Meeting with a pledge for the future

by Mark Quee

While growing up in Clarinda, I belonged to 4-H. It seemed at the time that nothing could suck the fun out of building, growing, baking, raising and showing more than those project descriptions we had to write. As I sat at the kitchen table with a pencil in hand, painfully re-forming the processes of creation, I asked, "Do I really have to remember the first step I did?" "Is it really important that the nails cost 14 cents?" I was informed: Yes, this documentation matters.

Well, now I know why documentation matters

One of the great values that 4-H instilled in me is this idea of naming and tracking what is important. There are some clear and obvious ways that PFI's Cooperator's Program does this, too: Helping us track our time, monetize our inputs and eliminate bias in the face of facts.

However, I want to take us from the micro level of pennies and nails to the macro level of commitment and ideals. In 4-H we had the Pledge (below):

4-H Pledge

I pledge my
 HEAD to clearer thinking
 HEART to greater loyalty
 HANDS to larger service and
 HEALTH for better living
 for my club, my community my
 country and my world.

Though we don't have a PFI Cooperator's Pledge, I think these ideas are most important: Cultivation. Cooperation. Reciprocity.

Cultivation

Cultivation is obvious: We're tending to better, sustainable, profitable growth. All of the Cooperators' projects that we have committed to share cultivation: We will be watching, we

will be caring, we will be tending. Ron Rosmann and others remind us that this applies not only to our farms but also to our communities.

Cooperation

Cultivation is, quite literally and intentionally, cooperative at PFI. We gather to share results—both successes and challenges—with others through real-time conversations, field days and data sheets, but also across time into the future. Last December when the Cooperators' Advisory Committee met to revise this program, it was inspiring to hear about those who began doing this work more than 25 years ago. We are telling stories with these projects, and stories are then studied and retold. We are forging relationships with each other and with the future.

Reciprocity

Finally, reciprocity: We are trying in many small ways to improve agriculture, but that is not the sole end result we seek: We want agriculture to be better so that we as individuals can be better. A healthier relationship to our food and soil can only make us better people. It also makes for a stronger PFI—and this is important.

The Cooperators help define Practical Farmers of Iowa. My relationship to PFI is profoundly influenced by the Cooperators' Program: In 2001, I attended my first annual conference and came away from it kind of wondering what we had to offer each other. I sat out a while, but tried again a couple years later and thought, hmmm...I think I get it now.

Fast forward to 2009, and we had just put down our CSA at Scattergood and I was casting about in an attempt to renew the Mission of the Scattergood Farm, and the



Mark Quee stands in front of sheets of research project ideas generated over the course of the two-day Cooperators' Meeting and closes the meeting with a pledge.

Cooperators' Program became an obvious partner for us. So, in less than 10 years, I've gone from totally inactive, to occasional lurking, to actively participating.

Too often in life we seem to simply contribute from afar, but Cooperating allows us to cultivate Practical Farmers of Iowa, which then nurtures us in our relationships to other farmers and consumers, which then hopefully makes us better individuals, who are more committed to all areas of sustainability.

So, with apologies, I'm going to steal that 4-H pledge and adapt it for us today:

PFI Cooperators' Pledge

Let's pledge:

Our Heads to better farming
 Our Hearts to better sharing
 Our Hands to greater sustainability and
 Our health for a better self,
 a better community, a better state, a
 better country and a better planet.

Mike Natvig receives 2011 Spencer Award for Sustainable Ag

Long-time PFI member Mike Natvig was honored recently with the 2011 Spencer Award for Sustainable Agriculture in a special presentation by the Leopold Center for Sustainable Agriculture.

Mike was selected for his sustainable farming practices and efforts in converting his family's farm to organic crops and livestock.

Michael Natvig is working to leave the land better than he found it for future generations. Mike grows corn, soybeans and a small grain mixture called succotash on his 420-acre organic farm in Howard County. He also raises organic beef cattle and hogs, and maintains hay fields and pastures alongside of native prairies, oak savannas and woodlands.

Natvig credits his father for inspiring him to practice good stewardship on their family farm. "He always had a really strong conservation ethic," Mike says. "I remember when I was a young kid, he built terraces on some of our farmland and put in waterways and had a good crop rotation on our farm, which all contribute to soil health."

Natvig upholds that tradition as a fifth-generation farmer. In the late 1980s he began transitioning to organic when he realized that farm chemicals, as well as becoming increasingly expensive, were making him sick. He certified the farm as organic in 1998 and began restoring native wetlands and prairies on the property. He also took advantage of an opportunity to graze cattle on a streamside pasture on the Norman Borlaug Heritage Farm, the birthplace of the founder of the World Food Prize. No cattle had grazed there for the previous decade, so Natvig carefully monitored the water quality and vegetation along the stream. He discovered that as long as he rotated cattle through the pasture every few days, the stream habitat remained healthy.

As a longtime member of Practical Farmers of Iowa, Natvig conducts on-farm research. Some of his projects have explored non-GMO crop varieties, organic methods of parasite control in livestock, and soil organic matter and nutrient cycling in organic systems.

Natvig says that it takes a whole new set of management skills to make organic farming work. "You've got to have the belief that it's the



Mike Natvig and daughter Thea

right thing for you to do, the right thing for your farm and the land," he said. "For the long-term health of the soil and the land, and the farm in general, it worked out well for our family."

The Spencer Award honors Norman and Margaretha Spencer and was established in 2001 by an endowment from the Spencer family, and includes a \$1,000 cash prize. Learn more about the award at <http://www.leopold.iastate.edu/spencer-award>.

FFA chapter grows produce for school lunches

by Luke Gran

Last summer, PFI awarded a \$250 Youth Mini Grant to the New Hampton FFA to purchase seeds and fund research on which tomato varieties students prefer. This project was one of 11 that were awarded PFI mini grants in 2011.

The New Hampton Public Schools and local FFA chapter have teamed up to introduce gardening to students. The school is offering a class in horticulture and has invested in a season extending high tunnel and greenhouse for the year-round production of fruits and vegetables. A top goal is to get more fresh, locally-grown produce into meals served in the school lunchroom.

Secretary of the New Hampton FFA Chapter, Jane Kolthoff, is a Senior from a farm south of town and has been a student leader on the high tunnel project.

"It's been awesome! A great experience" says Jane, who has participated in this project from



the beginning and throughout its initial year. "This is a great start for the little kids; hopefully we will have it for them in the future."

Funds for this project were solicited from the community by FFA students and their advocates. Around 200 community members, local businesses and a select number of grants

raised about \$61,000. Support for the project included the top high school administrators.

"When we started thinking about this, we were thinking about something pretty small, but Principal [Sara] Updegraff challenged us to think big," recalls Jane. "She even helped us raise funds!"

Energy conservation trumps wind turbine for PFI farmer

by Mark Runquist

A few years ago we were involved in the work to prevent a coal-fired power plant from being built in our county. However well-intentioned we may have been to oppose the plant, the fact of the matter was that every day we were using electricity that was produced by similar coal-fired plants. We thought that we should advocate for a “yes” solution rather than a “no” solution.

Enter the Southwest Windpower Skystream wind turbine. As I write this, the turbine is cranking out 3,000 watts of power. All the energy to run the computer and household lights at the moment is coming from our turbine. Last year the turbine produced about half of our electricity. Since we installed it about three years ago, it's prevented the release of about six tons of carbon dioxide.

The turbine has gathered us a small measure of notoriety. It was part or all of the reason “Living the Country Life” TV show featured our farm, as did Oprah.com and a portion in the documentary “Ecoheartland” in addition to other media outlets.

As rewarding as it all is, there's a secret I'd like to share. The turbine hasn't been the cause of the biggest drop in our utility bills. About three years before we installed the turbine, we made a concerted effort to reduce our energy use. We swapped light bulbs; bought an energy-efficient dishwasher, washing machine and other appliances; turned off the overhead yard light in favor of motion-detecting outdoor lights; and made some other simple choices like replacing a broken coffee maker with one that has an insulated carafe instead of a hotplate to keep the coffee warm.



**... there's a secret
I'd like to share.
The turbine hasn't
been the cause of
the biggest drop in
our utility bills.**

Mark Runquist

Saving Energy

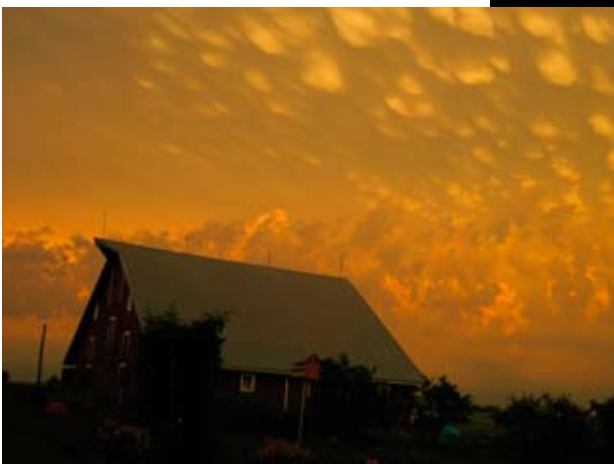
With the success of the Skystream, we thought it might be useful to compare it to another make and model on the same property. We were intrigued with the Mariah Power Windspire, a vertical axis wind turbine—one that kind of looks like an elongated egg beater. We anticipated being able to share real data with others, much like we do with the Skystream. We eagerly applied for and received a grant to defray part of the cost to be a small wind demonstration site, sent in our deposit equal to half the installed cost and waited. We waited some more. We waited even longer. After nearly two years of delays, we asked for our deposit back, and found out other Mariah Power Windspires in the field had not performed to the expected manufacturer's claims. Eventually, we did get our deposit back.



In looking over our utility bills, compared to the previous years with no conservation efforts, our electrical use dropped 265 kilowatts a month after beginning the conservation efforts. Our usage after the turbine continues to drop, another 228 kilowatt a month. So, due to conservation efforts, our monthly electrical use dropped an average of 493 kilowatts a month.

So how much does the turbine produce? Last year it produced an average of 353 kilowatts a month, which is less than the 493 kilowatts a month we saved from conservation! The conservation efforts cost substantially less than the wind turbine. Though I have absolutely no regrets about installing the turbine, the key lesson here that is not on the forefront in our current energy discussion is the efficacy of energy conservation in reducing the need for new power plants. Even if you don't have the space or ability to put up a turbine, you can do something even more powerful.

If you'd like to see more pictures of the installation, some of the technical details, and production statistics, visit <http://highhopesgardens.com/blog/category/wind-turbine/>



PFI adds new communications position

Tamsyn Jones joins PFI as communications and policy associate. In the newly created position, she'll be responsible for writing and distributing press releases, media relations, occasional feature stories, helping with PFI's blog and social media presence and coordinating visits to PFI member farms.

She'll also be assisting with PFI's policy efforts by helping members share their views in the media and become more involved in policy efforts and publicizing the work of PFI staff and members in policy areas.

Tamsyn joins PFI in March 2012, after two years working at Iowa State University as the communications specialist for ISU's Corn and Soybean Initiative. Before that she wrote about agricultural issues for University of Missouri Extension. She received her B.S. in technical writing, with a strong focus in ecology, from Carnegie Mellon University in Pittsburgh and her M.A. in journalism from University of Missouri,

where she majored in environmental journalism and worked as a teaching assistant in the Agricultural Journalism program.

She then spent a year as a Rotary Foundation Ambassadorial Scholar in Tasmania, where she worked to foster international peace and understanding and studied journalism at the University of Tasmania. While there, she made efforts to learn about the state's unique agricultural industry and got to try her hand at shearing some Merino sheep.

Tamsyn grew up in Pittsburgh, PA, as the first "off-the-farm" generation. Her father grew up on a mixed dairy farm in New York's Catskill Mountains, close to where her aunt currently owns a sheep farm, and she's been intrigued to learn how her ancestors were among the first apple farmers in Maine. She and her husband, Chris, are very interested in small-scale, sustainable farming and dream of someday starting a small goat and vegetable farm on his sixth-generation family farm in rural east-central Missouri.



Tamsyn is shown here with husband Chris.

In her spare time, Tamsyn loves playing Irish fiddle and tin whistle, swimming, reading medieval literature and going on hiking and camping trips with Chris and their two cats (who love their nature leash walks and car trips).

Stanton farmer named to PFI Board

Stanton-area farmer Mark Peterson has been appointed to the Practical Farmers of Iowa Board of Directors, representing southwest Iowa members.

In 2005, Mark joined Practical Farmers of Iowa to improve the conservation on his farm.

He explains, "I had the privilege of attending a conference and listening to Vic Madsen and Ron Rosmann speak, and I was inspired to join them." (Madsen, of Audubon, and Rosmann, of Harlan, are longtime PFI members.)

Since then, Mark has become increasingly active in the organization. Last summer, he conducted a research project on his farm that compared yields between susceptible and aphid-resistant soybeans.

A conventional row crop farmer, Mark raises corn and soybeans on approximately 300 acres near Stanton and says that he has been incorporating lessons learned from attending Practical Farmers events into his farming operation to help him reduce his use of chemicals and conserve the soil while increasing his profitability.

"I've been farming either part-time or full-time for the past 30 years," he says. "... I feel a real moral and ethical obligation to care for the land and to leave it better than I found it.



Mark's dad moved their family to Stanton when Mark was 16. It was in Stanton that Mark met and married his wife Melanie. The couple has five boys—Mathew, Mitchell, Magnum, Monroe and Miles—who have grown up on an acreage outside of town, on which they have raised sheep, cattle and row crops.

"Regardless of the size or type of farming operation, everyone needs to be looking for their own better way of farming to become a better steward of the land," says Peterson. "I want to make the most out of the land I've been entrusted with. I'm excited to be a part of the board, and I'm looking forward to helping make Practical Farmers of Iowa a household name."

PFI staffer Ann Seuferer bids fond farewell

"Some good-byes are harder than others, and this is definitely a tough one," says Ann.



PFI staffer

Ann Seuferer left her communications post at PFI in April to take a position closer to her West Des Moines home. Her new adventure as communication specialist for the Iowa Grocery Industry Association began April 16.

"I'm going to miss all my wonderfully wacky, hard-working teammates at PFI and all the equally hardworking, dedicated farmers I've had the privilege to meet during my time here," she says about leaving.

"It has been an honor to serve PFI and its members in providing a voice for its very important message and mission," she adds.

"I will continue to support PFI as a member and look forward to the day when PFI achieves its vision of diverse farms, healthy food and vibrant communities for an Iowa landscape of which we can all be proud."

FFA chapter grows produce for school lunches

(continued from page 20)

Jane's family raises corn, soybeans and beef cattle. They also show cattle around the state. When asked what it was like doing a different kind of farming, growing fresh produce, she said she enjoyed it. "All I get to do helping my Dad with the corn and soybeans is to drive a wagon on the farm; with this you get more things to do! It is exciting to be able to help!"



Tom and Irene Frantzen, integrated grain and diverse livestock farmers near New Hampton, are supportive of these efforts and are members of the local FFA alumni chapter.

"We see this project as a gateway for students, who will be our future, to develop lifelong passions and interests in agriculture," says Irene.

When asked why not build an FFA project involving more typical commodities like crops and livestock, Tom says, "This project can be integrated in every subject in the school, can be accessed by each student regardless of their physical abilities, providing a laboratory of practical agricultural skills that will be transferrable to all kinds of careers in agriculture."

"We are involved because we have always believed in FFA, and the excitement we hear from the kids is contagious! This is an inspiring and hopeful project," says Irene.

Tom and Irene's son, James Frantzen, was also involved in support of this student initiative as New Hampton FFA alumni chapter President. "This is hands-on learning, completely different than a textbook," says James. "We are very grateful to PFI for their support with the Youth Mini Grant."

In its first year, about 50 to 60 students have participated in crop planning, planting, cultivating (even weeding we are told!), irrigating, harvesting, washing and packing of fresh produce. More than 800 public school

students from 12 grades have been served school lunches with food grown in the school's garden.

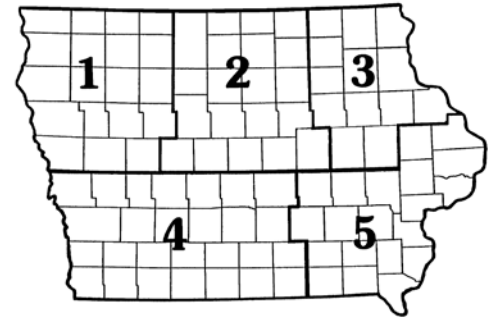
Jim Russ, high school teacher and FFA chapter advisor oversees the project. "The school cooks were dicing the peppers to put into salad, the cucumbers were going into oil, and the kids told me they wanted them raw, sliced, and ready-to-eat." Jim has been amazed by the dramatic change in the students' enthusiasm for vegetables. Last season, using PFI's Youth Mini Grant, 100 tomatoes from 10 varieties were grown and taste-tested by students.

"This is another tool to get kids some experience with [a kind of] agriculture that many had not thought about - where their fresh produce comes from" says Jim.

Plants grown by the New Hampton FFA in its first year were bell peppers, tomatoes, acorn squash, and zucchini. In 2011, their high tunnel grew 250 pounds of food all of which was sold at a discounted rate of \$1 per pound to the school cafeteria.

With new projects comes many new challenges, for example, they are witnessing troubles with white flies and flea beetles in the high tunnels. Looks like the farmer network and Cooperators' Program at Practical Farmers of Iowa will have a role to play for years to come. It is so great to be Working Together, Always Learning.

Note: Funding for Youth Mini Grants come from proceeds from our Silent Auction held annually at the PFI Annual Conference. Thank you to our members who donate items and bid generously!



Welcome, new members

District 1—Northwest

Esther and Gary D'Agrosa, Boyden
Melissa Irizarry, Spirit Lake
Elizabeth Morris Cathcart, Linn Grove
Stanley Price, Laurens
Jeremy, Ben and Nate Rohwer, Archer

District 2—North Central

Silver and Michael Amenson, Story City
John Bodeen, Ames
Fred Engstrom, Ames
Joelyn Gast, Maxwell
Bobbie Gustafson, Story City
Tamsyn Jones, Ames
Jodi and Kyle Larson, Goldfield
James and Nancy Monat, Traer
Robert Ryerson, Ames
Tim Smith, Eagle Grove

District 3—Northeast

Anne Bohl, Decorah
Phillip Danowsky, Cedar Rapids
Alex Keppler, Arlington
Larry Netz, Central City
Max and Martha Reeves, Nashua

District 4—Southwest

Lance Brisbois, Missouri Valley
Edward Cox, Des Moines
Dallas County Agricultural Extension District
Joe Hannan, Adel
Lana Jackson, Peru

McDonald's ban on use of gestational crates spurs debate among PFI members

by Patrick Burke

Sow gestation crates, also known as sow stalls, have long been a contentious issue for pork producers. The crates, which are metal enclosures roughly 7' x 2' in size, are used to confine a sow during pregnancy. While proponents of gestation crates argue that they prevent sows from fighting, animal welfare advocates say crates are inhumane, as sows are effectively immobilized for most of their lives.

In February, McDonald's Corporation, which purchases around 1% of all pork in the U.S., announced that it will require its U.S. pork producers to phase out the use of sow gestation crates. In a joint statement with the Humane Society of the United States (HSUS), McDonald's says that it "believes gestation stalls are not a sustainable production system for the future." As expected, this decision caught the attention of PFI members, several of whom posted the news to PFI's email discussion lists.

Many members expressed approval for this decision, including self-described "omnivorous, capitalist livestock producer" Keith Kuper. "The idea of confining these intelligent, curious and playful beings in crates for their entire lives is abhorrent to anyone who grew up caring for them as I did," said Kuper.

Of course, sows were not always confined during gestation, as Paul Swanson was quick to point out: "In the 1960s or early 1970s, ISU was doing research that indicated limiting the amount of energy fed to gestating sows [...] resulted in improved farrowing results.

However, to accomplish this, it was important to utilize feeding stalls to ensure that each sow would get the appropriate amount and not have more timid individuals get too little." Over the years, says Swanson, "the nuisance and labor of allowing the sows to leave the crate overruled the biological needs of the sow, probably because it was cheaper and easier." Gestation crates became the industry standard.

PFI member and organic pork producer James Frantzen believes there are some major hurdles for confinements to overcome as they phase out gestation crates. "Sows in gestation have great competition between each other, and will fight for more feed," says Frantzen. Without confining the sows to crates, large-scale pork producers will need to make alternate arrangements to keep the sows from fighting. So, what are their options?

One option, says Frantzen, is to keep the stalls in place, but only use them for feeding the sows, while providing a loafing area for the

sows to socialize. Another option is to install a single electronic feeding unit, where one sow at a time enters and a computer can read its electronic ear tag, measure its

back fat, and dispense an appropriate amount of feed. Either system, says Frantzen, would only work for groups of 25-40 sows, and producers would need to provide a pen with bedding pack, solid (not slatted) flooring, outdoor access, and T-walls so sows can segregate themselves from others in the same group. Both systems would require expensive



The idea of confining these intelligent, curious and playful beings in crates for their entire lives is abhorrent to anyone who grew up caring for them as I did."

Keith Kuper

Sows in gestation have great competition between each other and will fight for more feed.

James Frantzen

... the nuisance and labor of allowing the sows to leave the crate overruled the biological needs of the sow probably because it was cheaper and easier.

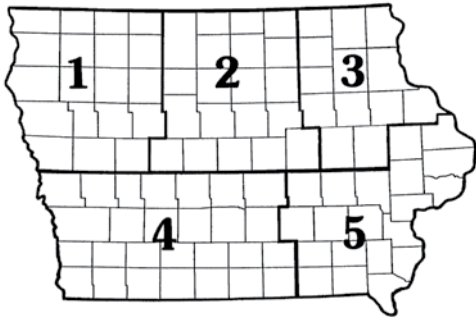
Paul Swanson

modifications to existing confinements to ensure sows are comfortable living in a group.

Despite the attention this announcement received, McDonald's is not the first large American company—or even the most recent—to move away from gestation crates. In 2007, Smithfield Foods announced that it would phase out the use of crates in its 187 piggeries by 2017. After the McDonald's decision, fast-food chain Wendy's announced it will follow suit, requiring its U.S. and Canadian suppliers to discontinue using crates. Others phasing out this controversial practice include food service companies Compass Group and Bon Appetit Management Company (co-founded by PFI conference keynote speaker Fedele Bauccio).

While eliminating gestation crates may be a tough pill to swallow for large-scale pork

producers, this trend seems likely to continue. Several countries and U.S. states have already banned the practice, and increasing pressure from activist groups like the Humane Society makes it inevitable that more will follow, despite pork industry resistance. In the words of Temple Grandin, livestock specialist and outspoken critic of gestation crates: "Heat softens steel, and steel bends."



Welcome, new members

(Continued from page 24.)

District 4—Southwest (continued)

Marcia Schrader, Newton
 Daniel Schultz, Des Moines
 Mosa Shayan, Des Moines
 Chad Stamps, Chariton
 Russ Wischover, Bedford

District 5—Southeast

Dave Campbell, Tiffin
 David Fisher, Fairfield
 Dave and Anna Geyer, Oxford
 Barbara Hueneke, Bellevue
 Leo Lease, Grinnell
 Eric Morrison, Grinnell
 Shawn Reilly, Montezuma

District 6—Out of State

Ralph Gauer, Silver City, NM
 David Schafer, Jamesport, MO
 Daniel Strause, Rio, WI

MAY | JUNE | JULY

MAY 5 | Bird & Wildflower Walk & Pancake Breakfast | Heritage Farm | Decorah, IA | 8 a.m.–11 a.m.

More than 100 species of birds have been identified at Heritage Farm north of Decorah. Join local birding experts for a guided tour to learn about local habitats and migration. Bring your binoculars, bird and wildflower books and comfortable walking shoes. As part of this celebration of spring, the Decorah Lions Club will be serving a pancake breakfast. This event is free and open to the public. For more information, call Seed Savers Exchange, 563.382.5990.

MAY 31–JUNE 3 | Transcending Sustainability Conference | Fairfield, IA

This conference will challenge you to develop and experience a deeper and fuller understanding of sustainability and to co-create a new vision for a world that does not yet exist. There will be local learning experiences (such as tours and walks), thematic workshops and facilitated discussions. Conference fee for all four days is \$95 (general) and \$50 (students). Register at the conference website: <http://www.newacademyforsustainability.org/> Phone: 515.294.3711 Fax: 515.294.9696.

JUNE 15 | Deadline for 2012 Spencer Award Nominations

Submit to Mary Adams, madams@iastate.edu, with “Spencer Award” in the subject line. For more information, visit: <http://www.leopold.iastate.edu/spencer-award>

JULY 12 | Food Access and Health Work Group Summer Gathering | 9:30 a.m.–3:30 p.m. | Iowa Arboretum | Madrid, IA

The Food Access and Health Work Group is a statewide network of food and nutrition assistance program providers, health professionals and food system stakeholders focused on cultivating a just and diverse food system that eliminates hunger, increases access to nutritious food and improves the health of all Iowans. Contact: Angie Tagtow, 515.669.8579, angie.tagtow@mac.com

JULY 14 | Greg Brown Benefit Concert | Heritage Farm | Decorah, IA

Folk legend Greg Brown has been a long-time friend of Seed Savers Exchange. This July, Greg will be returning to Heritage Farm for an outdoor benefit concert. Join us for the celebration! For more information, call Seed Savers Exchange, 563.382.5990.

JULY 20–22 | Seed Savers Exchange 32nd Annual Conference & Campout | Heritage Farm | Decorah, IA

This is a great place to meet like-minded gardeners, learn from experienced seed savers and enjoy the beauty of Heritage Farm. The 2012 keynote speakers include Frances Moore Lappé and OSA Senior Scientist Dr. John Navazio. Keynote speaker Frances Moore Lappé is the author of 18 books, including *EcoMind: Changing the Way We Think, to Create the World We Want*. She is the cofounder of three organizations, including Food First: The Institute for Food and Development Policy and the Small Planet Institute, a collaborative network for research and education helping to bring democracy to life, which she leads with her daughter Anna Lappé. For more information, call Seed Savers Exchange, 563.382.5990.

Watch for the 2012 PFI Field Day Guide

Arriving in mailboxes the week of May 21! It will be filled with lots of great learning and networking opportunities.



Grow your farm with PFI. Join today!

This annual membership is a:

- new membership
- renewal

My interest in joining PFI is primarily as a:

- farmer/grower
- non-farmer (You will have the opportunity to expand upon this when you receive your membership information form.)

I am joining at the level of:

- Student—\$15
- Individual—\$35
- Farm or Household—\$45
- Organization (including businesses, agencies, not-for-profit groups)—\$75

..... Each membership includes one subscription to *the Practical Farmer*.

Sustain PFI

For the long-term health and vitality of PFI, we ask you to consider making a donation above and beyond your membership fee. I would like to make a tax-deductible donation to PFI in the amount of:

- \$1,000
- \$500
- \$250
- \$100
- \$50
- \$_____

JOIN OUR GIFT OF THE MONTH CLUB

The Gift of the Month Club is an easy way to support Practical Farmers of Iowa! Send in your pledge with your credit card information, and we will automatically deduct your donation the first of each month.

YES! I would like to give _____ per month to PFI, to be automatically charged to my credit card the first of the month. (\$10 per month minimum)

Practical Farmers of Iowa is a 501(c) 3 organization. Your gift is tax deductible to the extent allowed by law.

Thank you!

Individual, Farm or Organization Name*: _____

Mailing Address: _____

Street: _____

City, State, ZIP: _____

Primary Phone (with area code): _____

Alternate Phone (with area code): _____

Email: _____

* For Farm/Household membership, please list names of persons included. For Organization membership, please list one or two contact persons.

Payment:

Total: \$_____ = \$_____ membership + \$_____ donation

- Check or money order enclosed. (Please make payable to "Practical Farmers of Iowa.")

TO PAY WITH A CREDIT CARD, PLEASE GO TO: <http://practicalfarmers.org/join-pfi.html>

Practical Farmers of Iowa

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diverse connections between
farmers and friends of farmers



Vibrant Communities

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cooperation, creativity
and spirituality are thriving
Places where the working landscape,
the fresh air and the clean water
remind us of all that is good about Iowa.

