Feeding flaxseed to cows offers multiple benefits
By Brianna Isenberg and André Brito

Demand for organically produced milk has been increasing in the U.S. over the last 10 years. As consumers become more health conscious and environmentally aware, focus has shifted to ways to naturally enrich foods to create value-added products while reducing the carbon footprint of dairy systems.

Including ground flaxseed as a dietary component for organically managed cows may have a three-fold benefit of providing a nutritionally enriched product to the consumer, increasing profitability for the farmer, and reducing enteric methane production thus minimizing the impact of dairy systems on the environment.

Flaxseed is an oilseed rich in fat, making it an excellent energy source. It contains high levels of the omega-3 fatty acid α-linolenic acid, which is transferred to milk fat. Feeding flaxseed also increases the concentration of conjugated linoleic acids (CLA) in milk. Both omega-3 fatty acids and CLA have been linked to potential health benefits to humans. Specifically, these bioactive fatty acids may reduce the incidence of chronic conditions such as cardiovascular diseases and cancer. Milk fat is the most variable component in milk, and feeding flaxseed provides a unique opportunity to match milk fatty acid composition to benefit human health.

Milk produced from dairy cows on pasture has a higher concentration of omega-3 fatty acids and CLA as compared to cows receiving TMR. However, there are two major challenges to maintaining elevated levels of omega-3 fatty acids and CLA year-round: cows do not have access to pasture during the winter in northern climates; and, botanical composition of pastures varies throughout the grazing season, which can lead to fluctuating levels of omega-3 fatty acids and CLA in milk.

Podolls, seed-saving stewards, named Organic Farmers of Year
By Jody Padgham

North Dakota seed and grain farmers, David, Ginger, Dan and Theresa Podoll of Prairie Road Organic Farm and Seed in Fullerton, N.D., were honored as the 2014 MOSES Organic Farmers of the Year at the MOSES Conference this past weekend. Their core values—dedication to the development of regionally adaptive organic vegetable and grain seeds, commitment to community, and living lightly on the earth—illustrate why they are receiving this award.

The farm, started by Dan and David's parents in 1953 and certified organic since 1977, encompasses 480 acres. The Podolls grow a variety of small grains, with six to eight acres dedicated to regional organic vegetable variety seed production. "We strive for self-sufficiency and use the food we produce in our gardens as a teacher about how to manage the rest of the farm," David said.

The Podolls focus on cooperation in both production and their community. "We believe in cooperation rather than competition, whether we are talking about our family, our community, the crops or our relationship with the earth," Theresa said. The four members of this generation are joined by a couple of their children to accomplish the work on the farm. Theresa and Dan returned to the farm after college in the mid-1980s.

Triticale, hairy vetch, and buckwheat are grown for grain and seed. Crown proso millet has been grown on the farm from the same seed for 60 years. "We've been saving and planting it back, and it maintains its vigor and other qualities year to year," he exclaimed. "There's no better testament to our soil vitality and health."

Taste of sweet success:
Strawberry season extended using low-tunnel production
By Steve Poppe and Esther Jordan

Availability of locally grown strawberries is extremely limited in the Upper Midwest, primarily due to the short growing season. Fruit is an important part of a healthy diet, and while there is an expressed interest in having greater access to locally grown strawberries, lack of suitable varieties and production systems has prohibited growers from being able to fulfill this need in our region.

We had three goals for this study:
1. Increase yields and availability of locally grown strawberries from June through October. We are currently extending the season, but also improving fruit quality and reducing inputs.
2. Generate new day-neutral strawberry varieties in an organic low tunnel system to extend the season, but also improve fruit quality and reduce inputs.
3. Study older day-neutral strawberry varieties in a low tunnel system to extend the season, but also improve fruit quality and reduce inputs.

Comparative field trials were established on the University's certified organic research land and on grower-cooperator land. If successful, this new method of growing long-season strawberries may help increase the number of strawberry growers in the Upper Midwest, increase yields and availability of locally grown strawberries from June through October.

Goals of the Project
We had three goals for this study:
1. Determine if newer day-neutral cultivars grown under organic management on raised beds differ in yield and plant growth characteristics when grown under low tunnels compared to open field.
This issue of the Broadcaster features three informative stories from people who just presented at the conference: Joel Gruver gives us the results from his research on precision cover cropping, Chris Blanchard shares his insights about saving time and labor in the transplant house, and Andre Brito provides an in-depth look at how flaxseed can enhance milk produced by organic dairy cows.

Harriet has covered several hot issues in this edition, including the farm bill, USDA’s GMO coexistence initiative, and crop insurance – it’s well worth your time to read her take on these issues.

The Upper Midwest Organic Resource Directory on the MOSES website has been updated and improved with expanded search options. Just in time for spring planting, the directory has listings for resource groups, certification agencies, suppliers of seed, fertilizer, equipment, feed, veterinary supplies, and buyers. Let us know what you think of this free online directory.

After the recent dumping of snow we received, I’m sure hoping for an early spring—I can’t wait to see green grass. To all of you who work the soil and grow our food, I wish you an excellent growing season!

Faye Jones
MOSES Executive Director

From the Executive Director’s Desk

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MOSES Executive Director
GMOs, organic: “Coexistence” in the belly of the beast

By Harriet Behar

Protection of minority rights is a foundational principle of our republic, and it is time for this protection to be extended to those who do not wish genetic modification to contaminate the crops they grow. Genetically engineered (GE) or genetically modified organisms (GMOs) have been a part of the U.S. agricultural landscape for over 20 years. They have become the dominant seed grown when a GE seed variety of a crop exists. At the same time, the market for non-GMO crops continues to grow, both internationally and domestically. Non-GE crops include organic producers as well as those selling their crops as Identity Preserved (IP).

To give the USDA and Secretary Vilsack credit, they have started a conversation on how to develop systems that foster “coexistence” between GMO and non-GMO crops, asking for public comments by March 4. (See the end of this piece for details.) Secretary Vilsack put together the AC21 committee (Advisory Committee on Biotechnology & 21st Century Agriculture) to address coexistence issues, which I wrote about in the January 2013 Inside Organics blog (mosesorganic.org/policywork/inside-organics-blog).

While it is good to have this conversation, in many ways the real issues are not part of the current discussion. Compensation mechanisms have been proposed that take effect when a GE seed is planted. However, this genetic modification is in every speck of pollen, dust and crop residue, it makes the impact of these crops go way beyond just herbicide resistance or the “control” of targeted insect pests. Instead, this genetic modification can move into the seed stock of non-GMO crops through wind-blown pollen, and can be found in loads of non-GMO grains as GMO-contaminated dust in harvest, transport, processing or packaging. It can negatively affect pollinators and aquatic ecosystems through loss of habitat and/or the insecticides present in GMO crop and residues.

The USDA’s Coexistence Goals

Identify successful methods of communicating with farmers about coexistence.

Farmers can learn how to lessen the risk of GMO contamination through a variety of sources, such as publications from the University of Minnesota and the new Protecting Organic Seed Integrity manual from the Organic Seed Growers and Trade Association (see the end of this piece for details). However, this puts the burden on the non-GMO farmer and not on the GMO technology that caused the problem in the first place.

Communicating with GMO farmers to have them follow simple planting protocols has been shown to be ineffective. Brochures, blog posts, discussion forums—none of these is as important as preventing contamination with mandated protocols or by not introducing GMO varieties with a potential to cause contamination in the first place.

When Bt (Bacillus thuringiensis) corn was first introduced, farmers who purchased this GMO seed had to sign an agreement that they would plant 10% of their acres to non-GMO corn to lessen the likelihood of insect resistance to Bt. Even though many farmers signed these contracts, they knew no one would verify they had planted a refuge area, and many of the required refuges were not planted. The biotech companies did nothing to enforce that contract provision. Here was a method of communication where every one of the farm- ers who purchased the GMO technology was informed of the planting requirements, yet still those requirements were not followed.

In order for coexistence to work, communication is a very small part of the issue. Instead the biotechnology companies and the USDA must take the contamination and damage caused by the GMO products more seriously. If there are protocols, they should be mandated and enforced. That said, we also must acknowledge the fickleness of weather and other aspects of farming, which makes it difficult if not impossible to follow some types of protocols. The farmers who plant GMO seeds are not to blame for contamination—the patent holders who sell the damaging product are.

Pesticide drift is also an issue for organic farmers and others. Most states have pesticide laws that are enforced when a pesticide is known to have moved from the targeted area across the property line to another field. Depending on the state, the fines levied per occurrence may or may not be sufficient to prevent repeat events. This would be an example of a feedback model that has shown some effectiveness in preventing contamination.

Education and possible “outreach toolkits” that would be useful in promoting coexistence.

One thought would be to require all farmers who plant GMO crops to attend and pass a class that discusses GMO contamination prevention protocols similar to pesticide applicator training classes. That would put the responsibility back on the party that is using the potentially damaging product, rather than on the non-GMO farmer.

This section also talks about how to share geographic information to show where various agricultural systems are being used. In the Upper Midwest, we already have these kinds of resources: both Driftwatch and an Iowa registry allow specialty crop growers, beekeepers and organic growers to identify their fields so pesticide applicators can avoid them. However, there is no mandate that requires pesticide applicators to refer to these registries before spraying.

There is no registry to track where GMO farmers are growing their crops. The burden is on the non-GMO farmers to figure out who farms neighboring fields, and what’s planted there. With the majority of land being operated...
improving air, water and soil quality on their land and engage in different activities that teach conservation principles. After lunch, participants go on a guided tour of area farmland to see these principles and practices in action.

“Women Caring for the Land provides a crucial link between these women and the resources they need to achieve their conservation goals,” explained Carol Schutte, WFAN Program Assistant, who will help facilitate the Wisconsin workshops in April. “Women feel free to raise questions, share challenges and knowl-edge, and get information on the wide range of resources available to them.”

Topics for discussion include soil health, water conservation, and government cost-share programs, as well as how to talk with tenants about changing management practices. A specialized curriculum has been developed for this program, outlining activities that innovatively tie in imagery close to the heart of this senior group, such as quilts, to bring issues such as diversity and soil erosion to life.

“We have had wonderful feedback from partici-pants,” Leigh said. “Many of them just need to network with other women landowners to give them the information and confidence they need to improve soil and water conservation on their farms. Over 60 percent of meeting participants take at least one conservation action on their farmland within one year of attending the meeting.”

These workshops also showcase the inspiring stories of local female landowners like Bonnie Wideman, women who have successfully incorporated conservation practices on their land by utilizing various state and federal resources. Wideman runs Pine Knob Organic Farm, a grass-fed beef and sheep operation outside Soldiers Grove, Wis.

“Perhaps the most significant change I’ve made since taking over management of the farm after my husband’s death eight years ago is going to rotational grazing, something he wanted to do, but we didn’t have the infrastructure at the time,” Bonnie explained. “Encouraged by graz-ing specialists and with EQIP funding to help pay for projects over the years, I was able to put in fence and water lines to enable grazing in over 30 different paddocks.”

Bonnie’s current project is finding a way to handle all the water that comes onto her property so that it doesn’t erode the field road and run through livestock lots. “My local NRCS staff are being incredibly helpful in coming up with a plan and submitting it for funding,” she added. “It is so gratifying when agency folks are able to understand how important conservation projects like this are to the landowner.”

Women Caring for the Land provides a needed connection between women landowners and the array of land conservation resources and programs we have available here in Wisconsin,” explained Cara Carper, Executive Director of Southwest Badger Resource Conservation & Development (RC&D) Council, a partner in the 2014 Wisconsin workshops. “Southwest Badger RC&D is looking forward to bringing these landowners together and providing the start for new relationships and network support for the future.

The impact of Women Caring for the Land holds strong potential for stewarding our rural land-scape. “These women landowners are some of the most dedicated conservationists in the state, but are typically overlooked with traditional conservation outreach, which is targeted at the tenant farmer,” Leigh summed up.

Learn the mysterious language of weeds

By Harriet Behar

By observing the weeds growing in your fields you can better understand your soil’s ecosystem and nutrient profile. When Weeds Talk is an updated and expanded version of Weeds and Why They Grow by the same author, Jay McCaman. Detailed information about weed growing conditions in these books can help farmers make wise choices for planning crop rotations, as well as application of soil amendments and fertility products.

When I was a full-time organic inspector I carried Weeds and Why They Grow in my backpack. While visiting fields during inspections, I’d notice different weeds growing in certain fields and areas of fields. Using the knowledge I gained from this book, the weeds became the most interesting things growing in the field, as they had so much to tell. After many field walk overs, it seemed that the weeds really were talking to me.

Nature has a lot to tell us, if we are open to observing and learning. I found that the information in this book allowed me to see weeds much the way that I identify individual bird species by their songs, rather than just hearing a cacophony of noise. Individual bird songs tell us of the progress of spring and the seasons, as well as the health of the ecosystem we’re walking through. In much the same way, collecting information about individual weeds tell us a lot about soil health.

Using this book to enhance your knowledge of the inter-relationships between soils and plants, you can improve your management of the land. Every day can bring a new revelation in understanding and appreciation of the synergies of the natural world. Your expanded knowledge can be used to help you make wise choices when purchasing and applying macro and micro nutrients, as well as use of cover crops to scavenge nutrients or improve soil tilth for a subsequent cash crop.

The extensive tables in this book list the common name, scientific name and the 23 nutrients or soil biology factors defining where each weed would typically grow. Although the author has acknowledged there will be some regional variation for adaptions of weeds beyond what is listed in the charts, I have found them a good baseline for understanding the chemical and biological properties of the soils where individual weed species are growing. There are no illustrations or photos in this book—if you don’t know the name of the weeds in your fields, a good companion book would be the USDA book Common Weeds of the United States, published by Dover Press. Also, many state extension offices have weed identification bulletins or websites. (See links at the end of this review).

The first portion of the book, written in a “plain folk” style, describes numerous scenarios where weeds are indicators of nutrient imbalances. By observing the wild plants in your fields and pastures, you may, for instance, discover the same types of weeds growing wherever the soil is tight and poorly drained. Reading the weeds, you can make some good guesses about the soil’s nutrient profile, which can be verified through soil testing. You can save quite a bit of money on soil testing and input purchases by “reading the weeds,” and targeting your activities to the areas with the most problems. Weeds can also help track the progress of your soil building program, as you monitor the changes in species over time.

While the book consists mostly of weed and soil characteristic charts, a narrative section includes information on weed and insect interactions, the use of cover crops to balance the soil’s nutrient profile, and the use of various weeds as compost feedstocks. At the end of the book, the author describes in more detail “interesting characteristics” of various plants, including where you will typically find them growing, such as dry, stony, shallow soils. In this section, you also learn about plants as an over-wintering host for aphids. At the end of the book are numerous common names for the same plant. My favorite multi-named plant is velvet leaf, also known as butter weed or button butter—“I’ve also heard it called elephant ear!”

Nature does not waste anything, and there is always a use for a weed. Even if it is just to help you see what might be needed to improve your soils for better crop production.

When Weeds Talk is available through the MOSES Bookstore. Look for the “Shop the Store” button at mosesorganic.org.

Additional Resources
Wisconsin weed identification:
www.aces.wisc.edu/agriculture/crops/weed-management/
annual-broadleaf-weed-identification/
Illinois weed identification:
weeds.cropsci.illinois.edu/weedid.htm
Iowa weed identification:
www.weeds.iastate.edu/weed-id/weedid.htm
Weeds of the North Central States:
www.aces.uiuc.edu/vista/html_pubs/WEEDS/list.html

Harriet Behar is a MOSES Organic Specialist. She represents MOSES in the National Organic Coalition and the National Sustainable Agriculture Coalition.
Home-grown feed can supplement poultry ration

By Jody Padgham

As a poultry nutrition specialist, Jeff Mattocks talks to a lot of farmers about how to best meet the nutritional needs of their birds. “When I talk to people, I first have to determine if they are raising birds for personal use, or if they are trying to make money; if they are raising Cornish Cross, or some other species.” Their answers, Jeff said, dictates the advice he gives.

Poultry will eat many different things, and live. But, to grow efficiently and be cost-effective for egg or meat production, very specific nutritional needs must be met. Cornish Cross industry birds have been bred to thrive on very specific diets, and will not fare well with non-standard feeds. “Heirloom birds have stronger immune systems, and can be fed whole to older and mature poultry,” Jeff claimed. “They are more tolerant of diversity in their diets.”

A good place to start in understanding the nutritional needs of poultry is Feeding Poultry on Pasture, a book Jeff produced in 2013. Available from MOSES, this 100-page reference contains a wealth of information on feed ingredients and rations, including comprehensive charts on the nutritional needs of various types of poultry. It also has charts with the nutritional analysis of numerous grains and feed ingredients.

There are several things poultry producers can do to enhance or supplement a traditional poultry ration, Jeff said. He shared the following tips in a workshop, “Grind and Grow Your Own Poultry Feed,” at the 2014 MOSES Conference.

Grow your own

Even very small-scale producers without a lot of equipment can grow up to 30% of a ration without having to make any other changes. Jeff explained that you can grow wheat using a rototiller to scuff up the soil, and plant the seed either by hand-broadcast or using a seeder and then raking it in. “The harvesting will be the hardest part,” Jeff advised, “ask around your neighborhood, someone may have a pull behind combine.” But even a scythe can be used, with old-fashioned hand-thrashing. Chickens will eat the wheat whole, so no processing is needed. Naked oats are much the same, but can only be fed up to 20% of the ration. Production is similar as for wheat. Jeff advised that other small grains, such as barley have more fiber, and so must be used as a smaller portion of the ration and will need more processing before use.

Of course, anyone with the right equipment can grow their own corn and soybeans for poultry feed. Soy must be roasted, however, before it can be digested by chickens, and can be very harmful if not roasted properly. So be careful to do research before taking this on.

For cost-effective egg or meat production, farmers can grow and grind ingredients to add to rations.

Pasture recommendations

“Everyone always asks about how to grow the best pasture for poultry, but I see pasture as mainly a vehicle for bugs in a chicken’s world,” Jeff noted. “You want to build a polyculture in house for protein,” he said. “Don’t work on what is green. Focus on the insects and what is below the green.” He has observed that chickens scratch and peck for a wide diversity of insects, worms, small amphibians, spiders, crickets and grubs. A pasture high in thatch will harbor more of this population. This is why chickens do especially well following in pastures after ruminants, where the larger animals can trample the thatch, and lay down manure, improving conditions for insects.

Jeff even goes so far as to recommend rolling out an old round of mulch hay. “Let it rest a month, turn the birds loose and watch the party,” he laughs. The decomposing mulch creates a perfect insect habitat, especially for crickets, a favorite chicken food. “This is a great way to rejuvenate unproductive, worn-out land or bare ground.”

While Jeff admits the pasture itself is good for the chickens, bringing vitamins, chlorophyll and other qualities, it’s not nearly the feed replacement that people think it is. Pasture will not replace a significant percentage of the nutritional needs provided by a grain-based ration in the production bird.

That said, chickens love good clover. A clover and grass mix with old-fashioned hand-thrashing in the pastures has expanded interest in sprout growing for poultry feed. “Use a short clover, such as Alsike,” Jeff recommended, mixed with Italian ryegrass. “The two crops feed each other.”

Some small-scale farmers have claimed success with growing worms or grubs for poultry food. Although a good protein source and popular with chickens new research shows that chickens can become populated with bacteria and other pathogens that the worms ingest. “You’ll want to be careful what you feed to the worms,” he cautioned.

Some producers have successfully been grinding grains to create home-raised rations. Since ground grains quickly lose quality, on-farm grinders can ensure freshness in poultry feed. Again, Jeff said that this is a great way to go, but might not save time or money. He only knows of one company in the U.S. that sells farm-scale mills (C.S. Bell Company, Tiffin, Ohio).

When looking for ways to diversify or expand your poultry flock’s diet, Jeff recommends simplicity in management as a key consideration. “If you get enjoyment out of growing feed for your poultry, then certainly go ahead. The birds will enjoy it, too.”

Jody Padgham is the Financial Director for MOSES, and Associate Editor of the Organic Broadcaster.
I have some organic corn and hay to sell, but see the prices have dropped from last year. Why the change?

By Joe Pedretti

Prices for both organic and non-organic corn and hay are lower than in recent years because the supply is greater now, and the demand is lower. Weather was one factor behind the unusually high grain and forage prices in 2012 and 2013. Drought during the summer of 2012 caused a lot of crop failures and substantially reduced yields everywhere. Forage production suffered, too, causing many livestock farmers to dip into their stored feed supplies much earlier than normal. The unusually long and cold spring of 2013 only increased the shortage problem.

Demand rose for purchased feed because of these shortages, but also due to increased demand for organic dairy products. Most of the organic milk companies were expanding their new farm base during this same time period to meet consumer demand. These two factors created strong demand for a very limited supply of feed and drove prices up to historic highs late in 2012 and through the first half of 2013.

2013 saw a reversal in fortunes for both supply and demand. Despite the slow, cold start, organic grain and forage production was good to excellent in most areas of the country. Pasture was ample, so farmers were able to restock their hay and silage stores. 2013 also saw a softening of the organic dairy market. The downturn was not as bad as 2008-09, and are still being made to reduce organic dairy production.

A year ago organic feed corn was $14.14; now it’s $10.25 to $12. The recent USDA forecast for 2014-15 dairy production. The downturn was not as bad as 2008-09, and the demand for organic dairy products was strong in 2013, which provides clear information on what practices and inputs are allowed in order to sell organically labeled products as a non-certified (“exempt”) organic farmer. It provides clients and growers with a list of materials that are not allowed within the regulations, or feeding laying hens local non-organic feed.

Another option is to provide your farmers market or retail store manager an affidavit for the non-certified farmer to sign. This is a document in which they outline their compliance with the USDA NOP requirements. Although there are not “official” examples of an affidavit, the example below covers most of the requirements that a smaller-scale grower or livestock producer must meet in order to sell organically labeled products as a non-certified (“exempt”) organic farmer.

Example Affidavit

You can use this example “Affidavit for Farmers Markets or Retail Stores” to verify exempt-from-organic-certification vegetable, fruit or livestock products who use the organic label on their products meet the requirements of the U. S. organic law. It should be updated each year, reflecting changes to the organic regulation.

I am a producer that is not certified organic, but I use the word “organic” to describe my products or practices in the marketplace. The list below describes many of the requirements in the organic law that I follow in order to use the word “organic.” I have also read and followed the full U. S. organic regulation, which is located at www.ams.usda.gov/nop.

I verify that...

1. I sell less than $5,000 annually in organically labeled products.
2. I have not planted any seeds that had synthetic treatments, such as fungicides or insecticides.
3. I have planted all organic seeds if they were available in the variety and quantity I required.
4. I have either grown transplants myself using only OMRI (Organic Materials Review Institute) or organic certifier organically approved potting mixes and other inputs or I have purchased certified organic transplants.
5. I have only applied fertility, pest, disease and weed management inputs that have either been approved by OMRI or by an organic certification agency. I understand that there are numerous agricultural input products that make organic claims that are untrue and I have gone the extra step to verify what I am using meets the organic law.

I have implemented a soil building rotation on my farm, where annual crops of the same type are not grown in succession in the same field. I also use plant and livestock based materials such as cover crops and compost to continually improve my soils.

7. I have not applied manure to my fields growing crops for human consumption any sooner than 90 days before harvest for crops that are not in contact with soil (i.e. sweet corn), or 120 days before harvest for crops that are in contact with soil (root crops, tomatoes, peppers etc.).

8. I have documentation that compost containing livestock originated components used on my farm meets the requirement of having a Carbon to Nitrogen ratio of between 25 to 1 and 40 to 1, has had a temperature maintained of 131 to 170 degrees F for 15 days and has been turned 5 times, or if in a static vessel, had this temperature maintained for 3 days.

9. All mammalian livestock has been managed organically from the last third of gestation of their mother to the day of slaughter. All poultry has been managed organically from the second day of life. Organic management includes 100% certified organic feed.

10. All livestock has had access to the outdoors, with runnins receiving 30% of their nutrition from pasture during a minimum 120 day grazing season. All animal health products and feed supplements have either been OMRI approved or approved by an organic certification agency.

11. I have maintained documentation that verifies what I have stated above.

Questions about organic farming?

MOSES Organic Specialists are experienced professionals who can answer your questions about organic production and organic certification.

CALL: Organic Answer Line 888-551-4769 or 715-778-5775

SUBMIT: Send us your questions—just click the “Ask a Specialist” button at mosesorganic.org.

READ: Browse answers to previously asked questions at mosesorganic.org/farming/ask.


What can I do?

By Harriet Behar

Because the law allows those selling less than $5,000 in organic product to be exempt from certification, there is some likelihood that a non-certified farmer selling organic products does not know the intricacies of the organic regulations. He or she may be doing things that are not allowed within the regulations, such as using seeds treated with non-approved fungicides, buying non-organic tomato plants, or feeding laying hens local non-organic feed. I believe that his or her misuse of the organic label is usually from ignorance rather than malice, but it is still wrong.

If you suspect this is happening, you can make a formal complaint to the National Organic Program using the complaint form on their website (www.ams.usda.gov/nop).

Another option is to provide your farmers market or retail store manager an affidavit for the non-certified farmer to sign. This is a document in which they outline their compliance with the USDA NOP requirements. Although there are not “official” examples of an affidavit, the example below covers most of the requirements that a smaller-scale grower or livestock producer must meet in order to sell organically labeled products as a non-certified (“exempt”) organic farmer. It provides clients and growers with a list of materials that are not allowed within the regulations, or feeding laying hens local non-organic feed.

I am a producer that is not certified organic, but I use the word “organic” to describe my products or practices in the marketplace. The list below describes many of the requirements in the organic law that I follow in order to use the word “organic.” I have also read and followed the full U. S. organic regulation, which is located at www.ams.usda.gov/nop.

I verify that...

1. I sell less than $5,000 annually in organically labeled products.
2. I have not planted any seeds that had synthetic treatments, such as fungicides or insecticides.
3. I have planted all organic seeds if they were available in the variety and quantity I required.
4. I have either grown transplants myself using only OMRI (Organic Materials Review Institute) or organic certifier organically approved potting mixes and other inputs or I have purchased certified organic transplants.
5. I have only applied fertility, pest, disease and weed management inputs that have either been approved by OMRI or by an organic certification agency. I understand that there are numerous agricultural input products that make organic claims that are untrue and I have gone the extra step to verify what I am using meets the organic law.
6. I have implemented a soil building rotation on my farm, where annual crops of the same type are not grown in succession in the same field. I also use plant and livestock based materials such as cover crops and compost to continually improve my soils.
7. I have not applied manure to my fields growing crops for human consumption any sooner than 90 days before harvest for crops that are not in contact with soil (i.e. sweet corn), or 120 days before harvest for crops that are in contact with soil (root crops, tomatoes, peppers etc.).
8. I have documentation that compost containing livestock originated components used on my farm meets the requirement of having a Carbon to Nitrogen ratio of between 25 to 1 and 40 to 1, has had a temperature maintained of 131 to 170 degrees F for 15 days and has been turned 5 times, or if in a static vessel, had this temperature maintained for 3 days.
9. All mammalian livestock has been managed organically from the last third of gestation of their mother to the day of slaughter. All poultry has been managed organically from the second day of life. Organic management includes 100% certified organic feed.
10. All livestock has had access to the outdoors, with runnins receiving 30% of their nutrition from pasture during a minimum 120 day grazing season. All animal health products and feed supplements have either been OMRI approved or approved by an organic certification agency.
11. I have maintained documentation that verifies what I have stated above.
Choose hardy cultivars for best bramble berries

By Paul M. Otten

Bramble berries—raspberries and blackberries—can be great additions to the diversified market farm or orchard. They are a favorite at farmers markets, in CSA boxes, and at pick-your-own operations. They are a perennial crop that will produce for many seasons if cared for properly. Successful bramble production depends on several factors, including soil and cultivar selection.

As organic growers, we know we must build and steward the soil to grow nutrient-dense, health-sustaining, disease- and insect-free crops. Healthy soil is especially important for growing bramble berries since half of each plant resides in the soil. What we see above ground is nearly a 100% reflection of what transpires below ground, in the soil environment. We can only do so much about the above-ground environment—temperatures, rain, winds, etc.—but we can do a lot about the environment in which half of our plants live.

Insects and diseases are not the primary cause of problems in berry production. Of greater importance is the environment in which the plants are grown, and no part of the environment is more important than the soil. Brambles are adaptable and can be made to thrive in most soils. However, it will help us make the wisest site choices if we keep in mind the most basic biological needs of plants. The number one need by far is air. Neither you nor I nor bramble plants can function when this basic need is restricted.

The most expensive machine I have on my farm is a large Imants spader that aerates the soil. The most expensive machine I have on my farm is a large Imants spader that aerates the soil. What we see above ground is nearly a 100% reflection of what transpires below ground, in the soil environment. We can only do so much about the above-ground environment—temperatures, rain, winds, etc.—but we can do a lot about the environment in which half of our plants live.

Minerals play a vital role in a plant’s susceptibility or resistance to diseases. The American Phytopathological Society recently published an awesome 280-page book entitled, Mineral Nutrition and Plant Disease, authored by scientists from around the globe. Though academic by its very nature, this book provides great insights into plant nutrition, disease, and health. The bottom line from this book is that practically all plant nutrition, disease, and health. The bottom line from this book is that practically all plant nutrition, disease, and health. The bottom line from this book is that practically all plant nutrition, disease, and health. The bottom line from this book is that practically all plant nutrition, disease, and health. The bottom line from this book is that practically all plant nutrition, disease, and health. The bottom line from this book is that practically all plant nutrition, disease, and health. The bottom line from this book is that practically all pathogenic soil organisms (animal and human) thrive in an anaerobic environment and are naturally suppressed in an aerobic one. That’s true even of cancerous cells. By building aerobic soils, we not only favor our bramble plants, but also eliminate the environment that fosters root diseases—killing two birds with one stone.

Cultivar Selection

When selecting plant cultivars (cultivated varieties) for your farm, there are several important aspects to evaluate. The Upper Midwest is one of the harshest environments in which to grow tender fruit like raspberries and blackberries successfully. We can have extremely cold winters—sometimes with a lot of snow, sometimes with hardly any. We can have ferocious winds. We have floods and droughts. We have extreme mid-continent heat in the summer. And, we have drastic fluctuations in all of these to the point where Minnesotans are heard telling their guests, “If you don’t like the weather, just wait a minute!”

Let’s make one thing clear at the outset: there are no perfect cultivars for anywhere, much less for the Upper Midwest. Each choice involves a series of compromises. Finding the most suited cultivar for each area is best done by a process of elimination. My suggestion is for growers to become familiar with various cultivars by trying 10-20 plants, then deciding which best suits their needs and performs best in their area and soil. The issue of winter hardiness trumps all the others. If plants don’t consistently survive to produce a marketable crop, there is little sense in growing them.

With raspberries and blackberries, winter hardiness concerns only summer-bearing cultivars because their canes grow up one year, must overwinter well and produce their crop the subsequent season. With the fall-bearing type, we don’t care about cane cold-hardiness. Nearby fellow-growers and extension service can be valuable resources to help choose proven cultivars. For central Minnesota and similar areas the list of cultivars is quite limited. I share my experience with these on page 14.

Factors to Consider

Choose cultivars that will provide berries that match your intended uses. Ask yourself: Why am I planting my berries? What use am I planning for them? Do I intend to process them into wine, jam, jelly, juice, syrup, toppings, chutney, ice cream? Do I plan to sell them retail, pick-your-own, wholesale or freeze them for local processors? Do I want a summer or fall crop? Finally, what colors of berries am I looking for and why?


Autumn Britten starts producing around the middle of August in east-central Minnesota, and tends to be somewhat more productive than other cultivars, with slightly larger and more elongated berries and taller canes.
Researchers evaluate precision cover cropping
By Joel Gruver and Andy Clayton

Organic farmers know that cover crops can contribute to environmental quality and general soil improvement, but implementation of specific cover cropping strategies that cost-effectively capture benefits while minimizing challenges is easier said than done.

The Western Illinois University (WIU) Organic Research program is using field experiments, dialogue with farmers, and literature review to investigate precision cover cropping and optimize the value of cover crops. This article provides an overview of precision cover cropping concepts and summarizes recent research.

It’s clear from online ag forums and speaking with farmers that the term precision cover cropping has at least four distinct but somewhat overlapping meanings: management of cover crops to achieve specific objectives; strategic placement of cover crops in relation to other cover crop rows and/or cash crop rows (often using GPS guidance; planting of cover crops with a precision planter; We’ll explore these concepts.

Management of Cover Crops to Achieve Specific Objectives

Identification of specific cover cropping objectives or cover crop attributes (erosion control, weed suppression, N release, etc.) is a critical step in managing cover crops with precision. Many print and electronic cover crop resources rate cover crop species with respect to a variety of attributes, including impact on soil condition, soil ecology, and aspects such as attracting beneficials. Achieving the potential implied by a particular attribute rating requires the intersection of multiple factors (suitable genetics, timely and effective field operations, favorable soil and weather), some of which are beyond a farmer’s control. Careful planning won’t trump Mother Nature, but can increase the likelihood that management objectives can be achieved at least partially regardless of what Mother Nature throws your way.

Web-based decision tools such as the Midwest Cover Crop Council’s Cover Crop Selector (www.mccc.msu.edu/selectorINTRO.html) support integrated consideration of attribute ratings, soil properties and growth windows. Some tools, such as Green Cover Seed’s Smart mix calculator (www.greencoverseed.com/smartmix) include other factors such as seed cost and count.

Historically much of the cover crop seed planted on organic and conventional farms has been VNS (variety not stated). VNS seed is generally cheaper, but is less reliable than named varieties. Most named varieties used for cover cropping (e.g., Aroostook cereal rye) were selected for forage or grain characteristics rather than yield. Generally higher biomass production resulted in lower corn stand and yield. Also, cereal rye varieties of southern origin (e.g., Elbon and Maton) generally matured earlier and produced more biomass.

Annual ryegrass varieties vary widely in winter hardiness. Only varieties with proven hardiness, such as Bounty, Bruiser, KB Royal, King are likely to overwinter in the Midwest. These overwintered well at the WIU Allison Organic Research and Demonstration Farm in 2009-10 and have done well in other cold winter trials.

One last important consideration when shopping for cover crop seed is the difference between trademarked and certified seed. Unlike certified seed (e.g., Graza radish), a trademarked brand does not guarantee a specific genetic line.

In addition to careful selection of cover crop varieties, inoculation and fertilization/manuring can be used to enhance cover crop performance. Twenty lbs./a of N applied as Chelate nitrate (16-0-0) doubled the biomass production of spring planted Graza radish at the WIU organic research farm in 2012. In a recent on-farm trial in Southeast Illinois, inoculation of 2 hairy vetch lines increased biomass production by 67 and 96% and total biomass N by 58 and 63 lbs./a.

Inoculation of legume cover crops is low cost and can be used to enhance cover crop performance. Important characteristics to consider when comparing varieties include: spatial variation in soil erodibility and historical degradation, opportunities for enhancing the performance of conservation structures like terraces and waterways, wildlife/beneficial insect behavior and impact on the following crop. In 2013, strips of diverse cover crop cocktails featuring sources of nectar and pollen (e.g., sunflowers and buckwheat) were established along the edges of cornfields at the WIU organic research farm with the intention of enhancing biocrit of corn pests. Based on preliminary observations of active foraging by beneficial insects and low levels of corn earworms, we plan to expand this practice.

Another example of targeted cover cropping that may be more appropriate for a highly erodable landscape is strategic early harvesting of strips within a cash crop field to facilitate early planting of following crops where they will control erosion most effectively while limiting potential risk to the following crop (e.g., cereal rye often reduces the yield of subsequent corn).

Strategic Placement of Cover Crop Rows

Many large-scale organic grain farmers have improved the efficiency of their field operations through the adoption of GPS guidance, but very few have used guidance to enhance their cover cropping practices. Innovative conventional farmers have tried planting cash crops directly over or adjacent to cover crops, but strategic placement of cover crop rows is a largely untested concept within organic agriculture.

In May 2010, we planted popcorn directly over radishes that had been planted on 30” rows with a four-row Buffalo planter in August 2009, and then hedged with a four-row Buffalo cultivator about a month after planting. The popcorn planted beautifully into the radish ridge, which had winter-killed in December and left little residue visible at the time of planting. However, rainfall that was three times higher than normal during the month after planting necessitated full field tillage and replanting.

In 2011, we evaluated corn following volunteer oats, radish on 30” rows planted with a four-row Buffalo planter with volunteer oats, and radish drill-planted on 7.5” rows with volunteer oats. Both treatments with radish produced significantly higher yields than the no-radish treatment (see chart on page 19). Corn yield following radish on 30” rows was not significantly different than corn yield following radish on 7.5” rows, but the 30” radish seeding rate was ~ 70% lower. In this experiment, neither the corn nor radish was planted with GPS guidance, but careful flagging enabled us to plant the corn rows very close to the preceding 30” radish rows.

To Proof Positive on page 13

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Management practices include cover cropping, careful weed management, (including hand-weeding in the vegetables), diverse crop rotations and green manures. “We generally have a quarter to a third of the grain cropland, and two thirds of the vegetable land in green manures,” David said. They strive to have 100% of the land covered with crops going into winter, “the time of most erosion.” Manure is brought in for fertility from a nearby Hutterite community farm. To provide diversity, the farmers maintain numerous margins—trees, wetlands, grasslands. “We farm in between,” David said.

The commitment to community and regional adaptability also drive the vegetable seed aspect of the business. “Our goal is continual improvement and adaptation in both the vegetables and crops,” Theresa said. “We foster varieties that can adapt and perform well in our region.” Their work focuses on harvesting the best and planting back generation after generation to produce varieties that are enduring and specifically adapted to their northern plains environment. “We do what farmers have been doing for millennia,” David explained. “We are seed savers and stewards, not just seed takers,” Theresa added, noting that they strive to provide for their own seed needs for the operation. They focus special attention on selecting plants that thrive in organic systems, and timing planting and pollination windows to prevent cross-pollination with GMO crops. “Our goal is to work with plant breeders to develop varieties well suited to organic production, increase diversity in rotations and expand the use of regionally relevant seeds.” Theresa said. “We foster varieties that can adapt and perform well in our region.”

Through Prairie Road Organic Farm, the Podolls offer 27 varieties of vegetable seeds and four small grains adapted to thrive in the Northern Plains region. The seeds are direct-marketed through Prairie Road Organic Seed, the Podolls are excited to work with plant breeders to develop varieties well suited to organic production, increase diversity in rotations and expand the use of regionally relevant seeds. “Farmers are losing the power to choose what seed to grow, where the seed comes from, and how it is produced,” Theresa explained. “The FBC addresses the genetic diversity is a great gift. Seeds should not be owned, patented, or controlled.”

Through Prairie Road Organic Seed, the Podolls have been able to dedicate 8 to 10 acres to small grain research plots. “We are targeting underserved crops not likely to be addressed by land-grant university research,” David said. He is pleased that they’ve been able to dedicate 8 to 10 acres to small grain seed and variety research. The vegetable plots are virtually constant research incubators. As founding members of the Northern Plains Farm Breeding Club (FBC), the Podolls are excited to work with plant breeders to develop varieties well suited to organic production, increase diversity in rotations and expand the use of regionally relevant seeds. “Farmers are losing the power to choose what seed to grow, where the seed comes from, and how it is produced,” Theresa explained. “The FBC addresses the

Organic farming is exciting, creative work, and there is a lot more to learn.” Theresa concluded. “We must consider ourselves a part of the circle of life, not apart from it, and not in control of it. We are dependent on the circle of life around us.”

“Organic farming is exciting, creative work, and there is a lot more to learn.” Theresa concluded. “We must consider ourselves a part of the circle of life, not apart from it, and not in control of it. We are dependent on the circle of life around us.”

“Farming must be an artful venture,” David added. “We farm in between.”

“Farming must be an artful venture,” David added. “Talking to our customers is a perfect feed-back loop.” She sees the seed business as an expansion of local and regional food systems. “Just as we need local food, we need local seeds.” On-farm research is key to the operation. At any one time, there are several on-farm research plots. “We are targeting underserved crops not likely to be addressed by land-grant university research,” David said. He is pleased that they’ve been able to dedicate 8 to 10 acres to small grain seed and variety research. The vegetable plots are virtually constant research incubators. As founding members of the Northern Plains Farm Breeding Club (FBC), the Podolls are excited to work with plant breeders to develop varieties well suited to organic production, increase diversity in rotations and expand the use of regionally relevant seeds. “Farmers are losing the power to choose what seed to grow, where the seed comes from, and how it is produced,” Theresa explained. “The FBC addresses the genetic diversity is a great gift. Seeds should not be owned, patented, or controlled.”

Jody Padgham is the Financial Director for MOSES, and Associate Editor of the Organic Broadcaster.
Seasoned organic farmers make transitioning look easy
By Gigi DiGiacomo and Robert King

Seasoned organic farmers make transitioning look easy. They started with a conventionally managed 300-acre farm in Southwestern Minnesota and now manage more than 1,100 acres of certified organic land. They love what they do and have become leaders in the organic community.

The Olsons’ decision to go organic began with a comment from their buyer in 1997. “My dad and I had been growing seed and food-grade soybeans for a couple of years, when our buyer said to us, ‘You should be growing organic—it pays more,’” Jonathan recalled. The Olsons didn’t know any organic growers at the time, so they did a lot of homework before making the transition. They visited the University of Minnesota’s Lamberton Experiment Station and “asked a lot of questions,” Jonathan said. “Going to events and conferences, we started to build contacts and have conversations with organic growers.”

The Olsons gave organics a try by putting 40 acres from one of their cleanest fields into transition during spring of 1998. “The first couple of years seemed easy,” Jonathan said. But, over time, weeds began to build in almost every field. The Olsons have had to experiment with management strategies that include altering planting dates, increasing mechanical and hand cultivation, and flaming. Despite continuing struggles with weeds, the Olsons said they’ve never lost money. “At worst, we’ve broken even with fields that occasionally were really ugly,” Carolyn said.

During the past 15 years, Jonathan and Carolyn gradually have transitioned 1,100 acres (much of the land is rented on long-term lease from family members). Throughout the transition, they maintained what’s known as a “split operation” with some ground under organic and some under conventional management.

Under National Organic Program rules, split operations must thoroughly clean all equipment before using it to work organic fields. This removes contaminated seed and/or residues left behind from conventional crops. “We worked really hard to clean out equipment, clean off dirt, flush it for seed,” Jonathan explained. They invested in enough bins to allow for simultaneous storage of organic, transitional, and conventional crops. The Olsons also keep meticulous records.

Early in the process, full certification became a goal of the Olsons, and all their land is certified now. Reflecting on their transition strategy, the Olsons noted important benefits associated with having run a split operation. Most important, they said, was the chance to learn while growing the farm business. “Gradually transitioning smaller acreages allowed us to learn,” Jonathan said. “Fifteen years later, we’re still learning. And, just about the time you think it’s getting easier, you do something like plant tillage radish in front of soybeans,” he added with a smile.

The decision to gradually transition also provided the Olsons greater access to capital. “As long as we were transitioning gradually, organics wasn’t a problem with our lender,” Jonathan explained. “Our banker smiled when he saw the first organic prices and, over time, thought it made sense.”

Today the Olsons are busy almost full-time from mid-May, when planting begins, to November after harvest wraps up. Their three-year rotation includes corn, soybeans and, in year three, small grains followed by a cover crop. Fertility comes from the Olsons’ 2,400-head conventional hog finishing enterprise, which Jonathan and Carolyn have managed since before going organic. Their organic corn yields regularly equal or exceed conventional county averages while their organic soybeans yield slightly below conventional averages.

Carolyn jumped in suggesting that the community reaction has been difficult to deal with at times. “We get a lot of comments,” she said. “Everything from ‘You’re pretty brave’ to ‘Your dad never had weeds in that field.’” But, she added, it just takes educating folks about what they are trying to achieve.

“Carolyn started a blog (Carolyn CAREs – Committed to Agriculture While Respecting the Earth, carolyncares.wordpress.com), and we both posted on Facebook after planting the tillage radish,” Jonathan said, explaining that they were inundated with questions from passers-by.

Due in part to questions from neighboring farmers, the Olsons have become very active in their community, advocating on behalf of organic farming and working to educate others interested in transitioning. Carolyn serves as President of their county Farm Bureau and is a member of the Minnesota Organic Advisory Team. Jonathan and Jona- than both volunteer regularly with the Future Farmers of America and speak to farming organizations. In fact, the Olsons were nominated for the 2014 MOSES Organic Farmers of the Year award, highlighting their dedication to organic farming and commitment to education.

Gigi DiGiacomo is a Research Fellow, and Robert King is a Professor in the Department of Applied Economics at the University of Minnesota.

This profile was prepared for the Tools for Transition (TFT) project, a four-year research and education effort funded by the USDA’s National Institute of Food and Agriculture. Transition scholarships are available for Minnesota field crop and dairy farmers participating in the Farm Business Management Program. The Olsons are TFT participants. Contact Meg Moynihan for scholarship information: 651-201-6616 or meg.moynihan@state.mn.us.

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Second-career farmers bring life experience to the field

By Lindsay Rebhan

An exciting new sector of the expanding agrarian movement is ‘second career’ farmers. These people are finding their way to the farm despite not having farming backgrounds.

According to the 2013 Economic Report of the President, Challenges and Opportunities in U.S. Agriculture, one-third of beginning farmers are over age 55, which highlights the fact that many farmers move into agriculture only after retiring from a different career. These 40-, 50-, 60-something new farmers have life experience and often some savings to start with, alleviating a few of the hurdles to enter farming.

Jamie and David Baker of Primrose Valley Farm in Belleville, Wis. are shining examples of second career farmers. The Bakers purchased their farm in 2008 and began readying it for production right away. “Neither of us were born into farming, but the way of life wasn’t foreign to me,” Jamie said. “My grandparents were farmers and I grew up visiting their farm, it was my favorite place to be.” David grew up on the south side of Chicago. Before farming, both had corporate careers.

Jamie’s career began in accounting and technology and progressed to combine the two as a technology consultant focusing on financial systems. She retired from her life on the road to increase their on-site infrastructure when first starting to farm. They bought 83 acres of land with a house, corncrib and 100-year-old barn. Jamie explained the many improvements they made: “We built a maintenance shed and used that as a makeshift pack shed, then put in the greenhouse, hoop house and chicken coop. We roofed the barn and corncrib. We brought power to the farm underground. The original wiring was so low that our equipment couldn’t go under it. This was a fortunate move—when we took out the wires, the old poles just fell down. It was time!”

The Bakers also added a feature not found on many farms: a 14,000-square-foot pack house with a commercial kitchen for CSA members and a community room on the second level. “As we were constructing it, people in the community asked if they could host events there, too,” Jamie added. “So we built it for both communities.”

Primrose Valley Farm now grows 75 different varieties of produce, with approximately 20 acres in production. “Every season comes with its own unique challenges. This past year, it was we start doing farmers markets before CSA, which is wise for many. For us, we delved straight into CSA farming. We had slow planned growth for our CSA, so we would never be in a position that would be disappointing.”

Primrose Valley Farm is very much fashioned out of the Bakers’ experiences in the corporate world. They are weaving their previous life skills and perspectives into their current farming reality. Process and workflow are oriented with food quality and food safety in the forefront. “We’ve built much of our own equipment based on some out-of-the-box thinking. The organizations that were the most helpful resources for us were UW-Madison, Michael Field’s Agricultural Institute and MOSES. We are associated with several farming groups, such as Fairshare CSA Coalition, Women in Sustainable Agriculture, Women Food and Agriculture Network and other local food networks,” Jamie noted.

The Bakers were in a position to quickly increase their on-site infrastructure when first starting to farm. They bought 83 acres of land with a house, corncrib and 100-year-old barn.

Jamie and David Baker have an 83-acre farm between Madison and Chicago, where they grow produce for a 300-member CSA. The Bakers left corporate jobs in Chicago to pursue their farm dream.

“I wanted a certain character, growing up in the mountains of Colorado, we wanted some topography, rolling hills and trees. I did not want a lot of cars driving past us off a busy county road. I wanted to feel off the beaten path, but still close to community.”

Soil health was also a driving factor. “We did soil tests to make sure it was adequate for vegetable farming. History of the land was important. We knew we wanted to do organic. We didn’t want to wait three years to certify. This land had laid fallow since 1982, prior to that it was used to finish grassfed beef, prior to that was before chemical use began,” Jamie explained. The Bakers are only the third owners of this property.

They used their Chicago roots for their market. “Having lived in Chicago, we planned for our direct market to be Chicago,” Jamie said. “We wanted to make sure we were less than 200 miles from the city. We ended up finding land 135 miles from Chicago. We didn’t originally envision offering shares to Wisconsin however, this has become our community, too, and we want to bring healthy produce to both.”

Ramping up farming knowledge is paramount when making such a life shift. “We had taken the beginning farmer class through University of Wisconsin-Madison. The recommendation was we start doing farmers markets before CSA, which is wise for many. For us, we delved straight into CSA farming. We had slow planned growth for our CSA, so we would never be in a position that would be disappointing.”

Jamie and David Baker have an 83-acre farm between Madison and Chicago, where they grow produce for a 300-member CSA. The Bakers left corporate jobs in Chicago to pursue their farm dream.

“Purchasing land was a different process than if we were doing it in our 20s,” Jamie said. “I wanted a certain character, growing up in the mountains of Colorado, we wanted some topography, rolling hills and trees. I did not want a lot of cars driving past us off a busy county road. I wanted to feel off the beaten path, but still close to community.”

New Farmer Corner next page
New Farmer Corner... from previous page

was the heavy spring rains," Jamie explained. "We had a very successful 2013 season serving 300 CSA members. This last summer, we had 11 farm staff plus us." Their farm plan includes CSA memberships, a farm stand, farmers market and restaurants. They have been very diversifying their business plan by having multiple revenue streams.

"One other aspect of our business plan that provides diversity is hosting events in our community center such as weddings, business meetings/retreats, and the New Farmer Summit being held here this April 4-5th," Jamie added. (See neworganicstewards.org for the New Farmer Summit details and registration.)

Jamie and David describe their farming model as one that strives to combine the wisdom of the past with recent innovations in sustainable initiatives that respect their planet's resources. "We have a strong commitment to social justice, workers' rights and respect for soil and animals. Each of these breaks down into different components, from a fair wage to respectful and thoughtful farming methods," Jamie noted. "The vision is that we will be able to serve as a resource of information, ideas and resources to the community about food and its role in our lives, and to play a conscious role in helping to 'repair the world' through advancing and improving our food system."

They see many parallels between their corporate experience and farming, with one exception—"In the corporate world, the work is often highly specialized. When you are a farmer, you basically have to do everything," Jamie explained. She and David both learned about all aspects of their farm business and then divided up the labor. "I do the crops and David takes more of the facilities and infrastructure. We both do business pieces for those areas and then work together for our overall business plan," she added.

They have learned many lessons since 2008. Their advice to other new farmers be a part of the community, and have a business plan, as it will provide you focus and direction. "Make sure you're well capitalized, budget and plan for contingencies, and above all, keep good records."

If you are a new or aspiring farmer who would like to meet others new to farming - please join us for the New Farmer Summit April 4-5, 2014 at Primrose Valley Farm! See neworganicstewards.org for details and registration.

Lindsay Rebhan (neworganicstewards@gmail.com) works with Renewing the Countryside on the New Organic Stewards project, in partnership with MOSES.

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$75
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Details: neworganicstewards.org

This project is supported by the Beginning Farmer and Rancher Development Program of the National Institute of Food and Agriculture, USDA.

Proof Positive... from page 9

In 2012, we compared corn planted with RTK guidance (Real Time Kinematics, the most reliable form of GPS guidance allowing sub-inch accuracy) over 30” rows of Graza and Tillage Radish than drilled uniformly with flags but without GPS guidance. The radishes were planted with RTK guidance in late August 2012 and twin rows of Admiral yellow peas were drilled the next day between the radish rows. The radishes without peas were cultivated once about a month after planting. Radish root biomass in late November 2012 was ~20% higher in the plots with the twin rows of peas.

We intended to plant directly over the radish rows without any pre-plant tillage but had to modify this plan due to record rainfall in spring 2013. We ended up using a high residue cultivator to terminate many of the weeds in the radish and radish+pea plots prior to planting. Weeds in the fallow plots were terminated using a rotavator. Planting was difficult but our ridge-till planter did an admirable job of removing in-row weeds, and the soil tilth was much better than in other fields. In the fields we did full-field spring tillage. The highest yielding plot was a radish+pea plot (~200 bu/a) but there were no statistical differences between the treatments.

In addition to these large-scale plots, we have planted many additional cover crop species using push planters such as the Earthway seeder and Planet Jr. seed plate for field peas, Austrian winter peas and faba/bell beans. The #14 plate works well for field peas, Austrian winter peas and faba/bell beans. The #14 plate is scratched the surface with respect to radish variety, but corn following radishes that had not been cultivated.

The strong beneficial effect of one cultivation the previous fall is somewhat of a mystery, but may involve the strong beneficial effect of one cultivation the previous fall is somewhat of a mystery, but may involve the length of time from cultivation and the amount of residue left to help "repair the world" through advancing and improving our food system.

Conclusions and future options
Greater precision in cover cropping practices should increase the positive effects while reducing negative effects. We believe that we have just scratched the surface with respect to precision cover cropping. Our larger goal is to develop more efficient and effective organic farming systems through the integration of GPS guidance, controlled traffic, minimum tillage, precision cultivation, precision placement of inputs such as seed treatments and organic fertilizers and precision cover cropping.

Joel Gruber is an assistant professor of Soil Science and Sustainable Agriculture at Western Illinois University and the Director of the WIU Organic Research Program. He invites readers interested in precision cover cropping to contact him at j-gruber@wiu.edu.

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**Figure 1. Comparison of soil test P and K levels following various cover crops**

<table>
<thead>
<tr>
<th>Cover Crop</th>
<th>Soil Test P (ppm)</th>
<th>Soil Test K (ppm)</th>
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<td>220 ppm</td>
</tr>
<tr>
<td>Radish</td>
<td>40 ppm</td>
<td>180 ppm</td>
</tr>
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<td>Field Peas</td>
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<td>150 ppm</td>
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</tbody>
</table>

O = volunteer oats, PRO = volunteer oats with radishes planted and on 30-inch rows, DRO = volunteer oats with radishes drilled on 7.5-inch rows

In 2012, we compared corn planted with RTK guidance (Real Time Kinematics, the most reliable form of GPS guidance allowing sub-inch accuracy) over 30” rows of Graza and Tillage Radish than drilled uniformly with flags but without GPS guidance. The radishes were planted with RTK guidance in late August 2012 and twin rows of Admiral yellow peas were drilled the next day between the radish rows. The radishes without peas were cultivated once about a month after planting. Radish root biomass in late November 2012 was ~20% higher in the plots with the twin rows of peas.

We intended to plant directly over the radish rows without any pre-plant tillage but had to modify this plan due to record rainfall in spring 2013. We ended up using a high residue cultivator to terminate many of the weeds in the radish and radish+pea plots prior to planting. Weeds in the fallow plots were terminated using a rotavator. Planting was difficult but our ridge-till planter did an admirable job of removing in-row weeds, and the soil tilth was much better than in other fields. In the fields we did full-field spring tillage. The highest yielding plot was a radish+pea plot (~200 bu/a) but there were no statistical differences between the treatments.

In addition to these large-scale plots, we have planted many additional cover crop species using push planters such as the Earthway seeder and Planet Jr. seed plate for field peas, Austrian winter peas and faba/bell beans. The #14 plate works well for field peas, Austrian winter peas and faba/bell beans. The #14 plate is scratched the surface with respect to radish variety, but corn following radishes that had not been cultivated.

The strong beneficial effect of one cultivation the previous fall is somewhat of a mystery, but may involve the strong beneficial effect of one cultivation the previous fall is somewhat of a mystery, but may involve the length of time from cultivation and the amount of residue left to help "repair the world" through advancing and improving our food system.

Conclusions and future options
Greater precision in cover cropping practices should increase the positive effects while reducing negative effects. We believe that we have just scratched the surface with respect to precision cover cropping. Our larger goal is to develop more efficient and effective organic farming systems through the integration of GPS guidance, controlled traffic, minimum tillage, precision cultivation, precision placement of inputs such as seed treatments and organic fertilizers and precision cover cropping.

Joel Gruber is an assistant professor of Soil Science and Sustainable Agriculture at Western Illinois University and the Director of the WIU Organic Research Program. He invites readers interested in precision cover cropping to contact him at j-gruber@wiu.edu.

**Proof Positive... from page 9**

**Figure 1. Comparison of soil test P and K levels following various cover crops**

<table>
<thead>
<tr>
<th>Cover Crop</th>
<th>Soil Test P (ppm)</th>
<th>Soil Test K (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austrian Winter Peas</td>
<td>45 ppm</td>
<td>220 ppm</td>
</tr>
<tr>
<td>Radish</td>
<td>40 ppm</td>
<td>180 ppm</td>
</tr>
<tr>
<td>Field Peas</td>
<td>35 ppm</td>
<td>150 ppm</td>
</tr>
</tbody>
</table>

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Also consider when you want to harvest berries. You have two choices: a summer crop, lasting approximately 3 weeks—the first 3 weeks in July in the Upper Midwest—and a fall crop, typically lasting 5-6 weeks—mid-August until the end of September. There is a much greater maturity span with fall-bearing cultivars than there is with summer ones. During the summer, these tender berries need to be picked at least every second day. The cooler fall temperatures give growers a bit more picking flexibility. However, with the advent of the SWD (Spotted Wing Drosophila) every effort should be made to pick ALL berries as soon as they are ripe.

**Disease Resistance**

When you have a choice, select cultivars that have genetic strengths against the major raspberry diseases. With the limited choices for the Upper Midwest, this is less of an issue than if we grew brambles in California or the Pacific Northwest. We have reasonably good genetics in the varieties listed below—especially the newer ones. Summer-bearing varieties will show their weaknesses more readily, possibly because the canes are around for two seasons. For example, *Killearney* is beginning to manifest some serious foliar weaknesses under certain summer conditions. With fall-bearing cultivars, the canes and foliage are around only one season, so they all tend to remain quite healthy.

Fungal diseases can be largely controlled by cultural practices: soil stewardship, plant density, air circulation, proper pruning and trellising, and even harvesting. Viral diseases are best dealt with by securing clean stock, genetic resistance and eradicating nearby native brambles. All growers should apply regular nutrient and compost teas throughout the season. The healthier the plant, the more resistant it will be especially against fungal and bacterial diseases.

**Suggested Cultivars**

**Raspberries: Summer-Bearing (Floricane)**

The canes of these plants grow up one season, overwinter, produce a crop the second season, then die and need to be pruned out. Red: *Nova*, *Encore*, *Prelude*, *Killarney*, *Latham* Black: *MacBlack*, *Jewel*, *Bristol* Purple: *Royalty*, *Brandywine*

**Raspberries: Fall-Bearing (Primo cane)**

Commercially, these plants grow up one season, to browse while rich enough to want to have a highlighter in hand. The earliest to ripen, with very good flavor, that also bears a small crop in zone 3, and is resistant to most cane and foliar diseases. It can be grown as an alternate crop in zone 3.

**Next come varieties like Killearney (but very spiny and some foliar disease susceptibility); Latham (a 100-year old Minnesota heirloom, mildly spiny, good tasting cultivar, and can be grown in zone 3); Prelude (the earliest to ripen, with very good flavor, that also bears a small fall crop, Encore (the latest to ripen, nearly spineless, good flavored, with coherent small berries) and Lauren (not quite winter hardy enough for us, but we like its long season and good flavored, large fruit).**
How to calculate real cost of owning equipment

By Jody Padgham

Stopping to visit a neighbor I hadn't seen for a while, I was surprised to see a tiny apricot puddle dancing and yipping at his feet. “Yeah,” Mark chuckled. “Fifi is my penny.” He explained that a few months earlier he’d returned from a trip to town the proud owner of a new $2,400 tractor. “I’d promised my wife I wouldn’t buy equipment impulsively anymore. When I came home with that new tractor, she went right out and bought this dog to punish me,” he groaned.

If you’re like Mark and buy expensive equipment on an impulse, you could get yourself into trouble, too—more trouble than a noisy puddle.

There are some simple equations you can run to tease out the financial implications of any purchase. Calculating the Net Present Value (NPV) will help you judge if buying or leasing would leave you financially better off than leaving the money in the bank. It can also show how one kind of investment compares to another.

How much does it cost to own?

Let’s start with a desire—more land, more equipment, more livestock, or a new building. Perhaps you’ve always wanted a potato digger, and just can’t get your mind off a nice 2-row unit that a fellow met at a MOSES field day has for sale. Let’s say you can get the digger for a pretty good price: $3,000.

First, you need to figure out how much it will cost you to own and run the digger, including how much it will save you in labor. Without the digger, you put in about 100 labor hours to dig one acre of potatoes. If you bought the digger, you could collect the same number of potatoes in about two hours. But, you’d need to pay for repairs, a place to store the digger, and the trac- tor fuel to pull the digger. Taking all of this into account, let’s say that you’ll save about $500 per year in cash flow if you buy this digger.

If you are buying or leasing land or buildings or buying livestock, you must consider different things to estimate the cost of ownership, such as property taxes, improvements, feed, health care, etc. Each type of purchase will have its own set of associated expenses and incomes.

Since steel machines hold their value pretty well, even after five years of use, you probably still can sell the potato digger for $1,500.

Let’s look at how the figures add up. You save $500 per year in costs when you own the digger, and you can sell it for $1,500. If you keep it for five years, you’re analysis looks like this:

<table>
<thead>
<tr>
<th>Year</th>
<th>Savings</th>
<th>Total Value</th>
<th>Total Cost</th>
<th>Net Savings</th>
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<tr>
<td>1</td>
<td>$500</td>
<td>$2,500</td>
<td>$1,500</td>
<td>$1,000</td>
</tr>
<tr>
<td>2</td>
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<td>$2,000</td>
<td>$1,500</td>
<td>$500</td>
</tr>
<tr>
<td>3</td>
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</tr>
<tr>
<td>5</td>
<td>$500</td>
<td>$500</td>
<td>$1,500</td>
<td>$1,000</td>
</tr>
</tbody>
</table>

Total net present value: $5,000

A potato digger, like this one, would save a lot of time and labor. But, to make wise financial decisions, you need to do some math. Photo by Sandhill Organics.

Now, if my friend Mark had run his numbers, it’s possible that he could have convinced his wife that his tractor was a good investment. He may not have had to suffer the penance of an apricot puddle. But, it might not have made him as happy, as much to his wife’s dismay, Fifi has now become Mark’s faithful friend.

University of Minnesota-Extension has a publication printed in June 2013 that lists the costs per acre, including lubrication, fuel, labor, etc., of many farm implements. You can find it at http://www.extension.umn.edu/publications/m1993.pdf.

Jody Padgham is the Financial Director for MOSES and the Editor of Fearless Farm Finances, a 264-page book focused on setting up and managing a farm’s financial system. She writes the Finance Blog on the MOSES website (see Business & Marketing in the Farming tab).
Flaxseed...from page 1

Diet supplemented with flaxseed, particularly when it is ground, also offer a unique opportunity to mitigate enteric methane emissions in dairy cows. Enteric fermentation from ruminant animals, particularly cattle, has been cited as the second largest source of methane emissions in the country. Methane is a potent greenhouse gas directly tied to global climate change. In addition, methane production represents a 2 to 12% loss in animal’s energy intake, which varies based on the level of feed intake and composition of the diet. In general, pasture- or high forage-based diets often lead to higher levels of methane production as compared to high-grain-based diets or diets containing feeds rich in oil.

Focus of Studies

Several studies to improve milk omega-3 fatty acids and CLA through flaxseed supplementation and extension of the grazing season have been done as part of a four-year project funded by the USDA-NIFA Organic Agriculture Research and Extension Initiative (OREI). Flaxseed supplementation was initially explored in vitro using laboratory artificial rumens at the USDA-ARS Pasture Lab in University Park, Pennsylvania, in a study led by Dr. Kathy Soder (Soder et al., 2012). The artificial rumen environment was created by obtaining rumen fluid from a donor cow and maintaining the fluid under anaerobic conditions. The artificial rumens were fed diets in which orchardgrass pasture was replaced by increasing levels of organically grown, full fat ground flaxseed.

Flaxseed was provided at the following doses: 0, 5, 10, or 15% of the total diet dry matter. As flaxseed replaced pasture, apparent digestibilities of dry matter, organic matter, and fiber decreased linearly as a result of the toxic effects of flaxseed oil on microbes that digest feed nutrients. However, methane production also decreased linearly as pasture was replaced with flaxseed likely as a result of reduced nutrient digestibility and inhibition of rumen microbes (i.e., methanogens) that produce methane or both. The first animal study conducted at the University of New Hampshire Organic Dairy Research Farm (UNH-ODRF) took place in the winter of 2012 and lasted 84 days. The objectives of the study were to investigate the impact of full fat, ground flaxseed on milk production and composition, milk fatty acid profile (e.g., omega-3 fatty acids and CLA), and methane emissions in organic Jersey cows.

The 20 Jersey cows used in the study averaged 807 lbs. of body weight and 111 days in milk in the beginning of the study. Sixteen out of the 20 cows were used to measure enteric methane emissions using the sulfur hexafluoride tracer technique. All cows were fed TMR containing (%): 55% alfalfa-grass baleage, 8% grass hay, 6% soybean meal, 2% roasted soybean meal, 27% corn meal, and 2% minerals and vitamins; 55% alfalfa-grass baleage, 8% grass hay, 5% or 1.85 lbs. ground flaxseed, 4.8% soybean meal, 2% roasted soybean meal, 23.3% corn meal, and 2% minerals and vitamins; or 55% alfalfa-grass baleage, 8% grass hay, 10% or 3.5 lbs. ground flaxseed, 3.5% soybean meal, 2% roasted soybean meal, 18% corn meal, and 2% minerals and vitamins, or 4% alfalfa-grass baleage, 8% grass hay, 15% or 5.3 lbs. ground flaxseed, 2% soybean meal, 2% roasted soybean meal, 16% corn meal, and 2% minerals and vitamins. Cows were maintained in a bedded-pack barn with dried pine shavings as bedding and fed individually using electronically recognition feeding doors.

As the percentage of flaxseed in the diet increased, cows’ dry matter intake decreased. Diets high in fat generally interfere with normal rumen function resulting in intake depression. In our study, dry matter intake decreased from 35.5 lbs./day in cows fed TMR containing 0% flaxseed (3.8% crude fat) or 15% flaxseed (7.4% crude fat), respectively. Milk production also showed a linear decrease averaging 46.7, 46.3, 45.4, 43.9, and 45.4 lbs./day receiving 0, 5, 10, and 15% flaxseed, respectively. Similarly, yields of milk fat (from 2.16 to 2.05 lbs./day) and milk protein (from 1.61 to 1.46 lbs./day), and MUN (from 12.8 to 10.9 mg/dL) decreased linearly in cows fed increasing levels of flaxseed. Linear reductions in the yields of milk components are explained by the linear decline in milk production; the observed linear decrease in MUN was associated to the decline in milk fat protein, which also exhibited a linear decline (from 6.8 to 6.5 lbs./ day) in cows fed incremental levels of ground flaxseed. It is important to note that the diet with 15% flaxseed resulted in the poorest production of milk and milk components.

Despite the overall decrease in milk fat yield, milk content of omega-3 fatty acids (from 0.74 to 1.68% of the total milk fatty acids) and CLA (from 0.55 to 1.08% of the total milk fatty acids) increased linearly in response to incremental levels of flaxseed. It is worthwhile to mention that the TMR with 15% flaxseed led to the highest contents of omega-3 fatty acids in the milk fat, however, milk content of omega-3 fatty acids in cows fed 10% flaxseed was very similar to that of cows fed 15% flaxseed (i.e., 1.36 vs. 1.42%) of the total milk fatty acids, respectively, indicating that 10% flaxseed can maintain high omega-3 fatty acids in milk fat with 1.3 lbs. reduction in milk production per day. In addition to animal performance and milk composition, methane production measurements were also done in our winter feeding study. As the amount of flaxseed in the diet increased, methane production decreased linearly (from 285 to 225 g/d) showing a positive impact of flaxseed on greenhouse gas mitigation.

The second animal study conducted at the UNH-ODRF took place during the 2013 grazing season and lasted 120 days (from June to September). In this grazing season study, 20 early to mid-lactation Jersey cows averaging 897 lbs. of body weight received diets (pasture plus TMR) containing (dry matter basis): 0 or 10% ground flaxseed (3.5 lbs./day). Cows had access to paddocks containing grass-legume pasture mix for approximately 16 hours during a morning grazing management system with a new piece of fresh pasture provided twice daily after each milking. Cows were milked twice a day and were offered TMR after each milking. Diets were formulated (dry matter basis) to contain 40% pasture and 60% TMR. The TMR was composed by grass-legume baleage, corn meal/soybean meal-based concentrate, and liquid molasses.

Milk production reduced numerically by 1.1 lbs./day in cows fed pastured supplemented with 10% flaxseed (39 lbs. of milk/day) compared to cows supplemented with no flaxseed with 40.1 lbs. of milk/day. A similar numerical reduction in milk production was observed in cows fed 10% flaxseed in our winter feeding study. Milk fat content (4.25 vs. 4.17%) and yield (1.68 vs. 1.65 lbs./day) as well as milk protein content (3.43 vs. 3.47%) and yield (1.36 vs. 1.35 lbs./day) were very similar in cows fed no flaxseed vs. 10% flaxseed. Milk analysis of omega-3s and CLAs has not been completed to date.

To measure breath methane and carbon dioxide emissions from grazing cows, we used a portable, automated system (The GreenFeed® system; C-Lock Inc., Rapid City, S.D.) consisting of air sampling and gas quantification modules powered by solar energy and mounted on a trailer. The GreenFeed system uses radio frequency identification and control, automated release of an alfalfa or millet pellet to each cow, and is collected by individual animals several times throughout the day. The GreenFeed was deployed on pasture and moved to a new paddock following the cows’ access to a new piece of fresh pasture. Measurements of methane and carbon dioxide were obtained every time a cow passed the GreenFeed.

Preliminary analysis showed that methane emissions was not reduced in cows fed flaxseed during the grazing season. This lack of flaxseed effect on mitigating methane emissions agrees with our previous studies in which methane emissions were reduced in experiments conducted in vivo (i.e., artificial rumen experiment). Differences in diets, forage species, and techniques used to measure methane emissions possibly explain the discrepancy between our grazing vs. winter study.

In summary, feeding flaxseed to organic dairy cows during the winter and summer seasons provides both exciting opportunities and major challenges for optimizing the efficiency of flaxseed and highlights the importance of further research. The winter study results showed a positive impact of flaxseed on changing milk fatty acid profile towards more omega-3 and CLA, particularly in higher levels of dietary inclusion (i.e., 10 to 15% flaxseed). Further positive responses were the reduction in methane emissions when flaxseed was fed in higher amounts during the winter season. Unfortunately, higher levels of dietary flaxseed did reduce production of milk and milk components.

Based on our collective results so far, it appears that 10% of dietary inclusion of ground flaxseed is the best compromise. We will be able to provide a more solid recommendation as more results from our grazing study emerge. The major determinants of flaxseed adoption in organic dairy farmers will be the cost of flaxseed supplementa- tion, future industry premiums for omega-3 and CLA enriched milk, and the future of the niche markets for value-added organic dairy products.

References: Soder, K. J., A. F. Brito, M. D. Rubano and C. J. Brito teaching assistant, and Dr. Andre Brito (andre.brito@unh.edu) for assistance in the experimental design and data analysis. This study was conducted in cooperation with Dr. Kathy Soder (USDA-ARS-Pasture Lab, University of New Hampshire; Durham, NH), Dr. Jana Kraft (University of Vermont; Burlington, VT), and Dr. Robert Park, PA) and Dr. Jana Kraft (University of Vermont; Burlington, VT).
Smart tools, systems help you save labor in the transplant house

By Chris Blanchard

Work in the transplant house starts at a slow time of year for most vegetable growers, but continues as field operations and even harvest get under way. Relative inefficiencies during the first slow months may be tolerable, but as April turns to May, you’ll want to utilize a few key tools to speed the work and make time for other mission-critical aspects of your farm as you get your plants ready for the field.

For most diversified vegetable growers, the work-space for filling and sealing flats fits right into the premium space of the production greenhouse, rather than occupying a separate building. Lay-ing this space out well can minimize extraneous movement, cut down on materials handling, and help you and your employees avoid discomfort and injury.

The wheel is truly one of history’s great inven-tions. If it’s not too late, put a concrete slab and a pallet-size door in the workspace of your greenhouse so that you can maximize your use of it. Buying potting soil in two-yard slings can cut down your costs, and the ability to move heavy potting supplies on pallets not only reduces strain on the back but saves time as well.

Laying out your head house to facilitate a linear flow from soil mix to filled flats can really speed up the work. A vacuum holds seeds and pushes them into a seedling tray with a single line. This makes it easier to count out the seeds at the pointed end fit in the crease in the tray – a step that also breaks up any compacted punchts. Workers mound the mix over the flat with their hands, then shake the flat hard once before using a flat acrylic board to sweep the soil from the middle of the flat to the ends.

Moving Flats

Moving flats one or two at a time around the greenhouse takes a lot of time, especially when you are loading flats out for transplanting during a rare dry spell in the spring. At Rock Spring Farm, we built an overhead trolley so that one person could move 24 flats at a time around the greenhouse. Even a flat rack or modified wheelbarrow that can roll down a narrow aisle will save a tremendous amount of time.

A four- or five-shelved trolley can run above the transplant benches on a tubular track that hangs from the greenhouse frame. Ours makes a complete circle along the two walkways and around the ends of the benches. A switch – just like a railroad track – allows the trolley to travel through the work area and right up to the door, so that workers can move flats to the van or trailer with just a pivot and a step.

Harmony Valley Farm uses a welded rack that fits on the forks of a skid steer to move flats from one greenhouse to another, or into their hardening-off facility. At Rock Spring Farm, we built a wooden rack that slid into the back of the van we used as our field vehicle so that we could move five times as many plants as fit on the floor of the vehicle.

Speedy Seeding

A combination of high- and low-tech tools can really speed up seeding flats. My favorite – and simplest – tool is a 6-inch-long piece of folded plastic shaped to a point at one end and closed on the other, sized so that it can be held in the hand like a chopstick. Seeds are placed in the crease, and the tool is held at such an angle that the seeds at the pointed end fit in the crease in a single line. This makes it easier to count out seeds and push them into a seedling tray with a “pointy” tool – my favorite is a short stick of #9 wire, pounded flat on one end and ground into the right shape with a bench grinder. This tool works great for putting multiple seeds in one cell, as it makes counting out a consistent number of seeds simple and easy.

For round seeds like brassica, a plate seeder can really speed up the work. A vacuum holds seeds onto a plate drilled with small holes to match the seed size and the pattern of the cells in a tray. Seeds are poured onto the plate and rolled around the tray until every hole is filled. Once all of the holes are filled, the remaining seeds are poured off, and the seeder is inverted over the flat and the vacuum broken so that the seeds drop into the tray. One worker can easily seed 60 – 90 flats per hour with this tool.

I’ve worked with many farms that use a home-made version of this tool, with shop-drilled Plexiglass or aluminum plates and a shop vac. I really like the one from Carolina Greenhouses, which allows the worker to maneuver the seeds into a channel on the plate before inverting, rather than pouring them back into a container. The factory-built models also often include a sliding plate to break the vacuum, rather than having to turn the vacuum on and off.

Efficient Watering

Even, consistent watering takes skill and attention that many workers simply lack, so installing an overhead watering system can help reduce critical management time spent watering. In the diverse greenhouse of a market farm, automatic watering needs careful monitoring; putting the same amount of water on every day can lead to disastrous results.

We developed a watering log to track how long we water on each bench, and information about weather conditions so that we could decide how much water to put on each day based on previous results.

An automatic watering system doesn’t eliminate the labor needed to hand-water transplants – spot watering is still required, especially when one bench houses crops at multiple stages of maturity.

Chris Blanchard provides consulting and education for farming, food, and business through Flying Rutabaga Works. As the owner and operator of Rock Spring Farm in Iowa for over 13 years, Chris raised 20 acres of vegetables, herbs, and greenhouse crops, marketed through a 200-member year-round CSA, food stores, and farmers markets.
Unfortunately, prevention of GMO contamination through a moratorium on further releases of GMO crops into our environment does not seem to be part of the discussion....

weather can disrupt those plans. And, sometimes there are not enough hours in the day to get all of the manure or fertilizer spread, fields tilled, or planting done.

For these reasons, it is important not to pit farmer against farmer when planning for coexistence. Instead, we need to look to the patent holders of the technology that causes the problems of GMO drift and makes coexistence difficult in the countryside.

Unfortunately, prevention of GMO contamination through a moratorium on further releases of GMO crops into our environment does not seem to be part of the discussion within the USDA. We continue to see more GMO crops developed to address the inherent flaws of this technology, which has created “super insects” resistant to the insecticide present in the crop, or “super weeds” resistant to the herbicides used in tandem with the GMO crops.

Even the biotechnology companies knew that resistance was going to make their “wonder crops” obsolete in a few years. The stacking of numerous insecticides in one seed to deal with resistance, as well as the proposed approval of 2,4-D herbicide-resistant corn and soybeans show that the companies and their scientists who develop and sell these GMO seeds are themselves ignoring the basic fundamentals of science and biology. The more this technology is introduced into our environment, the less effective the commonly used materials become. This leads to the use of more toxic materials over time to deal with resistant insects and weeds.

How can GMO and non-GMO farmers coexist? There are no easy answers here due to the pervasiveness of GMOs in our landscape. However, we must continue to shift the conversation away from recommendations that require farmers to modify what they are doing, and put the burden back on the biotechnology industry. Lastly, as organic farmers know, these GMO seeds are unnecessary when agricultural management works with rather than against natural systems. We should be supporting sustainable weed and insect management rather than this failed GMO seed technology.

The USDA’s Agricultural Coexistence comment period ends March 4. However, you still can send letters at any time to the office of the U.S. Department of Agriculture Secretary:

U.S. Department of Agriculture
Attention: Secretary Tom Vilsack
1400 Independence Avenue SW, Room 200-A
Washington DC 20250
Phone: 202-720-3631

Additional Resources

Protecting Organic Seed Integrity
OSGATA Manual (www.osgata.org)

GMO Contamination Prevention,
What Does it Take
Jim Riddle, University of Minnesota
(sworoc.cfans.umn.edu/prod/groups/cfans/@pub/cfams/@swrocd/documents/article/cfans_article_390283.pdf)

Harriet Behar is a MOSES Organic Specialist. She represents MOSES in the National Organic Coalition and the National Sustainable Agriculture Coalition.

by nonresident landowners or custom operators hired by large operations to perform various activities, it has become difficult to find out exactly who is buying the seed and planting it. It is a huge burden for the non-GMO farmer to find and discuss planting protocols and other issues with whomever it is managing neighboring land.

The USDA proposed a system to provide information on planting dates, isolation distances, understanding the risk of gene flow, and other possible data and production methods to aid farmers in reaching coexistence. While this information would be useful, to date, it has been the non-GMO farmer that bears the brunt of managing buffer zones or delaying planting so their crop will not cross pollinate with GMO crops in the neighborhood. Coexistence should result in a more balanced sharing of the burden between the various agricultural sectors, with at minimum, compensation for non-GMO farmers when they must modify their planting systems, resulting in lowered yields and economic returns.

Foster collaboration between various agricultural sectors, and build a system that works for both GMO and non-GMO farmers.

Before we recommend factors that may prevent or promote broad adoption of voluntary solutions to GE contamination, we need to step back and look at how rural society works. Even when folks do not get along, they strive to be civil and respectful with each other. Their kids go to school and play basketball or softball together; they attend the same churches; they rely on neighbors to help pull a car out of a ditch in a snowstorm or help with chores when the electricity goes out. The last thing any farmer wants to do is mandate how a neighbor must farm, especially when lawsuits or fines for GE contamination, we need to step back and look at how rural society works. Even when folks do not get along, they strive to be civil and respectful with each other. Their kids go to school and play basketball or softball together; they attend the same churches; they rely on neighbors to help pull a car out of a ditch in a snowstorm or help with chores when the electricity goes out. The last thing any farmer wants to do is mandate how a neighbor must farm, especially when lawsuits or fines

For these reasons, it is important not to pit farmer against farmer when planning for coexistence. Instead, we need to look to the patent holders of the technology that causes the problems of GMO drift and makes coexistence difficult in the countryside.

Unfortunately, prevention of GMO contamination through a moratorium on further releases of GMO crops into our environment does not seem to be part of the discussion within the USDA. We continue to see more GMO crops developed to address the inherent flaws of this technology, which has created “super insects” resistant to the insecticide present in the crop, or “super weeds” resistant to the herbicides used in tandem with the GMO crops.

Even the biotechnology companies knew that resistance was going to make their “wonder crops” obsolete in a few years. The stacking of numerous insecticides in one seed to deal with resistance, as well as the proposed approval of 2,4-D herbicide-resistant corn and soybeans show that the companies and their scientists who develop and sell these GMO seeds are themselves ignoring the basic fundamentals of science and biology. The more this technology is introduced into our environment, the less effective the commonly used materials become. This leads to the use of more toxic materials over time to deal with resistant insects and weeds.
Farm bill includes support for organic, including Certification Cost Share
By Harriet Behar

After more than two years of painful and extraor-
dinary legislative maneuvers, a 5-year farm bill was signed into law on Feb. 7, 2014. While the bill does not contain much reform to large commodity payments, there are many wins for the organic and sustainable agriculture community. Your phone calls, letters or emails to Congress made a difference.

The big news is that the National Organic Cer-
tification Cost Share Program is funded at more
than double what it was in 2008-2012, allowing
more producers to apply. The maximum amounts
a producer can receive are the same; unfortu-
nately, no retroactive funding will be provided for
the 2013 crop year.

Additional policies and programs in support of
organic and sustainable farming include:
• Increased funding for competitive organic
research grants;
• Increased funding for organic data collection
and reporting, such as biweekly organic crops,
forage, vegetable, egg and dairy reports;
• Increased funding for the National Organic
Program, plus a one-time infusion of dollars
improve the NOP website, including a “real-
time” listing of certified organic operations;
• Exemption for organic producers from conven-
tional “check-off” programs;
• Funding for a variety of programs serving
beginning and socially disadvantaged farmers,
farmer markets, specialty crops, farm-to-
school, value-added agricultural production,
and renewable energy projects for agricultural
producers.

The farm bill also gives direction to the Risk
Management Agency to move quickly in providing
organic price crop insurance payment options for
a greater number of organic crops. It also provides
the NOP with additional enforcement tools to
protect organic integrity in the marketplace, with
safeguards protecting due process for producers.

On the downside, large cuts were made to con-
servation programs. The Conservation Reserve
Program took the largest cut; people with expir-
ying CRP contracts will find it more difficult to
renew for another cycle. Ten million fewer acres
than last year will be enrolled in the coming
year. This is a great loss, as this program took
many highly erodible and marginal farm land
out of production, providing wildlife habitat and
improved water quality in many regions.

The Conservation Stewardship Program was
also cut. This program has helped farmers who
are already good stewards of the land maintain
and improve what they are doing. With protection
of our soil, water and other natural resources a
foundation activity that leads to long-term produc-
tivity, these cuts are short-sighted.

SNAP, the Supplemental Nutrition Assistance
Program (“food stamps”), was cut by 1%. Although
a much smaller cut than originally proposed by
the House of Representatives, this will cut the food stamp dollars received by over
70,000 low-income households.

Needed reforms to the commodity crop payment
program were not included in the final bill, even
though they were included in both the original
Senate and House bills that went to the confer-
ence committee. Powerful interests pushed for
retention of these payments, including those
to multiple entities for the same operation, and
millions who may or may not be farming the
land. However, one unnecessary program was
eliminated: the direct payment program tied to
commodity base acres on the farm.

The final bill included an allowance for the
organic sector to propose its own “check-off”
program to be administered by the USDA.
A proposal must be submitted, then a vote put
before all stakeholders with a majority “yes” vote
before there would be an organic check-off. Many
questions will need to be settled before there could be a vote, such as: what type of research and/or
market promotion would the program fund, who
would pay into the program, how much would
each entity pay, and who would be on the govern-
ing board? In the next few years, there will be a
lot of discussion on this topic—it will be important
for all organic producers to participate and make
their voices heard.

In this new bill, crop insurance represents by far
the largest agricultural payment segment, taking
up 45% of funding. Significant reforms were not
made to this program, and taxpayers end up
funding more than 60% of the premiums and
many of the insurance company fees.

On the positive side, those accepted in this
program must show at least a minimum amount
of conservation compliance, protecting the most
vulnerable and least productive lands from being
subsidized by crop insurance. Organic producers
no longer must pay a surcharge for crop insur-
ance, and can elect to pay a higher premium in
order to insure their crop at organic prices. More
“organic price selections” will be provided for crop
insurance in 2015. If you are a long-time organic
farmer, you will be able to use your historical
yields as the base for your crop insurance cover-
age. Unfortunately, if you only have a few years
of growing the crop you want to insure, you will
be penalized by only being able to insure your
organic crop yield at 30% of the average of conven-
tional yields of that crop in your county.

The Milk Income Loss Contract (MILC) program
is no longer in effect, and no dairy supply manage-
ment policies were put in place. Instead, the new
Margin Protection Plan (MPP) provides coverage
when the margin between the average national
conventional milk price and the average national
dairy feed stuffs price is small. Dairy farmers can
choose how much of their milk production they
wish to insure. Premiums paid are adjusted to
match the margin gap selected. Projected roll-out of this new program will be no later than
Sept. 1, 2014, with more clarification forthcoming.

Vegetable, fruit and other specialty crop producers
will have access to new whole farm revenue crop
insurance. This should help growers who direct
demand their production at a higher price than
commodity prices, as well as those who have
unique production activities such as planting
successive crops in the same field. Current crop
insurance programs are difficult for these small
and mid-sized operations to access. This new
program is supposed to be more user-friendly for
those that were previously difficult to insure.

While the bill passed with bipartisan support, it
also had many nays from both sides of the aisle.
Many Democrats did not support the bill due to
the lack of commodity reforms and/or cuts to food
stamps. Many Republicans did not like the bill
due to its overall high cost, and wished to see a
much smaller bill overall. Even with this farm
bill in place, there are many implementation
and funding issues that will need careful scrutiny
over the next five years. Keep informed by visiting
these websites:
mosesorganic.org/policywork/take-action
sustainableagriculture.net
nationalorganiccoalition.org

Harriet Behar is a MOSES Organic Specialist. She
represents MOSES in the National Organic Coalition
and the National Sustainable Agriculture Coalition.

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**Strawberries... from page 1**

2. Use our research and innovative growing techniques to contribute to an increase in the number of strawberry growers in the Upper Midwest.

3. Contribute to improved nutrition among consumers by offering fresh strawberries during a non-traditional time.

**Why day-neutral strawberries?**

Traditionally, the most successful varieties for field production in our region are June-bearing types. Newer day-neutral strawberry varieties, coupled with novel production methods, may offer growers the option of a longer harvest season using environmentally responsible methods.

Day-neutral strawberry varieties produce flowers and fruit continuously when temperatures are optimal for plant growth. Recent USDA research on day-neutral strawberry varieties grown under low tunnels has resulted in increased yields of high-quality fruit when compared to open-field-grown plants, with reduced incidence of bacterial and fungal diseases, fewer weeds and reduced water use.

**Construction and Maintenance**

Day-neutral strawberry plants grow vigorously under the low-tunnel system.

The first step in creating our low-tunnel system was to construct a series of raised beds six inches high and two feet wide, allowing for 17,500 plants per acre. Dormant day-neutral cultivars were planted in white on black plastic mulch in a staggered row with drip irrigation. Using steel rods, black poly stoppers, clear plastic and twine, we constructed a low tunnel system for each of the raised beds, resembling a “covered wagon.”

Throughout the early part of the season, flowers and runners were removed from the plants. This allows the plant to establish and have leaf surface to support later fruit production. We also closely monitored strawberry plants for insects, specifically, the tarnished plant bug (TPB) and spotted wing drosophila (SWD). Using an integrated pest management approach, we routinely checked for the TPB, since it is one of the more prevalent insects to affect strawberry fruit. One of the newest pests to threaten quality strawberry fruit production is the SWD. As a precautionary measure, we placed several SWD traps near our strawberry plants. While the SWD has been identified in numerous areas in Minnesota, we did not detect any SWD females in our strawberry plots at our Morris site.

**Harvesting and Yield Data**

Harvesting traditional June-bearing strawberries in Minnesota typically begins in mid-June, and usually is completed by early July. Our day-neutral low tunnel strawberry plants began producing berries beginning the third week of July 2013, and continued until mid-October 2013.

Traditional June-bearing strawberry varieties in Minnesota have a baseline yield of 5,500 pounds per acre (lb/A). As shown below, lb/A for each of the six cultivars in the low tunnel and non-low tunnel surpassed this baseline. Data from both trial sites (WCROC and St. Paul) are included. Preliminary data from USDA low tunnel trials in Beltsville, Maryland calculated yields for day-neutral varieties varying between 8,600 lb/A to 19,000 lb/A. Yield data from the Morris site and .89 lbs. at the St. Paul site.

**Pounds per Acre**

Data also was calculated to determine the average number of lbs. per plant over the duration of the harvest season. The range of commercially acceptable lbs./plant for day-neutral cultivars is 1 to 1 1/2 lbs. Day-neutral cultivars grown under low tunnels averaged 1.45 lbs. per plant at the Morris site and .90 lbs. at the St. Paul site, while on plastic in the open field 1.02 lbs. per plant were recorded at the Morris site and .89 lbs. at the St. Paul site.

During the late summer/fall picking season at the WCROC site, we tasted a noticeably sweeter strawberry. We randomly chose berries to analyze sugar content by measuring brix levels. The average brix level was 7.6 between late July and early October in both low and non-low tunnel treatments. For comparison, we randomly took brix readings in the June-bearing variety trial between late June and early July; the average brix level was 7.7. In 2013, day-neutral cultivars were just as sweet as the June-bearing cultivars commonly grown in Minnesota.

**Projected lb/acre of each cultivar and treatment based on four replications at both trial sites.**

<table>
<thead>
<tr>
<th>Cultivar</th>
<th>Treatment</th>
<th>Morris</th>
<th>St. Paul</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albion</td>
<td>LT</td>
<td>22,365</td>
<td>14,563</td>
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<tr>
<td>Albion</td>
<td>PL</td>
<td>16,970</td>
<td>11,085</td>
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<td>Albion</td>
<td>SM</td>
<td>10,465</td>
<td>10,465</td>
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<td>Evie 2</td>
<td>LT</td>
<td>24,001</td>
<td>18,245</td>
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<tr>
<td>Evie 2</td>
<td>PL</td>
<td>22,068</td>
<td>20,981</td>
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<tr>
<td>Evie 2</td>
<td>SM</td>
<td>12,095</td>
<td>12,095</td>
</tr>
<tr>
<td>Monterey</td>
<td>LT</td>
<td>23,720</td>
<td>15,811</td>
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<tr>
<td>Monterey</td>
<td>PL</td>
<td>13,675</td>
<td>15,795</td>
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<td>Monterey</td>
<td>SM</td>
<td>7,595</td>
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<tr>
<td>Portola</td>
<td>LT</td>
<td>38,292</td>
<td>15,766</td>
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<tr>
<td>Portola</td>
<td>PL</td>
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<td>Portola</td>
<td>SM</td>
<td>15,657</td>
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<tr>
<td>San Andreas</td>
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<td>22,195</td>
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<td>San Andreas</td>
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<td>28,870</td>
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<td>PL</td>
<td>18,874</td>
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<tr>
<td>Seacape</td>
<td>SM</td>
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</tr>
</tbody>
</table>

LT = Low Tunnel, raised bed with plastic; PL = open field, raised bed with plastic; SM = straw mulch, raised beds without plastic

**Looking Ahead**

Since the hardiness of these new day-neutral cul- tivars has not been determined for Minnesota, we are growing the day-neutral varieties as annuals. We removed all plants and the low tunnel system plastic from our certified organic land to maintain the integrity of organic certification. This project is scheduled for another year of production.

For step-by-step instructions on constructing a low tunnel system for strawberry use, or for more information on the project, please visit our low tunnel strawberry blog at the UMN Commercial Fruit website, http://fruit.cfans.umn.edu/category/strawberries/low-tunnel-strawberry.

**Cold Climate Strawberry Farming**, a UMN interactive eBook designed to offer commercial strawberry growers with successful growing practices in the Upper Midwest, will be released in June 2014. This eBook offers information on innovative marketing techniques, cultivar recommendations, and video segments of particular techniques. It will be free of charge and may be accessed on any computer or mobile device. Its release will be announced on the blog, on Facebook (www.facebook.com/coldclimestrawb), and Twitter (@coldclimestrawb).

Steve Poppe (ppoppe@morris.umn.edu) and Esther Jordan (ejordan@morris.umn.edu) work for the University of Minnesota West Central Research and Outreach Center in Morris, Minn.

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USDA makes changes to crop insurance

By Harriet Behar

Crop insurance: often can be the determining factor between success or crisis on a farm. It is the main source of disaster assistance, and in these times of climatic extremes, is a tool many farmers consider important to their long-term viability.

The past year has been a busy one for the USDA Risk Management Agency (RMA). The RMA introduced new procedures and new government subsidized insurance options for all crop and livestock farmers, including organic. Many new items are based on 2014 farm bill provisions.

Continuing the mandate from the previous farm bill, the RMA has developed more “organic price selections” to enable organic farmers to purchase crop insurance based on organic prices rather than non-organic prices. Right now there are only a few organic price selections, with no coverage currently for organic forages or pasture. On the positive side, the 5% surcharge for organic producers on crop insurance policies is gone. If you are a long-time organic farmer, you can insure your crop based on your historical yields. However, if you are a new to organic, you will only be able to insure your organic crop at 65% of the average non-organic yield in your county, due to the lack of good data on organic crop yields. The organic community hopes to work with RMA to change this unfair organic yield baseline.

The crop insurer’s reliance on the organic inspection report to verify good management practices has been removed. This means that an organic producer can’t be denied an insurance payment based on an organic inspector’s field observations. As we know, the organic inspector’s visit is once per year, and what is observed one day could change the next. The RMA received pressure from organic farmer organizations to remove this.

Diversified and specialty crop growers may finally have an insurance option that can cover their multiple crops. This new product will replace the problematic nature of AGR and AGR-Lite and will cover not just the growing of the crop, but also the cost of all activities to bring it to market, such as washing and packaging. The new policy, expected to be available by 2015, should improve risk management options for the long under-served fresh fruit and vegetable producer.

For dairy farmers, the Milk Income Loss Contract (MILC) payment program is gone. An insurance-based program, the Dairy Program Margin Protection Program (DPMPP), replaces it. Farmers pay $100 to be in the program plus a premium to cover the margin of difference between the price of milk and the price of feed (both conventional). When the margin is small (and the producer is losing money), they receive insurance payments. Prices are based on the national average price of conventional milk, corn, alfalfa and the Chicago Board of Trade price of soybean meal. Farmers can insure only part of their milk production and select insurance premiums based on the margin or gap between milk and feed prices they wish to cover.

The rules state that any producer may apply to the DPMP using their production history of hundredweights of milk as basis, not the price they received for the milk. Since organic milk and feed prices follow similar highs and lows to non-organic milk and feed, this may be something that organic dairy farmers would consider. However, the complexity of the program and cost may be a strong deterrent.

A big change to crop insurance is the requirement that ties government-sponsored premium subsidies to conservation compliance practices for highly erodible land and wetlands. Producers who are not in compliance now have time to develop and implement an approved conservation plan. This protects our environment by discouraging farmers from producing crops on marginal land.

The farm bill also reduces crop insurance benefits for farmers in Iowa, Minnesota, Montana, Nebraska, North Dakota and South Dakota who plow native soil by reducing the dollars they can receive and the amount of insurable yields. Unfortunately, Dust Bowl states are not protected from loss of grasslands.

Farmers who sign up for Price Loss Coverage (a program tied to commodity crop “reference” or target prices) can buy Supplemental Coverage Option (SCO) insurance to cover the gap between a price drop and when crop insurance would kick in based on reduced yields. The Agricultural Risk Coverage program can be purchased by farmers who are not in SCO. This is a revenue-based program tied to county yields and trigger prices, similar to the old ACRE program. Both of these FSAs run insurance-based programs are complex and will involve quite a bit of paperwork to access their protections. The farm bill included funding for trainings so farmers can understand how to participate in these programs.

Beginning farmers and ranchers in operation less than five years can insure their crop to a higher yield rate than current farmers on the same land. Beginning farmers also may be eligible to receive a 10% higher premium subsidy.

Learn more at blogs.usda.gov/2014/02/04/organic-crop-insurance-is-growing-in-new-ways.

Deadline for most programs is March 15, 2014.

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Comment Now on 2,4-D-Ready GMOs

The USDA has extended the comment period to March 11 on its draft Environmental Impact Study of GMO corn and soybeans resistant to 2,4-D, a pesticide from Dow. It was the primary ingredient in Agent Orange, the defoliant used in the Vietnam War. It has been linked to numerous illnesses. Release of these GMO seeds could lead to widespread use of 2,4-D with devastating affects on nearby ecosystems. Learn more at mosesorganic.org/policy/work-take-action.

2012 Ag Census

The USDA has released preliminary data from the 2012 Census of Agriculture, which shows that the U.S. has 2.1 million farms, down 4.3 percent from the 2007 Census. The amount of land in farms continued a slow downward trend, declining from 922 million acres to 915 million. Principal farm operators are becoming older and more diverse; following the trend of previous censuses. In 2012, the average age of a principal farm operator was 58.3 years. The final report will be published in May.

Weinars on Organic Weed Management

A free webinar series on managing weeds takes place Mondays in March from 11 a.m. to 12:10 p.m. Webinar leaders include Martin Diffley, original founder of Gardens of Eagan in Minnesota; Tammy Howard, ATTRA manager for Standard Process and member of Wisconsin’s Organic Advisory Board. To register visit attendee.gotowebinar.com/regist er/9534939575864139977. For details, see www.ydae.purdue.edu/oarei/webinars.html.

Stute Heads Research at Michael Fields

Michael Fields Agricultural Institute has named Dr. Jim Stute as its new research director. He has a Ph.D. in Agronomy from the University of Wisconsin’s Organic Advisory Board. To register visit attendee.gotowebinar.com/regist er/9534939575864139977. For details, see www.ydae.purdue.edu/oarei/webinars.html.

Organic Processing School

The School for Organic Processing Entrepreneurs continues in Madison, Wis., with remote streaming. Upcoming topics include: Scaling Up Your Recipe for Commercial Processing with Mary Pat Carlson on March 18; Source Your Food Product Ingredients on March 25 and Setting Up Traceability Systems on April 1 with Prescott Bergh; and, The Inside Scoop: Working With Lawyers with Jen Jambor-Delgado on April 8. Learn more at organicprocessinginstitute.org/sopes.

Organic Farms Support More Species

A University of Oxford study in the February Journal of Applied Ecology found that organic farms support an average of 34 percent more animal, plant, and insect species than conventional farms. Scientists looked at data from the past 30 years and found that this effect remained stable over the decades and shows no sign of lowering.

MOSES Annual Report

The 2013 Annual Report highlighting work accomplished by MOSES is available at mosesorganic.org/about/annual-reports.

National Organic Grain and Feedstuffs - Bi-Weekly

| Organic Milk Prices | USDA livestoock, Poultry & Grain Market News | Jason Karwol | Phone: 515-284-4460 | Email: jason.karwol@usda.gov | www.ams.usda.gov/PSM/MarketNewsPage |

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Certified Organic Potato Seed

- Certified by the State of Wisconsin Seed Potato Program
- Organic Certified by Midwest Organic Services Association (MOBS)
- Varieties selected for Organic Production, backed with a decade of growing experience
- Pick up at our farm and eliminate long distance trucking

For varieties, pricing and order information see: organicpotatoseed.com or call 608-212-7816

Vermont Valley Community Farm LLC
4628 County Road FF
Blue Mounds, WI 53177

Grow with us!
**For Sale:** 3 pt hitch 2-man operated seeder or pumpkin planter, 3300.00. Glenbeckliah, WI. Don Schroeder. 920-526-3510.

**For Sale:** Buffalo 6300 cultivator, 4-38. Buffalo 8000 planter, 4-38 on 6-30 tool bar. Buffalo 3000 monitor. Scout II guidance system, John Deere 7200 planter, 4-38.Kinze bean meters with both. All in excellent condition. 712-744-3241, Harlan, IA.

**For Sale:** Install ProfiOrganics Flow-Shield® on your cultivator. 510 each — 2 used per row. For more information on Flow-Shields® visit profiorganics.com or call 606-608-0810.

**For Sale:** 1500 gallon Delaval Bulk Tank, Swing 8 Parlor 3”Line, Ayrshire and Holstein heifers, due in May. Wausau 715-449-2239.

**For Sale:** Hydroponic System: Aerofofo 60, Six — 6ft grow chambers, reservoir, TNC pump with filters, injection manifold, support structure, 3’ grow cups, clay pebbles, air/bubble sticks, tubing and pump timer; Reflector lamp, 1000 watt 552 bulb and ballast; Waterproof TDS meter with calibration solutions; CO2 gauges. $1,300 cash. Wykoff, MN. Kellydaviston001@gmail.com or 507-272-0009.

**For Sale:** M & W 1930 MT, 30 foot rotary hoe, folding gauge wheels, excellent in high residue. Hydraulic cylinder, 10 foot lines, with precision ad-justable stop, used on seed/fertilizer broadcaster. Transport light kit, 45 foot cables, magnetic mount. 920-887-7941.

**For Sale:** 60 foot Kovar long spring tooth harrow, always shelled, $4,500. 815-499-4450.


**For Sale:** 20 certified organic bred heifers/cows due March/April. Jersey and Jersey cross from a 20 year seasonal herd. Johnes tested every year. These are hardy animals used to little or no grain and lots of managed pasture. 5-6% butterfat, 3.5-4.0% protein. Low SCC. New Holstein, WI. 920-894-4201.

**For Sale:** MOSA Certified Organic/Grazing Dairy Cows, 14 Bred Heifers, Yearlings and 5, 2013 heifer calves. 14+ months. Harvested organically and consistently before 100. Loganville, Wd. 608-415-1789 or pkso-gen@live.com.

**For Sale:** Certified organic hay, 3 x 3 x 8 medium square bales, 1st and 2nd cutting, grown in NW Minnesota. Tests are available. 218-686-2946.

**For Sale:** Organic hay, first, second and third crop, 2 man large bales, also oats and rye straw. Delivery available. Nopac Farms, Caledonia, MN, 507-725-5281, snopac@snopac.com.

**For Sale:** Certified organic round wheat straw bales, $36.00 each plus delivery from Randolph, WI in semi loads, 920-960-6895.


**For Sale:** Tested MOSA organic large dry square Hay for sale RFD 162.6-1-3: strapped 121.5 RFD 69 large bales; Oat straw 545/bale. Can help with freight. Brodhed, WI. Bill 608-436-4901 or lars99@aol.com.

**For Sale:** NICS certified 1st, 2nd, and 3rd alfalfa mixed hay 70/30 blend in 5x4 round bales. Quality tested: Oats, barley and rye straw in 1000# rounds, very clean. All bales stored inside and guaranteed to be what I say. Delivery available in 14 bale loads. Paul 608-574-2370, Ridgeway, WI.

**For Sale:** Certified organic alfalfa 3x3x8 bales. Also certified organic oats hay bales, stored inside. Also certified organic oats and barley. Strasburg, ND. 710-338-7644.

**FORAGES**

**For Sale:** One semi load certified organic corn/ sunflower seed mix, 3/4 corn, 1/4 sunflower seed by volume. Good price. Central Minnesota. 320-251-4274.

**For Sale:** Certified organic, food grade, fanning mill cleaned, soft red winter wheat, 3,500 + bushels plus delivery in semi loads from Waupun WI. 920-960-6895.

**For Sale:** NICS certified com, soybeans, oats, and barley. I can grind if needed. Also have roasted beans for sale. Paul Bickford 608-574-2370, Ridge- way, WI.

**For Sale:** Organic shelled corn. Approx. 2300 bu. Located in Cashtron, WI. Tim 920-948-8216.

**OPPORTUNITIES**

**Opportunity:** The Inn at Little Washington, 67 miles west of Washington DC, is seeking a FARM MANAGER for our small half-acre non-certified but organically managed and diverse market garden. The garden provides vegetables and fruit to the restaurant and is located on property. More information: www.TheInnAtLittleWashington.com/ job-details-Organic-Farm-Manager.

**Opportunity:** Field leader - vegetable production. Works well with others. Timely completion of work. Attention to detail. Knowledge of vegetable culture, harvest, packing. Experience with tractor operation and cultivation a plus. Columbus, Wl. Call Tim at 920-948-8216.


**Opportunity:** Partnership opportunity with profi-sharing. Current operation includes organic high tunnel production of tomatoes/peppers and asparagus production area. Ten-twenty acres available for organic grain production/pasture. Value-added products produced with planned expansion. Send CV/letter of interest. Lisa, 715-222-8267 or warmfieldsfarm@gmail.com.

**LIVESTOCK**

**For Rent:** 6 acre farm for rent with additional acreage possible and purchase option. Includes CSA, equipment, and consulting. Good access to Madison, Milwaukee, etc. Contact, fss.gordon@gmail.com. Or, complete this form and mail with your ad to: MOSES, PO Box 339, Spring Valley, WI 54767.

**FARM/LAND**

**For Rent:** 6 acre farm for rent with additional acreage possible and purchase option. Includes CSA, equipment, and consulting. Good access to Madison, Milwaukee, etc. Contact, fss.gordon@gmail.com.

**For Sale:** 33.6 acres, 18.3 tillable certified organic. Land is beautiful with variety including tillable, woods, a marsh, a natural pond and wild plums. Near Rush City, MN which is 55 minutes north of St. Paul, MN, $89,000. Contact James, jdsdababi@gmail.com.

**For Rent:** Dairy barn and land for rent. Organically certified farm with grazing acreage available. Modern barn, dairy equipment and other outbuildings. Call 920-387-2876 or 920-539-2876. SE Wisconsin.

**GRAINS**

**For Sale:** Certified organic large dry square hay for sale RFD 162.6-1-3: strapped 121.5 RFD 69 large bales; Oat straw 545/bale. Can help with freight. Brodhed, WI. Bill 608-436-4901 or lars99@aol.com.

**For Sale:** Surplus insulated glass – perfect for greenhouses, homes, sunrooms or ag buildings. Also hardwood butcher block 30”X100”X1’-1/8 for sustainable countertops or bar tops. Oak, ash, cherry, maple, mahogany at $129. www.kissourglass.com or 715-639-3762 before 9 p.m. Joe Bacon. Arctic Glass since 1979!

**For Sale:** ORGANIC FISH FERTILIZER 15-1-1, 100% dry water soluble, 5-7 times more nutritious than liquid fish. Will not clog drip irrigation. 1 lb or 55 lb packaging, can be shipped UPS. Frommelt Ag Service, Greeley, IA, 563-920-3674.

**For Sale:** Organic onion plants, Copra, Sedona, Redwing, Candy, Gladstone. Other varieties available upon request. $6 per 100, certified by MOSA. Glen, 563-379-3951 or giftfish@gmail.com.

**For Sale:** Handcrafted woolen shrugs for green burial or in place of casket. Felted from rare breed Navajo-Churro wool – natural colors. Photos available. Sustainable Agriculture project. Julie, 715-425-9319 or juliekeneck@aol.com.

**For Sale:** Opportunity: Partnerships with nutrition education professionals from around the world from extension, public health, government, academia, industry, and community settings. SNEB’s conference provides the perfect environment to expand your network and the opportunity to learn about new research, creative ideas, and practical techniques applicable in many settings. The 2014 event focuses on Nutrition Education Impact: Local to Global and held in Milwaukee, Wl. June 28 – July 1. Visit http://www.sneb.org/events/conference. Or contact Rachel, 317-326-4627 or ridaeger@sneb.org. If you are not a SNEB member, there is a great option to attend the conference and begin receiving member benefits at a discount.

**PAYMENT INFORMATION:**

Form: I'm enclosing a check made out to MOSES.

Payment: Please charge $ ______________________

Card #: ________________

Expiration Date: mm/dd/yy

Place my ad in: [ ] January — February [ ] July — August

[ ] March — April [ ] September — October

[ ] May — June [ ] November — December

classifiedad@museorganic.org | 715-778-5775
Save or propagate the old family apple tree by learning how to graft it onto risk on your farm. Direct any questions to St. Croix County UW-Extension at and what you can do on your farm to maximize food safety and minimize growers and food producers, large and small. Plan to attend this day long Mar. 15  |  10 a.m.-4 p.m.  |  $30  |  Baldwin, Wis. Management program that builds their soil while raising top-quality fruits and vegetables. Contact Minnesota Fruit & Vegetable Growers Association (MFVGA) for more information or to register at mfvga@msn.com. webinar: Adding Value to Farm Products Mar. 10  |  6 p.m.  |  Madison, Wis. Employment laws, liability potential, state/federal regulations, and tax factors all change when a farm begins to process product. Farmers relying on cottage food laws should make sure to attend. Register and learn more at www.farmcommons.org/webinars. Conservation Cropping Seminar Mar. 13  |  10 a.m.  |  Madison, Wis. This one-day session will offer information and education for farmers interested in learning more about soil health improvements, cover crop success, and wise nutrient management. To register and find more information go to www.csccwd.com/Conservation%20Cropping%20Seminars/ . Wisconsin Cover Crops Conference: Your Farm, Your Options Mar. 13-14  |  Wiconsin/Dells, Wis. Opportunities to learn about successful practices related to cover crop management, partici- date in networking and discussions. Speakers all have broad practical and research cover crop experience. michaelfields.org/wp-content/uploads/2014/01/cover-crops-conference-official-program.pdf 10th Annual Good Food Festival & Conference Mar. 13-15  |  Chicago, Ill. Highlights include the Good Food Financing & Innovation Conference on Thursday, Good Food Trade Show, Food Policy Conference and School Food Conference on Friday, and the Good Food Festival and Workshops on Thursday, Good Food Trade Show, Food Policy Conference and School Food Conference on Friday, and the Good Food Festival and Workshops on Thursday, Good Food Trade Show, Food Policy Conference and School Food Conference on Friday, and the Good Food Festival and Workshops on Thursday, Good Food Trade Show, Food Policy Conference and School Food Conference on Friday, and the Good Food Festival and Workshops on Thursday, Good Food Trade Show, Food Policy Conference and School Food Conference on Friday, and the Good Food Festival and Workshops on Thursday, Good Food Trade Show, Food Policy Conference and School Food Conference on Friday, and the Good Food Festival and Workshops on Thursday, Good Food Trade Show, Food Policy Conference and School Food Conference on Friday, and the Good 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with: U.S. organic}\]\[www.globalorganictrade.com\] \[\text{real time map tool}\] \[\text{import tools}\] \[\text{export tools}\] \[\text{market data}\] \[\text{calend ared events}\] \[\text{see more details on the Community Calendar at mosesorganic.org}]}