By Steve Zwinger and Elizabeth Dyck

High consumer demand makes ancient wheats hot commodities

The ancient wheats—einkorn, emmer, and spelt—are “trendy” right now thanks to demand by increasing numbers of consumers. There is something intriguing about eating grains that were domesticated in ancient times—at least 10,000 years ago in the case of einkorn and emmer, while the more “modern” spelt has been part of the human diet for thousands of years. For a number of reasons, the renewed interest in these grains may be not just a passing fad, but a lasting part of both healthy diets and sustainable cropping systems.

Research shows that these crops, when eaten as whole grain or whole grain flour can deliver significant nutritional benefits.

All three ancient wheats tend to be higher in mineral content and protein than many common wheat varieties. The yellow-gold color of einkorn kernels and flour is due to high concentrations of lutein, a carotenoid that reduces risk of “aging” diseases, such as high blood pressure and macular degeneration. Emmer has a lower glycemic index than common wheat and may be of special value for diabetics. Some consumers also report that these grains are more easily digested than common wheat.

Researchers have documented a lower glycemic index than common wheat varieties. The yellow-gold color of einkorn kernels and flour is due to high concentrations of lutein, a carotenoid that reduces risk of “aging” diseases, such as high blood pressure and macular degeneration. Emmer has a lower glycemic index than common wheat and may be special value for diabetics. Some consumers also report that these grains are more easily digested than common wheat.

Sunn hemp gains popularity as stress-tolerant cover crop

By Audrey Alwell

Sunn hemp is a fast-growing, nitrogen-fixing soil builder that Midwest growers are just starting to appreciate as a cover crop. Like other cover crops, sunn hemp (Crotalaria juncea L) suppresses weeds, reduces erosion, and improves soil tilth. It’s this legume’s ability to thrive in poor soil conditions and withstand drought, heat and wind while producing tons of biomass that is getting grower’s attention.

Sunn hemp is a warm-season annual that grows upright and tall, reaching a height of 4 to 6 feet in 60 days. It has simple, oblong-shaped leaves that are 2 to 5 inches long. Branching occurs about 2 feet from the ground or higher if planted in a thick stand as a green manure crop. The plant has a strong taproot and well-developed lateral roots with branched and lobed nodules. Research has shown it suppresses parasitic nematode populations in the soil.

To use as a green manure, the Natural Resources Conservation Service (NRCS) recommends mowing and plowing it under at bud or early bloom stage (around 60 days) when the nitrogen content is high and decomposition will be rapid. If sunn hemp is left to grow longer it becomes fibrous and difficult to turn under.

crop also can be rolled down to create an effective ground cover. While reported totals vary, sunn hemp can produce as much as 6,000 pounds of biomass and 145 pounds of actual nitrogen per acre in 60 days.

Sunn hemp has been used to improve soil in tropical regions for centuries. In countries such as India and Bangladesh, farmers grow sunn hemp for livestock forage—the leaves are 30% protein and fiber, since the plant has a fibrous stalk when allowed to mature.

Group finds advantages in working together to serve market

By Jody Padgham

There’s a growing market for grass-fed, locally raised poultry, but access to processing and the high cost of quality feed create challenges for small-scale poultry operations. The farmers of Pasture Perfect Poultry (PPP), an LLC operating near the southern shore of Lake Superior outside of Ashland, Wis., have found a sustainable way to overcome these challenges by working collectively.

“There is lots to be gained in working together,” claimed founding member Chris Duke. “Each member has skills that they bring to the group that helps to make it strong.”

Pasture Perfect Poultry was created in 2007 by three neighboring farmers as a solution to a lack of poultry processing facilities. The farmers, Chris and his family of Great Oak Farm near Mason, Jay Cablik and Carrie Linder of Vranes Farm near Benoit, and Jason and Melissa Fischbach of Wild Hollow Farm outside of Sanborn, (all about 15 miles apart) were each missing small numbers of pastured poultry and selling to neighbors and friends.

“We all came to the same crux,” Chris explained. “We could sell every bird we raised, but we struggled with access to able and consistent processing.”

Each had explored a diversity of processing options, including driving three hours to an inspected plant, but found none were sustainable. Efficient poultry processing equipment is available, but not cost-effective for small-scale producers. Chris and Jason started talking, and quickly realized that there was more to be gained by collaborating than competing. Jay was soon brought into the conversation, and the three farmers began exploring how they could work together to overcome obstacles.

Nine years later, Pasture Perfect Poultry is a thriving group with five farm members—Brian Clements of Northcroft Farm in Moqush and Bob Rice of Muskogge Ridge Farm near Iron River recently joined the group. All of the operations are diversified, with some full-time and others part-time farmers. PPP provides processing, joint purchasing and marketing to its members. PPP will sell over 3,000 pastured broilers and 250 turkeys this year to customers throughout the region.

Chris said the group’s goals from the beginning have been to enable individual farmers to stay in production, make enough money for poultry to be worthwhile and sustainable, and stay friends. Numerous long discussions and a well-crafted operating agreement, based on a model created by Jason, (who is the area’s Agricultural Extension Agent), have been key.

“It seemed like a lot of work at the time. After all, we’re just friends, working together,” Chris remembered. “But now I’m really grateful. The operating agreement provides the organizational framework.”

The operating agreement describes how new farmers can buy into the group, and how a farm can leave. Production practices are detailed, and the financial end of things is laid out. The agreement is revisited every year, and revised if needed. Annual meetings, held each fall, are used to discuss the year’s outcomes and hash through any issues.

Solving the Processing Dilemma

The group’s first joint activity was to solve the processing dilemma. After doing research, the group decided to set up a mobile processing plant that the farmers could take from farm to farm, and agreed to each contribute labor to run the plant. While able to utilize some equipment Chris already had, they decided to buy a really nice, thermostatically controlled rotary scalder with a timer from PoultryMan equipment in Pennsylvania for over $3,200.

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To Poultry Processing on page 8
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Executive Director’s Desk

Spring is here and it’s hard not to get excited when the sun is warm, there’s green grass and everything is springing to life with new growth. The MOSES staff is busy planning field days and our summer activities—we’ll have them up on our field day webpage soon. Find Organic Field Days at mosesorganic.org under the Events tab. We’ve also listed our summer field days on page 9 in this issue. This year many of our field days feature cover crops; cover crops have gone from organic to mainstream in just a few years. Every agricultural paper I read has something on cover crops.

Greg and Mary Reynolds of River Bend Farm, the 2015 MOSES Organic Farmers of the Year, are hosting a field day on Sept. 15. They grow a diversity of fresh market vegetables and have extensive cover crops to build soil health. Greg has been saving and selecting seed that work well on his farm. You can see Greg’s talk from the 2015 MOSES Organic Farming Conference on our website conference page.

In addition to our own field days, we are proud to sponsor Practical Farmers of Iowa’s (PFI) field day program featuring over 50 events this summer. The PFI field day schedule comes out later in May—watch for updates on our online community calendar (also under the Events tab). That’s where you can find many other summer trainings, field days and workshop to help farmers learn more about successfully using organic and sustainable farming practices.

A wide range of topics are covered in this issue—everything from growing ancient wheat to using fermented grape extract to de-worm lambs. (They used organic Pinot Noir) Don’t miss the story on the poultry farmers who found an interesting way to overcome issues with processing and marketing. The “Inside Organics” column on the next page also is worth your attention. Once again, Harriet Behar dives into a topic that many of us might not be aware of, and makes the case for fixing it.

After reading the cover story on sunn hemp, I’m excited to try it as a summer cover crop on my farm. It grows rapidly and is stress tolerant—both great features for summer cover crops. A group of us in the MOSES office are going to buy seed together to share and compare our results growing it.

Sharing is what MOSES is all about—just about every resource we’ve created for farmers is available free on our website to read, download, and share. There’s so much knowledge packed into that website, and more people than ever are accessing it. I hope you’ve found help there, too, or through our Organic Answer Line (715-778-5775). MOSES exists to help you farm. Browse our website 24/7 or call us weekdays to get answers to your farming and certification questions.

Wishing you all a productive and safe farming season.

— Faye Jones, MOSES Executive Director

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Let’s get serious about taking ingredients off §205.606

By Harriet Behar

While most organic producers are aware of the National Organic Program’s National List of prohibited natural and approved synthetic substances, many may not be aware of the last section 205.606. This section allows agricultural ingredients that are not organic to be included in “organic” labeled products (usually 55 percent or more of organic agricultural ingredients) even at any amount if “commercially available” organic ingredients cannot be found. The National Organic Standards Board (NOSB) must place these “not commercially available as organic” agricultural products on the National List.

Organic certification agencies or food processors cannot determine non-commercially available status on their own. Even if the agricultural ingredient is on §205.606, organic processors are supposed to annually prove to their certification agencies that they are searching for the ingredient in an organic form. Since these ingredients are on the National List for five years until they hit the sunset review date, it is important that certifiers continue to require this search in case an organic form becomes available during that five-year period.

If a food manufacturer wants to use a non-organic agricultural ingredient that is not on §205.606—even if it is less than 5 percent of the product—the finished product will move down the organic labeling hierarchy, and the product would be in the “made with organic” category. When the organic regulation was implemented in 2002, there were quite a few ingredients that were considered not commercially available as organic. Hops was on this list for 10 years, and organic beer can be produced with non-organic hops, using this allowance for non-organic ingredients. Hops is no longer on the list, and organic beer now contains this important ingredient in an organic form.

Organic production worldwide has expanded to the point that just about anything that can be grown or produced non-organically, could be produced organically. As the number and toxicity of pesticides, herbicides and fungicides used on non-organic crops increase, it becomes more important that this list of non-organic ingredients allowed in organic foods shrink at a much more rapid pace than what we are currently seeing.

Consumers expect their purchases to support the human and environmental health benefits of organic farming, and when we allow these non-organic ingredients in organically labeled foods, organic consumers are not getting what they assume they are paying for. In addition, organic farmers are not reaping the benefits of selling more raw organic agricultural products to the marketplace. The National Organic Program must implement systems that will result in more aggressive development of organic equivalents for the non-organic ingredients on §205.606.

Eighteen of the items on §205.606 are colors derived from agricultural products, items such as elderberry juice color or pumpkin juice color. Other items include celery powder, chipotle chile peppers, and whey protein concentrate.

It has been said that listing an item on §205.606 is an advertisement to manufacturers that there is a market for an organic version of this ingredient, but this is somewhat naïve. Buyers, who are now allowed to purchase and use the lower-priced non-organic ingredients, need to do more to stimulate the production of these ingredients as organic—more than just “being ready to buy them” if and when they are produced. In the manufacturing world, most processors will not take the chance on making a new product without having a clear volume price to be paid and a solid buyer contracting to purchase this ingredient. Are there no organic growers and processors of chipotle chile peppers? There is organic celery, what is the barrier to producing organic celery powder? I know many people growing organic elderberries; why aren’t the buyers of the elderberry juice color working with the color manufacturers to source organic elderberries?

The NOSB has reviewed and clarified the protocols for farmers to meet both the letter and spirit of the law when they use non-organic seed in organic production under the “commercial availability” exemption. The same clarification and consistency of implementation has not been done for materials used in processing, which are also subject to a “commercial availability” requirement. It is time to provide these protocols, to petitioners for new items to add to the §205.606 list as well as items up for renewal under the sunset review process.

All barriers to the production of an organic alternative must be comprehensively reviewed by the NOSB, beyond just making a few phone calls and not finding the product available. Only after it is clearly shown that the barriers to commercial availability are insurmountable should the NOSB consider the ingredient to be allowed on §205.606 as not being commercially available.

Agricultural ingredients are subject to many different types of production and manufacture norms. There are minimum production runs in order for a manufacturer to consider the production of an organic equivalent, making it difficult to source small amounts. However, if handlers worked with others—even their competitors—to consolidate orders to meet the minimum run requirements, it may become possible to produce that same ingredient organically, making it commercially available.

Another roadblock might be the need to contract for agricultural production of organic crops necessary for manufacturing a product. Unless growers know there is a market for a particular crop, they will probably not grow it. A contract with a buyer can help overcome that barrier. A consistent checklist should be developed to help the NOSB determine not only if the ingredients on the National List are available as organic, but also identify the stumbling blocks to producing it organically.

See the box for examples of questions that should be answered by all new petitioners and the NOSB when reviewing both new and sunset items for §205.606. Ingredients listed on §205.606 should not only be commercially available in the marketplace in an organic form, but also have barriers to its production that are difficult—impossible to overcome.

Harriet Behar is the MOSES Organic Specialist who represents MOSES on the National Organic Coalition and National Sustainable Agriculture Coalition.

What are the barriers to producing this ingredient in an organic form?

1. Is there insufficient raw organic agricultural production within the necessary proximity to the manufacturing facility? Shipping costs are not to be part of the consideration.

2. What proximity constraints are in place for either a manufactured or raw agricultural commodity in organic form? These may include political climate (war zone) of the area where the agricultural production occurs or the location of the manufacturing facility.

3. Are there other manufacturing facilities that may have organic agricultural raw ingredients production nearby, or could be enticed to produce this ingredient in an organic form?

4. If raw agricultural production is required in a specific climate or soil type where there currently is no organic production and prospects for organic production are difficult, has production in other areas of the world been researched and work begun to develop new sources of organic crop production of the source ingredients for this product?

5. If there is only non-organic production near a manufacturing facility, what are the barriers to having these producers transition some or all of their production to organic?

6. Has the petitioner or users of this §205.606 ingredient worked with both the manufacturing facilities and pools of growers in the area to develop a supply of raw organic crops to produce this ingredient?

7. Is the demand for this ingredient across the organic industry sufficient to meet the minimum manufacturing production run?

8. Have all possible manufacturers of this ingredient been researched to determine their minimum production run, and if not when someone else can make the ingredient?

9. Can the ingredient be manufactured from not only raw agricultural ingredients, but possibly a secondary manufactured ingredient, such as beet color made not from raw organic beets, but also from a preprocessed beet juice or beet powder that could be obtained in an organic form? Another example would be instant nonfat dry milk powder made not just from liquid skim milk, but from organic nonfat dry milk powder.

10. Is the process under which this product is manufactured patented, and if so, is the manufacturer willing to produce an organic equivalent?

11. If the ingredient is of limited quantity due to manufacturing constraints other than lack of availability of raw organic crops, what are these constraints?

12. If there is an exclusive-use agreement with select buyers that effectively removes access to an organic or §205.606 ingredient by their competitors, causing them to request a different ingredient to be put on §205.606 as a replacement? Is this market constraint agreement transparent and considered an acceptable reason for inclusion on §205.606 by the NOSB?

13. If this §205.606 ingredient is a fraction of another agricultural ingredient, such as wheat germ from wheat, has the availability of this organic fraction been requested? Have the manufacturers of the whole agricultural product been approached to see if they can produce the required organic sub-ingredient?

14. If the non-organic ingredient is typically a crop that is grown mostly or wholly on contract, and may be a perennial, such as hops, has the petitioner explained to the satisfaction of the NOSB, why pre-contracting with organic producers for the ingredient is impossible or extremely difficult?

Depending on the ingredient, there may be other barriers to organic production that are not listed above, and the petitioner, as well as the NOSB should be researching these barriers and deciding if they are sufficiently difficult that these non-organic ingredients must be put on the National List.
Manage seasonal cash shortages with farm operating loan

By Paul Dietmann and Ron Bula

Most farm operations encounter months in which the money coming in from sales of milk, livestock products or other products is not quite enough to cover all of the bills. Hopefully, the farm’s checking account balance is enough to carry it through until cash flow turns positive again. But what if the checking account runs dry? What will the farm family do to get by?

Often, the first move when cash runs short is to slash family living costs such as health insurance. Next, decisions are made about which bills absolutely must be paid and which can be pushed off for a month or two. Some farms may opt to use vendor financing programs at 7-10% interest rates, or pay bills with credit cards that accrue interest at 18% or more. We once worked with a farm family that dealt with negative cash flow by taking a loan with a household finance company at an interest rate in excess of 30%! Any of these strategies can potentially damage a farmer’s credit rating and make it more difficult to operate in the future.

There is a better way to deal with periodic cash flow shortages but it requires some planning ahead. If you wait until you run short of cash, it’s likely too late. The best way to prepare for seasonal cash shortages is to establish an operating loan for the farm.

An operating loan is essentially a short-term reserve fund held by a lender that is available for the farm to use when cash flow is tight. Interest rates are typically less than vendor financing or credit cards. Interest charges only accrue when funds from the line-of-credit are being used, and stop accruing when the funds are paid back. If the operating loan is never used, it generally won’t cost you anything to have it available just in case you might need it. Once the operating loan has been established, funds can be accessed quickly with an electronic transfer to the farm’s checking account balance.

To establish an operating loan, you first must decide the maximum amount of operating credit the farm might need to have available. The best way to make this decision is with a month-by-month cash flow projection that covers at least one full year. Look for the biggest monthly deficit you might encounter during the year. Your line-of-credit should cover that amount, plus a bit more.

The month-by-month projection should start with the amount of cash on-hand on the first of the month. To that amount, add all expected income each month (including non-farm income) and subtract all cash expenses being paid out each month. The monthly cash outflow should include all operating expenses, scheduled principal and interest payments on loans, and family living expenses. The bottom line will be a prediction of that month’s ending cash balance and the beginning cash balance for the following month.

Tip: Badgerland Financial offers a fillable spreadsheet to help you project your month-by-month cash flow. Go to badgerlandfinancial.com/en/Pages/Resources.aspx and select “Simple Cash Flow Projection Worksheet” under the fourth bullet.

Going through a month-by-month cash flow projection is a very valuable planning exercise for any farm of any size. After reviewing the projection, you might decide to make changes in your farm enterprises that will smooth out the farm’s cash flow. Maybe you’ll decide to build up the farm’s working capital reserves during good months to reduce the need for a line-of-credit. Perhaps you’ll choose to work off-farm at certain times of the year to supplement farm cash flow.

Applying for an operating loan is similar to applying for any other type of farm loan. Your lender will need a recent, detailed balance sheet that lists all of your farm’s assets and liabilities. He or she will also need several years of tax returns and will want a copy of your month-by-month cash flow projection. The underwriting process will include a check of your credit bureau report.

The first time you take an operating loan, the lender will likely ask for collateral to secure the loan in the event that you are not able to pay it back. The collateral might be a security interest in crops or livestock, machinery, or other assets. Because an operating loan is only intended to be used for short-term cash flow needs, it typically needs to be completely paid off within one year.

A rise in interest rates is another potential risk with operating loans. Often, an operating loan will have a variable interest rate, which means the rate can possibly change each month. Some lenders offer operating loans that are tied to an index such as the prime lending rate or the London Interbank Offer Rate (Libor), which can reduce the risk associated with a potential interest rate increase.

There are many tools that farmers can use to accomplish tasks on the farm. Consider an operating loan to be a helpful financial tool to include in your toolbox.

Paul Dietmann is the Emerging Markets Specialist and Ron Bula is an agriculture lender at Badgerland Financial, a member-owned Farm Credit System institution in southern Wisconsin.
"My neighbor is certified organic by a different agency than I am. He uses a blended fertilizer product on his certified organic land. Can I use the same fertilizer on my organic land?"

Answer by Harriet Behar

Since the materials you use are part of your specific organic system plan, you must verify with your own agency if it has reviewed and approved this product before you apply it to organic land or crops. However, you will need to perform some cleaning and refurbishment activities and document these before you may use it on organic land.

Most certifiers recommend a clear water rinse first. Completely fill the tank and spray it until empty on non-organic land. Second, fill the tank again with diluted household ammonia, such as one quart of ammonia per 125 gallons. Run this through the sprayer again on non-organic land. Perform another clear water rinse as above. If you continue to smell the residues of the prohibited chemicals, do another ammonia and clear water rinse again. Poly tanks are porous so you may need to repeat this procedure a few times.

Replace all rubber parts including hoses, washers, and nozzles with new ones, as these are very difficult to clean completely.

Many certifiers require that once you have converted this piece of equipment from non-organic to organic production, you can no longer use it for spraying prohibited materials. In other words, if you are sharing this piece of equipment with a non-organic farmer, or you manage split production on your own farm, you may need to dedicate this sprayer, once cleaned, to organic and not go back and forth between organic and non-organic use, even if you perform this cleaning activity each time. Check with your certification agency on its policy for sprayer use to see if it mandates dedication to organic.
Researchers in the U.S. first looked at sunn hemp for production here in the 1930s, but abandoned it when they found the plant won’t set seed above 28 degrees N latitude—only Hawaii, the Florida peninsula, and southern Texas are below that latitude. Today’s Midwest farmers find sunn hemp’s inability to form seed appealing—it’s non-invasive and easy to control in the field.

In the early 1980s, the NRCS and the University of Hawaii collaborated on a sunn hemp cultivar called “Tropic Sun.” Seed from the Tropic Sun cultivar can be produced consistently in the U.S. only in Hawaii. Molokai Seed Company, owned and operated by Bradley Sakamoto, is a 35-acre farm in Hawaii that has been growing Tropic Sun organically since 2011. The farm was certified organic in 2014. Sakamoto said Tropic Sun is the only sunn hemp cultivar that has research to prove it’s nontoxic to livestock.

“Other species of Crotalaria contain poisonous alkaloids and, under certain conditions, can prove it’s nontoxic to livestock,” said Puzon. “It’s generally sandy soil around the latitude. Today’s Midwest farmers find sunn hemp’s inability to form seed appealing—it’s non-GMO and non-GMO sunn hemp seed out of Asia and sells it under the brand name Tillage Sunn™ through a system of distributors nationally. Tillage Sunn™ also offers sunn hemp as part of its TillageMax™ mix with sorghum sudangrass and Tillage Radish™.

Several members of Practical Farmers of Iowa (PFI) experimented with sunn hemp both by itself and as part of diverse cover crop mixes in 2013 and 2014. They sourced non-organic seed from Green Cover Seed in Bladen, Neb., which sells sunn hemp sourced from South Africa. PFI released a four-page fact sheet in March detailing the farmers’ experiences with “quick turnaround cover crops.”(See bit.ly/QuickCovers.) In general, the plant germinated well and provided good biomass and nitrogen.

Rick Hartmann of Small Potatoes Farm near Minburn, Iowa participated in the “quick turn around” project. He compared sunn hemp with several other cover crops on his vegetable farm and said he liked it.

“He is a good summer cover crop and one of the few to fix nitrogen,” Hartmann said. He recommended it for vegetable growers.

Jon Bakehouse, of Maple Edge Farms near Hastings, Iowa, planted sunn hemp on his own as part of an eight-species cover crop mix after harvesting rye in early July 2013. Rather than turning it under in the fall, he left it in the field over the winter.

“When I turned it under in the spring, the rye grew up through the stalks,” Bakehouse said. “It grew well in our mix and I really liked the way the stalks stood over winter,” Bakehouse said. He said they did have some trouble with the stalks wrapping around the closing wheels when directly planting beans into the stubble, but nothing that would prevent him from planting it again. He noted that it’s definitely a summer cover crop.

“It needs some good growing days, and is expensive, so we don’t usually include it in our fall-planted covers,” he added. Sunn hemp seed can run from $2 to $5 a pound, depending on the quantity ordered, making it cheaper than alfalfa or clover, but more expensive than other legume cover crops.

**Planting, Growing Sunn Hemp**

Sunn hemp grows best on well-drained soils with a pH from 5 to 7.5. The NRCS recommends planting it in early June when the soil is at least 65 degrees or up to eight weeks before the first fall frost. The seed requires a cowpea-type inoculant to ensure effective nodulation, as some soils may not contain the correct Bradyrhizobium strain.

The NRCS recommends a broadcast rate of 40 to 60 pounds per acre, using the higher seeding rates when the crop will be turned under in 30 to 45 days or when weed pressure is expected to be severe. Cover Crop Solutions, the source for Tillage Sunn, recommends drilling from ¼ to 1 inch deep for good seed-to-soil contact. The recommended seeding rate with drilling is 15 pounds per acre.

Audrey Avel is the Communications Director for MOSES and Managing Editor of the Organic Broadcaster.

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**Sunn Hemp Resources**

**Tropic Sun** *(origin Hawaii)*
Molokai Seed Company
www.molokaiseedcompany.com
808-658-9979
Certified organic seed

**Tillage Sunn** *(origin Asia)*
Cover Crop Solutions
www.covercropsolutions.com
800-767-9441
Supplies Tillage Sunn and TillageMax mix. Site includes fact sheet about using sunn hemp as a cover crop.

**Sunn hemp** *(origin South Africa)*
Green Cover Seed
www.greencoverseed.com | 402-469-6784

**Additional Information:**
Natural Resources Conservation Service (USDA-NRCS)
www.nrcs.usda.gov/FP/88C
Sunn hemp Plant Guide with facts on history and management

While Molokai Seed’s Tropic Sun is the only certified organic sunn hemp seed available in the U.S., other seed sources are available. Cover Crop Solutions out of Pennsylvania sources untreated non-GMO sunn hemp seed out of Asia and sells it under the brand name Tillage Sunn™ through a system of distributors nationally. Tillage Sunn™ is another line of Crotalaria juncea. Cover Crop Solutions also offers sunn hemp as part of its TillageMax™ mix with sorghum sudangrass and Tillage Radish™.

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*“I used SEA-90 Natural fertilizer on my corn, soybeans and pasture during a drought and had great results. The plants showed pestres root growth! My cattle that ate the grain produced plus SEA-90 essential Elements mineral in much healthier. We sold all SEA-90 – 80 % of it,” Linda B, Gretna, NE.*
French shepherds’ methods, wisdom offer inspiration to farmers raising sheep, goats

By Jody Padgham

Scanning my dry pastures mid-summer last year, I pondered the feasibility of wandering with my small sheep flock about my rural neighborhood, allowing them to graze the still lush roadside ditches. The appeal of becoming a roaming shepherd was strong—the animals would benefit from a diversity of plants to choose from, and I would gain from the tranquil wandering along the quiet roads. Lacking a herding dog and the vast amount of unscheduled time I’d need to make my dream a reality, however, I never put my plan into action. Probably all the better, as my cow dairy neighbors would most likely not have been as excited by the activity as I was, and the sheep perhaps more excited than I could handle.

This desire to wander with my sheep drew me to The Art and Science of Shepherding: Tapping the Wisdom of French Herders, published in 2014 by ACRES U.S.A. “With this book we hope to raise awareness of what’s possible if people rely less on fences and grazing systems and more on rekindling our relationships with livestock and landscapes, linking soil and plants with herdboys and human beings,” the editors outline in the introduction. I opened the dense 430-page book with much anticipation. My excitement heightened as I saw that 34 authors were listed—more so!—to the reasons for sequencing forages in specific order. The two shepherds delight in sharing how goats and sheep are alike and different.

The idea for this book originated with a proposal from the Behavioral Education for Human, Animal, Vegetation and Ecosystem Management network (behave.net), an association of “researchers, livestock farmers, and private- and public-land managers from across five continents” with a goal to “stimulate sharing of scientific and experimental knowledge about how to nurture the health of soil, plants, animals, and people by interacting more skillfully with animals and people and more respectfully with soil, plants and the environment.” BEHAVE’s mission is a strong and noble one, and this book represents their commitment to keeping important agricultural practices thriving. “With growing concerns over the high costs and consequences of technology, the practices of shepherds represent another way to manage livestock, wildlife and landscapes. Their approach is appropriate given the rising interest in managing grazing intensively and using stockmanship to move and place animals,” the editors inform us.

A surprising combination of science and art, this book takes a serious look at all aspects of shepherding. Not a nostalgic, biblical, or third-world-only pursuit, this age-old occupation is celebrated as a skilled shepherd can stimulate appetite of individuals by encouraging the flock to use different forages from a mix of plants, some highly palatable and others less palatable.”

Editor Meuret interviews two experienced shepherds about their observations on how, what and why sheep and goats eat. Reported in a conversational way, the dialogue wanders from the palatability of dogwood (very!) and acorns (even more so!) to the direct context of this book is most relevant for sheep owners. Although there are things we can learn from the shepherds.

Several chapters involve scientists working directly with shepherds to quantify exactly what they are doing to manage their sheep. While the language can be tedious, the results are interesting as flock flow and grazing patterns are discussed.

The most interesting part of the book for me was Chapter 7: How to Stimulate Animal’s Appetites. “Shepherds move livestock from meal to meal during the day and across a landscape in ways that stimulate appetites, thus improving the nutrition, health, welfare and production of the animals. By designing daily grazing circuits, a skilled shepherd can stimulate appetite of individuals by encouraging the flock to use different forages from a mix of plants, some highly palatable and others less palatable.”

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Poultry Processing — from page 1

Finding the finances for start-up expenses for a group like this, especially from generally cash-strapped new farmers, can be burdensome. Exploring financing options, PPP was tht secured to secure a $30,000 4% fixed-rate-term microloan from the area food co-op. The loan covered the majority of the expense, with the farmers each able to put in a few hundred dollars instead of over a thousand dollars. The business was able to pay off the co-op loan from profits over the next two years. None of the farms was in a position to put over $1,000 into additional infrastructure. Without this loan, handling the processing would have been a real sticking point, Chris said. Other costs, such as marketing, bags, propane, ice, etc, are paid out of PPP’s portion of the sales income.

The group constructed a mobile processing unit on a 16-ft snowmobile trailer with a plywood deck. It holds the scalder, a picker, stainless steel processing tables, and (now) 2 bulk tanks to hold ice for chilling the processed birds. “With a five-person crew, we can process, chill, pack, and label, 25 birds in under 10 hours,” Chris noted. The processing trailer (and PPP-member crew) are brought to each member farm when a batch of birds is ready. Customers come in the late afternoon and early evening to pick up pre-ordered processed birds. Each farm has chest freezers for storing unprocessed birds, and PPP has a walk-in freezer at one of the member farms that the LLC uses for longer term storage.

Wisconsin law limits operations that process and sell on-farm to 1,000 birds per year, and so, for the time being, none of the farms can go over this amount. Any growth in production would necessitate adding more producers. This year the group has begun exploring what would be involved in putting up an inspected brick-and-mortar processing facility, asking questions and making visits to new farms and looked at every aspect of the operations, asking questions and making recommendations to ensure that the PPP standards would be met.

One advantage of the group is allowing flexibility in an individual farm’s production year. Overall production levels for Pasture Perfect Poultry are decided at a spring planning meeting. The largest producers are raising three batches of 255 birds per year (under the 1,000 bird limit). Those who wish to take a vacation or need time off for other reasons can opt out of their “quota” and allow others in the group to take on more production. The two newer members have started out with fewer birds and will be refining, improving and expanding into full production capacity, allowing room for Pasture Perfect Poultry’s growth.

Pasture Perfect Poultry presents a wonderful model of how producers that could potentially be competitors can turn things around to become strong collaborators. The benefits of group decision-making and combining skills adds up to a successful business that is good for both the eating community and the farmers. The keys to this group’s success are clearly the well thought out operating agreement, a careful commitment to quality as well as the needs of the individual producers, and the commitment to maintaining friendships. Even those not raising poultry should look closely at what this innovative group has done.

“Overall, Pasture Perfect Poultry seems to be serving both customers and farmers well—it’s a work in progress, but we really think this is a good model for others to use!” Chris concluded. Learn more at pastureperfectpoultry.org.

Jody Podgahm, the Financial Director for MOSES, raises sheep and poultry on her 60-acre grass-based farm near Boyd, Wis.
Producers of relatively small numbers of poultry have indicated that access to processing plants, especially those offering organic processing, are a limiting factor. During 2014, the Organic Processing Institute (OPI) engaged in conversations with poultry producers, processors, retailers and personnel from regulatory, academic and extension agencies in Minnesota and Wisconsin regarding the issues and barriers in building capacity to support regional, small-flock pastured poultry production, processing, and sales.

**Scale of Production**

Poultry processors face dual challenges in determining scale of production. Operating under capacity is costly, but increasing volume may require additional and more qualified labor, new or improved equipment, greater water capacity, and provisions for the disposal of increased quantities of waste. Maintaining a reduced scale of production may be a more sound financial decision in spite of concomitant market outlet restrictions. Because the supply of organic and pastured poultry is lower in the winter for processors serving the local, organic poultry market, these processors operate at a deficit during the fall hunting season.

**Small Batches**

One problem revealed in previous studies is that processing flows do not easily accommodate smaller organic batches due to protocols for cleaning and sanitizing processing equipment. However, two processors included in OPI's conversations indicated that small batch size is not a barrier provided that daily base quotas were met.

**Producer Commitment**

Producers indicated that working with small producers involves challenges if the producer can't commit to delivering specific quantities or bird weights at specified times. This is thought to be due to complicating factors such as communication difficulties, procrastination on behalf of the producer, or variable yields and higher mortality in pasture-raised systems. The bottom line is that producer-processer communication is critical so that processors can set their schedules and plan for equipment and labor. OPI has worked to increase awareness about the limited numbers of certified organic processing facilities for both meat and poultry, including with colleagues on the Wisconsin Organic Advisory Council, universities, certifiers, and businesses. For regional poultry production to meet its market potential, the region's needs, inspected processing integrated with distribution and retail is needed. Communication will continue to be important: producers need to communicate with their processors, request organic certification, talk with each other, and ask consumers—and retailers—what they need to make better use of local, organic poultry.

Elena Byrne works for the Organic Processing Institute. Contact her at elena@organicprocessinginstitute.org.

### Organic Processing Institute digs into poultry processing issues

By Elena Byrne

Whole Foods Market is proud to support local farmers and food artisans. As a company that Whole Foods Market is committing up to $25 million in low-interest loans to help small producers who need a hand, not a handout, to help make their dreams a reality.

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### 2015 Schedule:

- **MOSES Organic Field Days give farmers the chance to see what’s working on other farms, learn about research trials, and talk to other farmers and MOSES Organic Specialists.**

  **Registration will open soon; see Organic Field Days under the Events tab at mosesorganic.org.**

  **Contact her at elena@organicprocessinginstitute.org.**

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<tr>
<th>Date</th>
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<td>Organic feed and food-grade small grains, edible beans, corn and forages, how to transition to organic, value-added organic flour mill startup With University of Illinois Extension &amp; Illinois Organic Association</td>
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### MOSES Organic Field Days 2015

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**Contact her at elena@organicprocessinginstitute.org.**

**These events are free unless noted.**

**2015 Schedule:**

- **Friday, June 26, 10 a.m. to 1 p.m.**
  - Harold Wilken, Janie's Farm, Danforth, Ill.
  - Topics: Organic feed and food-grade small grains, edible beans, corn and forages, how to transition to organic, value-added organic flour mill startup
  - With University of Illinois Extension & Illinois Organic Association

- **Thursday, July 9, 10 a.m. to 12:30 p.m.**
  - Margaret Smith & Doug Alert, Ash Grove Farm, Hampton, Iowa
  - Topics: Organic no-till cover crops, row crops, harvesting and storing small grains, and landlord-tenant relations in organic production

- **Tuesday, July 21, 10 a.m. to 2 p.m.**
  - Harriet Behar & Aaron Brin, Sweet Springs Farm Gays Mills, Wis.
  - Topics: Standard and unusual cover crops, living mulches and rolled rye mulch with organic vegetable production, soil health

- **Friday, July 31, 10 a.m. to 3 p.m.**
  - Kat Dickson, Christensen Farm, Brownston, Wis.
  - Topics: Rural CSA, cover crops management, working with your kids, choosing affordable and efficient equipment

- **Thursday, Sept. 10, 10 a.m. to 4 p.m.**
  - Christine Mason, Standard Process, Palymra, Wis.
  - Topics: Using cover crops to enhance large-scale production of vegetables, field crops and forages

- **Tuesday, Sept. 15, 10 a.m. to 4 p.m. (tentative)**
  - Greg Reynolds, Riverbend Farm, Delano, Minn.
  - MOSES Organic Farmer of the Year
  - Topics: Fresh market organic vegetables, seed production and saving, efficiency and soil health
Record number attend 2015 MOSES Organic Farming Conference

By Audrey Alwell

Just over 3,500 people “packed their plaid” and participated in the 26th MOSES Organic Farming Conference Feb. 26-28 in La Crosse, Wis. Feedback shows participants enjoyed the high-energy event and brought home innovative ideas, cool tools, and new knowledge to apply on their own farms or support their quest to start a farm.

Keynote speaker John Jeavons, executive director of the nonprofit Ecology Action, shared how his “bio-intensive” methods are helping small-scale farmers in 151 countries yield more using less water and resources, making organic farming truly sustainable. He told the packed auditorium, “Organic agriculture is a major step in the right direction, but we need to keep walking.”

Long-time organic farmers Greg and Mary Reynolds of Riverbend Farm in Delano, Minn., received the 2015 MOSES Organic Farmers of the Year award at the conference. The Reynolds grow vegetables and small grains on their certified organic farm, selling to restaurants, co-ops, nursing homes, hospitals, and schools. They are building resilience in their systems by selecting seeds from crops that fare best in the changing Minnesota climate.

The keynote presentations are posted on YouTube (www.youtube.com/mosesorganic). Audio recordings of all of the workshops are available through our online store at mosesorganic.net or by mail—the order form is on the next page.

Contact information for all of the exhibitors, sponsors and presenters from MOSES 2015 is included in both the Program (mosesorganic.org/conference), and in the MOSES Conference App, available free to download through iTunes and Google Play.

Audrey Alwell is the Communications Director for MOSES and the Managing Editor of the Organic Broadcaster.

Workshop suggestions?
Submit by May 15: mosesorganic.org/conference

Save the date:
27th MOSES Conference
Feb. 25-27, 2016 in La Crosse, Wis.

Photos by Mary Farrell

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MOSES Conference has big impact on Nigerian farmer

By Kelli Boylen

The 3,500 people who participated in the 2015 MOSES Organic Farming Conference had their own unique experiences based on the workshops they attended, the activities they joined in, and the people they met. For one participant from Nigeria, the conference had an “enormous” impact. “Seeing thousands of organic farmers renewed my hope and strength in what I do,” said Lawrence Afere, a Nigerian “agripreneur” who attended the conference for the first time this year. Afere is a farmer and the founder of Springboard, an organization that combines organic farming and entrepreneurship training to create practical and integrated learning for unemployed youth in Nigeria.

“I was motivated to attend because I read that over 3,000 organic farmers would attend the conference and there would be 67 workshops on organic farming,” Afere said. “Before the MOSES Conference, I had never attended any conference on organic farming. Also, I wanted to see organic farm inputs, products and services exhibited at the conference. It was a huge exhibition. I had seen how organic farming has been practiced in the U.S. on the internet, but attending the MOSES Conference made me witness it live.”

While he was at the conference, Afere led a meeting on the “Challenges and Opportunities for Agricultural Development in Sub Saharan Africa,” which about 80 people attended. He explained that the world faces a major agricultural challenge.

“We must, over the next few years, find ways to deliver nutritious, safe, and affordable food to a growing global population,” he said. Sub-Saharan Africa has not been coming anywhere close to providing their own food needs, but Afere says that more than 50 percent of the world’s unused fertile land is located there, and less than 2 percent of its water resources are in use.

“Sub-Saharan African agriculture can be revolutionized, thus feeding itself and contributing to global food and nutritional security. For this to be realized, the global stakeholders in agriculture must collaborate with African farmers in terms of training, provision of new skills, direct investment and mentoring.”

Afere is personally doing all he can to ensure this happens. Since 2008, his organization, Springboard, has built a model of engaging young Nigerians in sustainable agriculture. Each year, Springboard trains young people to start their own organic farms and also form a cooperative of farmers in their communities.

On the Springboard farms, he said, they grow plantain, banana, vegetables and maize and also produce plantain chips. By 2025, Springboard plans to have over 1,000 members in its network of organic farmers who work to ensure food and nutritional security in Nigeria.

“Our farming is very important in my country to safeguard the health of the people and protect our environment,” he explained.

“More so, as more and more young Nigerians begin to take interest in farming, it is ideal to introduce them to organic farming before they get used to the traditional farming practices. Springboard is committed to making this happen.”

Nigeria has 84 hectares of arable land, but less than 3,200 hectares are in organic agriculture. Afere explained the biggest hurdles are lack of awareness, lack of training on best practices in organic agriculture, cost of marketing issues, and non-availability/high cost of inputs.

“My knowledge of organic farming was practically enhanced and boosted at the MOSES Conference,” he said. “Now, I will be more effective in training students and staff of Springboard on organic farming. Since I returned to Nigeria from this conference, I have shared my learning experience with my network of organic farmers and it is certain that practices will improve on our farms this year. And I am happy to share it everywhere I go in Africa. Attending MOSES conference has boosted the credibility of what Springboard does and stands for,” he added.

Afere said he enjoyed many things at the conference, including the meals, the people he met, and the workshops.

“All the workshops I attended had a strong impact; I gained so much information from being there. The workshops presented are down to earth with their teachings and they are highly knowledgeable in this field.

“I went away with new ideas for farming, new friends to support my project and a renewed sense of purpose to keep on with the springboarding.com project,” he added. Afere received a scholarship to attend the conference. In his thank-you letter he said, “Please note, your support has not only helped organic farmers and farming in the U.S., it has impacted organic farming all over the world.”

Kelli Boylen is a freelance writer with a farming background. She lives with her family on a homestead in Iowa.
Ancient Wheats — from page 1

However, a couple of cautions are in order:
1. Varieties or landraces [farmer-developed] of these grains can vary widely in nutritional content—we need more research to identify those with optimal nutrition;
2. Despite claims on the Internet, none of these grains are safe for those with celiac disease.

Nevertheless, these wheats are likely to have staying power in the American diet, not only because of their nutritional benefits, but—as chefs, bakers, and consumers are finding—they also taste really good.

Growing Ancient Wheats

The ancient wheats turn out to be adapted to a wide geographic area and range of growing conditions. Already in 1901, the wheat innovator M.A. Carleton praised emmer's "ability to make a good crop with almost any condition of soil or climate." Einkorn, emmer, and spelt also are especially suited to organic management, requiring fewer inputs than common wheat and showing greater tolerance to stress, such as drought, disease, and salinity soils. Given rising costs for fertilizer and extremes in weather due to climate change, the ancient wheats look promising as lower risk crops for current and future rotations.

Research on the ancient wheats, ongoing at the Carrington Research Extension Center in North Dakota for over 10 years, has been expanded through collaboration with the Northern Plains Sustainable Agriculture Society (NPSAS) and Northeastern universities and farmer organizations as part of the "Value-added grains for local and regional food systems" project (funded by NIFA/OREI). Although more work is needed, results to date can provide guidance to farmers interested in experimenting with these grains.

The ancient wheats can be grown with field equipment used for wheat or oats. They should be managed as for common wheat in terms of rotation—avoid planting after wheat, barley, rye, or corn (especially when tillage practices leave corn residue at the field surface) to minimize the risk of scab infection. As with all small grains, spring types should be planted as early as soil conditions permit in the spring. Winter planting than winter wheat, although timely planting is still recommended to optimize plant stand.

It is best to plant seed in the hull, which protects the seed both in storage and the ground. This is essential for einkorn seed, which can easily be stripped of the germ during the dehulling process. Comparison of dehulled and hulled emmer from the same seed lot has also shown a reduction of more than 25% in germination from the dehulling process. However, care has to be taken to avoid bridging in the planting cups of the drill due to hairs and awns on the hulled seed. Running the seed through a debearder, which knocks off hairs and awns and breaks up doubles, can reduce plug problems at planting. Growers may also have trouble metering cups of the drill due to hairs and awns on the hulled seed. The ancient wheats vary in their ease of dehulling—initial studies in North Dakota show that varieties and landraces can differ by 10% or more in terms of dehulling efficiency. Disease incidence, harvest conditions, and humidity conditions when dehulling can also affect dehulling efficiency.

Dehulling Ancient Wheats

Unlike modern wheat, the seed of the ancient wheats usually retains its hull through the combination of processing, requiring special equipment to remove the hull to produce food-grade products. The ancient wheats vary in their ease of dehulling: a rule of thumb is that spelt is most easily dehulled, emmer is more strongly retained in the hull and more susceptible to breakage, and einkorn can be difficult to dehull without damaging the seed. However, more research is needed on dehulling efficiency in ancient wheats—initial studies in North Dakota show that varieties and landraces can differ by 10% or more in terms of dehulling efficiency. Disease incidence, harvest conditions, and humidity conditions when dehulling can also affect dehulling efficiency.

Lack of dehulling infrastructure in the U.S. has proved a bottleneck for growers. However, in the last several years, options are increasing. Larger-scale impact dehullers, which dehull by flinging the grain at high velocity against a hard surface, are manufactured by several U.S. companies, e.g., Codema and Forsberg. These dehullers were designed for other crops, such as oats and sunflowers, but can dehull spelt and emmer. (Further experimentation with einkorn is needed). A range of dehullers are available for import from Europe, including abrasion types that rub the hull from the seed. These options are suitable for growers willing and able to make large capital investments—the cost for a dehuller and the equipment needed to remove empty hulls and undepleted kernels from the dehulled seed (which usually includes an aspirator and a gravity table or other separation device) is likely to range upwards of $20,000. Larger-scale growers

The kernels from ancient wheats are larger than today's wheat. Photo by Linda Schuster

Large-seeded types, e.g., black winter emmer, may be necessary to achieve adequate stands. Broadcasting and incorporating hulled seed is also an option.

To avoid lodging in ancient wheats, planting rate and N fertility rate need to be lower than those for common wheat. A rule of thumb for fertilizing these crops is to apply 50-75% of that needed for common wheat. Current data for spring types in North Dakota suggest a seeding rate of 100 lb/ac for hulled emmer, einkorn, and spelt. If planting under conditions of high fertility and moisture, the rate should be lowered to 65-75 lb/ac for emmer, 75 lb/ac einkorn. Spelt, which is less susceptible to lodging, should remain at 100 lb/ac. Experimentation with winter types of emmer and einkorn, which has largely taken place on Northeast farms, suggests that planting rates of 60-75 lb/ac may be sufficient, but more research is needed.

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Unlike modern wheat, the seed of the ancient wheats usually retains its hull through the combination of processing, requiring special equipment to remove the hull to produce food-grade products. The ancient wheats vary in their ease of dehulling: a rule of thumb is that spelt is most easily dehulled, emmer is more strongly retained in the hull and more susceptible to breakage, and einkorn can be difficult to dehull without damaging the seed. However, more research is needed on dehulling efficiency in ancient wheats—initial studies in North Dakota show that varieties and landraces can differ by 10% or more in terms of dehulling efficiency. Disease incidence, harvest conditions, and humidity conditions when dehulling can also affect dehulling efficiency.

Lack of dehulling infrastructure in the U.S. has proved a bottleneck for growers. However, in the last several years, options are increasing.

Larger-scale impact dehullers, which dehull by flinging the grain at high velocity against a hard surface, are manufactured by several U.S. companies, e.g., Codema and Forsberg. These dehullers were designed for other crops, such as oats and sunflowers, but can dehull spelt and emmer. (Further experimentation with einkorn is needed). A range of dehullers are available for import from Europe, including abrasion types that rub the hull from the seed. These options are suitable for growers willing and able to make large capital investments—the cost for a dehuller and the equipment needed to remove empty hulls and undepleted kernels from the dehulled seed (which usually includes an aspirator and a gravity table or other separation device) is likely to range upwards of $20,000. Larger-scale growers

To Ancient Wheats on page 14
Research shows organic fermented grape extract works as natural dewormer in lambs

By Kimberly Cash

Gastrointestinal nematode parasitism is one of the greatest threats to economic sheep production in the United States. With increased incidences of anthelmintic resistance and constraints of organic production, there is increased interest in alternative natural dewormers, such as plants containing condensed tannins (CT). Condensed tannins have been shown at certain levels to produce benefits in reduction of nematodes and increased protein absorption.1 The drive to find organic, natural, and sustainable practices to maintain healthy livestock is crucial in providing global food security. Early research suggests that phyto-therapy, the use of plants high in polyphenols, as a natural deworming agent would be evaluated.1 Sources of Condensed Tannins

Many types of forages are high in CT such as chizzy, birdburst trefal, safinuin, and serices lespedeza, and although they can be used in production agriculture the amount of CT consumed by grazing animals is difficult to measure. Results of various research suggests these plants reduce fecal egg counts and worm burdens compared to animals fed a diet containing low levels of CT, but the amount needed to have significant results is still being examined.3 Research also suggests that fruits with dark skins such as red grapes and blueberries have a high level of CT.1 Vineyard by-products available for the producer to purchase in liquid form, such as juice or fermented product, or in the dry form, such as grape pomace consisting of skin, seeds, stems, and pulp, all contain high levels of CT. The use of these CT-rich products could make small ruminant production in the U.S. more sustainable by using fewer synthetic anthelmintics and by reducing instances of parasite resistance.

Why Grapes?

Previous research has shown that grape pomace from the wine industry has efficacy against larval helminth life stages. Grape pomace also has efficacy against egg hatchability and larval development.2 The overall effect of different treatments on eggs per gram of feces of individual lambs revealed time as well as dose as a dependent response. Additional data revealed a gradual reduction in fecal egg counts, which differed significantly from 60 to 120 days as compared to the day 0 values in sheep fed diets supplemented with CT both at 3 percent and 2 percent levels. 

Effects of organic fermented grape extract on parasite level in Katahdin lambs

**Methods**

This study used 45 Katahdin ewe and ram lambs (23.13 kg ± 6.06) naturally infected with GIN. For the duration of the 63 day project, lambs were grazed on fescue pasture with ad libitum access to fresh water and organic-approved mineral supplements. Lambs were stratified by fecal egg count, weight, and sex, and were allocated randomly to one of three treatments: 1) an oral dose (10 mL per 4.54 kg of BW) of fermented Pinot Noir grape extract at seven-day (D7) intervals, 2) the same dose at 14-day (D14) intervals, or 3) control (oral dose of 30 mL water at 14-day intervals).

Condensed tannins were extracted, purified, and standardized from the organic Pinot Noir by the Protein Precipitable Phenolics method and found to have a concentration of 0.20 mg/mL. Sampling procedures and analysis included fecal egg counts, BCS, FAMACHA© and weight every seven days. Fecal material was collected rectally, with eggs counted using a modified McMaster procedure. Data was expressed as eggs per gram (EPG) of feces.

The goal was to maintain animals above health thresholds for the duration of the study. Egg counts and PCV data were analyzed as a randomized design using repeated measure analysis with treatment and time. Pre-trial and trial periods were analyzed separately using SAS (SAS Institute, Inc). The study was conducted from October 2014 to December 2014.

**Results**

Fecal egg counts were lower (P = 0.05) at the end of 63 days and packed cell volumes or red blood cell counts were increased (P = 0.05) for D7 and D14 lambs compared to control lambs. Body condition scores and FAMACHA© scores did not differ (P ≥ 0.05) across treatments.

Effects of organic fermented grape extract on parasite level in Katahdin lambs

<table>
<thead>
<tr>
<th>Item</th>
<th>Treatment</th>
<th>Start FEC.</th>
<th>End FEC.</th>
<th>Start PCV</th>
<th>End PCV</th>
</tr>
</thead>
<tbody>
<tr>
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<td>63.0</td>
<td>48.7</td>
<td>13.1</td>
<td>18.5</td>
<td></td>
</tr>
<tr>
<td>PCV</td>
<td>55.6</td>
<td>63.8</td>
<td>5.6</td>
<td>2.2</td>
<td></td>
</tr>
</tbody>
</table>

*Proof Positive on page 16*

80% of the elements needed by a plant can be found in the atmosphere. The other 20% must come from the soil. From the 20% in the soil, 80% must be calcium.

Do your plants have what they need?

GSR Calcium, Big enough to know, small enough to care.

SoilWorks LLC PO Box 119, Yankton, SD 57078 (605) 260-0784 1(877) 886-5115 www.gsrcalcium.com

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Ancient Wheats — from page 12

also have the option of sending their grain to a dehulling facility. However, because currently there are few dehulling facilities in the Midwest, growers need to factor in transport costs when assessing this option.

A third dehulling option, which is better suited for smaller-scale growers and those who want to experiment with production and test markets before investing in expensive equipment, is to modify or use existing equipment or to build a dehuller. Several growers report success in dehulling ancient wheats using burr mills in which one or both of the burr plates is replaced with rubber—essentially turning the mill into an abrasion dehuller. Debearding and roller machines can also be used to dehull. Finally, a couple of small-scale dehuller prototypes have been built for which design and construction details are available. (See “Additional information.”)

Yield Potential & Markets

Research in North Dakota on spring types shows that einkorn, emmer, and spelt in the hull yield comparably to wheat (see graph).

In the Northeast, research also shows winter spelt in the hull to yield similarly to winter wheat. More research is needed to determine the yield potential of winter emmer and einkorn varieties and landraces. When assessing yield potential for food-grade seed, it is important to remember that no ancient wheat can ever be 100% dehulled—a percentage of seed (perhaps 10-40%) will remain in the hull depending on the crop type and the dehulling system used. Moreover, in experimentation with emmer, even when 100% of the kernels were extracted by hand, the hulls accounted for ~20% of the yield weight.

Fortunately, the ancient wheats in the hull make excellent animal feed, and the empty hulls excellent bedding. Currently, the market demand for dehulled seed, and the many products that can be made from that seed—including whole berries, flour, bread, other baked goods, crackers, matzo, pasta, breakfast cereals, malts, distilled liquors—is unmet. Organic retail prices for whole berries of these wheats range from $1.30-$7 per pound (with emmer and einkorn fetching the highest prices). Given the nutritional value, tastiness, and sustainability of these crops and with further consumer education and product development, there is excellent potential for the current market to grow.

Steve Zwinger conducts organic research at the NDSU Carrington Research Extension Center. Elizabeth Dyck coordinates the Organic Growers’ Research and Information-Sharing Network (OGRIN).

Additional Information

Results of cultivar testing by the Value-Added Grains project: https://plbrgen.cals.cornell.edu/research-extension/small-grains/cultivar-testing

Agronomic trials in North Dakota: http://www.ag.ndsu.edu/CarringtonREC/agronomy/crop-index

Farm Breeding Club: http://npsas.org


Report on development of a low-cost emmer dehuller by Cornell students: Contact Elizabeth Dyck at edyck@ogrin.org

Seed availability: www.ogrin.org

Graph: 2013-2014 Organic Spring Grain Yields Central North Dakota Trial Means (6-Site Average)

- Yield: 1000 bu/acs
- Einkorn
- Emmer
- Spelt

100% of the kernels were extracted by hand, the hulls accounted for ~20% of the yield weight.

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On-farm composting works best on small-scale farms

By Anne Lupton

At its simplest, composting is gathering plant materials in a large pile or container, letting them decompose, and using the final product to condition soil. In actuality, managing compost to improve soil fertility in something larger than a backyard garden or urban farm plot is much more complex and challenging.

At the recent MOSES Conference, John Jeavons, author of *How to Grow More Vegetables*, talked about the nitty gritty of compost production in the workshop “Increase Your Compost’s Power.” Talking about carbon-to-nitrogen ratios, pile construction, microbes, soil health, and cold composting, Jeavons explained how composting is done at his Biointensive research farm in California. He went over the methods they’ve worked out over the years to promote soil fertility for maximum vegetable production. Because their research gardens are relatively modest in size, the amount of compost they produce occurs in small batches—1 to 2 cubic yards at a time. The process is nicely laid out in his book.

Composting in small batches speeds up the process, but many organic farmers have found that the challenges outweigh the benefits when it comes to making their own compost. Claire Strader of Fair Share CSA Coalition found this to be true. She experimented by setting up a half dozen compost bins on the north side of the greenhouse on her farm. After adding all the materials from on-site sources, adequately water it, covering it with hardware cloth (for rodent protection) and waterproof fabric, the bins took “forever” to make suitable compost. Finding time to turn the piles was the stumbling block. With only hand tools, the job of forking over composting materials over materials often got put off, effectively making the compost operation a passive one. To make the process easier, Strader said she is considering adopting composting technology that’s something between a shovel and a front end loader.

“Having a method and tools that work at hand scale, but is less than a window would definitely help,” she explained.

Active compost management requires a significant amount of time and attention, requiring frequent temperature monitoring and pile turning.

The organic regulations are very specific about the process for creating compost to use in organic production, which is why most organic farmers choose to bring in suitable compost. If composting is done at all it usually comes in the form of “slow roasting” piles of vegetative matter and manures for long, unattended periods of time, often for a year or more.

But, in smaller farming situations (think urban agriculture) active composting is not only feasible but necessary to maintain soil fertility.

Riverview Gardens in Appleton, Wis., once a mid-city golf course, is beginning its fifth year of operation as an urban CSA farm and community space. The farmers there have been in transition to organic for the past three years and have just applied for organic certification. Emily Hoffman, farm operations manager, said compost production is an essential part of their operation.

“We work with a combination of wood chips from the city, field waste from our own operation, and food waste from a local food shelter,” Hoffman explained. With six acres and 16 hoop houses in vegetable production, the flow of compost materials keeps coming all summer.

The farm has one employee that is more or less dedicated to managing the mixing of materials, monitoring and recording the temperatures, and turning the piles when appropriate. Along with a smaller mound of purchased vermicompost, their site-made compost is their sole source of soil fertility inputs.

Cold Composting

In his conference workshop, Jeavons touted the benefits of “cold composting”—building and maintaining a pile that’s slightly higher in carbon with a minimal amount of water to discourage the internal temperature from getting too high. His belief is that this less-warm composting process will leave more undecomposed bits of organic material in the compost that will transfer to the soil and continue the process slowly within the soil itself, which is better for the growing plants. He has found that a carbon-nitrogen ratio of about 45:1 in the initial mix produces the best final product.

The whole process should take about three to four weeks (in the warm California climate), with minimal water added over that time. The pile should not be turned, and simply left to do its work in the structure it was initially built in.

It should be noted that there are several things in the cold composting approach that are not allowed under organic standards (205.203).

First, the initial carbon-nitrogen ratio should be between 25:1 and 40:1, which means a more nitrogen-rich initial mix. Also, the temperature of the pile needs to be maintained (and documented) to be between 131°F and 170°F for 3 days “using an in-vessel or static aerated pile system,” or for 15 days if using a windrow system.

Carbon, Nitrogen, Water, Microbes, Air

With managed compost, the process of decomposition can be tightly controlled. Knowing which materials are carbon heavy or nitrogen heavy is the first step in building a pile that really heats up with fast microbial activity or takes its time to break down materials at lower temperatures. The University of Illinois Extension’s “The Science of Composting” provides the following tips.

Generally materials that are higher in carbon are mature and dried (or drying). Straw and wood chips/shavings are the classic examples of carbon-rich plant material. These are sometimes referred to as “browns” as, generally, plant material that is brown has built up more carbon in its structure.

Plant materials high in nitrogen are sometimes referred to as “greens.” And, yes, plants that are green and vigorously growing tend to be much higher in nitrogen. Grass clippings, weeds (before they’ve gone to seed), and most food waste...
### Proof Positive  — from page 13

**Effects of organic fermented grape extract on performance in Katahdin lambs**

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Start BW, kg</th>
<th>End BW, kg</th>
<th>Start BCS</th>
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<tr>
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<tr>
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<tr>
<td>Feed, Kg</td>
<td>4.2</td>
<td>4.4</td>
<td>0.52</td>
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</tr>
</tbody>
</table>

Average daily gain and total weight gain were greater (P = 0.02) for D7 and D14 lambs compared to control lambs.

### Conclusions

Fermented grape extract can be an effective organic and sustainable strategy for controlling nematodes and increasing lamb performance in an organic pasture setting. Additional research is needed to determine the most accurate dose of condensed tannins needed to see the most benefit, the dosage timing and how it works with the nematode life cycle, and the bioactivity of the CT that are required to produce the best results. An increase in total weight gain and average daily gain suggests an added benefit of CT’s ability to bind to proteins causing a by-pass protein effect. The results answered the initial question of “Does it work?” Yes, it does. But, as with many other research projects, with that answer comes many more questions that need further exploration.

Kimberly Cash is a graduate student in the Department of Natural Sciences at Lincoln University in Jefferson City, Mo. This research poster was presented as part of the Organic Research Forum at the 2015 MOSES Organic Farming Conference. It received second place.

### References

NOSB Nominations
The USDA is seeking nominations to fill five vacancies on the National Organic Standards Board (NOSB), the advisory group that assists in developing standards for substances to be used in organic production. Openings on the 15-member board include: two farmers, two consumer/public interest representatives, and one USDA-accredited certifying agent. Appointees will serve a 5-year term of office beginning Jan. 24, 2016. Written nominations with cover letter, resume, and a required form (available online at bit.ly/NOSBNominations), must be postmarked on or before May 15, 2015.

Organic Checkoff
The organic check-off continues to be a topic for discussion in the organic community. (See the Organic Broadcaster Sept/Oct 2014 for the complete story.) The Organic Trade Association (OTA) has introduced a draft proposal (version 6) of the Generic Research and Promotion Order for Organic (GRO). It describes the representation of the proposed check-off board, who will be pay into the check-off, and who will vote on the proposal once it has been submitted to the USDA for consideration. Four areas will share funding from the pool of money equally at 25% per category: research, information, promotion and discretionary. See www.unitedformorganic.org for details and to comment on this proposal. For information about opposition to a check-off, see www.nopda.com/checkoff_opposition.shtml.

Cover Crop Survey
Farmers with all levels of experience with cover crops are being asked to complete a national survey (bit.ly/CropSurvey) on cover crops. Data from this year’s survey will be compared to previous survey results to identify trends in cover crop practices or attitudes toward cover crops. Farmers who complete the questionnaire are eligible for a drawing for one of two $100 Visa gift cards. The survey is conducted by the Conservation Technology Information Center and is sponsored by USDA’s Sustainable Agriculture Research and Education (SARE) program, the American Seed Trade Association (ASTA) and Corn/Soybean Digest.

Food Safety Rule
The FDA has published a proposed rule to amend the Food Safety Modernization Act (FSMA) that includes a definition of “retail food establishment” to clarify that manufacturing and processing operations co-located on farms are exempt from registration when the majority of sales by that operation is direct to consumer, and that exemption still applies where those sales occur off-farm through a roadside stand, CSA drop-off site, farm market, or “other such direct-to-consumer sales platforms.”

Agricultural Coexistence
The USDA has added another extension to its comment period on agricultural coexistence with genetically engineered (GE) crops, giving more farmers the chance to weigh in on issues they’re having with contamination. The economic and management burden to prevent contamination currently falls on the non-GE farmer. See the MOSES Take Action page (mosorganic.org/policywork/take-action) for details and the link to the USDA’s comment page. Comments can be made through May 11, 2015.

Restaurant Alma
During the month of May, Restaurant Alma in Minneapolis will donate $1 from every three-course tasting menu purchased to MOSES to support programs that help farmers succeed in organic production. Restaurant Alma is a casual fine dining restaurant in a historically preserved building on University Avenue. The restaurant specializes in tasting menus that allow patrons to select any three dishes for $32. The menu includes handcrafted dishes with fresh, seasonal, organic and local ingredients. MOSES Organic Farmers of the Year Greg and Mary Reynolds are among the farmers supplying these ingredients. For the menu and driving directions, see www.restaurantalma.com or call 612-379-4909.

Certified Organic Operations
Data from the USDA National Organic Program shows that the number of domestic certified organic operations increased by more than 5 percent over the last year to 19,474 operations in the United States. The USDA is developing an Organic Integrity Database, a modernized certified organic operations database that will provide accurate information about all certified operations that is updated on a regular basis. The modernized system will allow anyone to confirm organic certification status using the online tool, support market research and supply chain connections, allow international verification of operator status to streamline import and export certificates, and establish technology connections with certifiers to provide more accurate and timely data. The initial launch is planned for September 2015.

Cover Crop Comparison Chart
Easily compare 58 crop species with a new chart at bit.ly/CoverCropsChart. For recommended details such as seeding depth, pollination requirements, and plant maturity, see Organic Fact Sheet “How to Choose Cover Crops,” a free Organic Fact Sheet available at mosorganic.org under the Publications tab.

Terminating Cover Crops with Sheep
A study at Montana State University is finding that using domestic sheep to terminate cover crops is a growing trend in an organic farming system. The results are from the first two years of a long-term USDA research, education and extension project involving researchers from agronomy, weed ecology, animal and range sciences, entomology, community development, soil science and more.

No-Spray Signs
MOSES sells 18x24" UV-resistant, corrugated plastic signs farmers can post on fence lines to discourage pesticide/herbicide spraying of organic fields. The bright orange signs are $7 each, $6 for five or more. See mosorganic.net.

Gardens of Eagan
The Wedge Co-op, which acquired Gardens of Eagan in 2008 from the Diffley family, recently announced it is placing the 126-acre property on the market, but plans to continue operations through this growing season. The Northfield, Minn. farm employs a staff of 20 during peak season, and just completed the organic certification process. Availability of organic produce from the growing number of local organic farms is one reason behind the sale.
Legislation - Merits of Organic Agriculture

A coalition of 15 organizations in the organic community filed a lawsuit in federal court last month, maintaining that the USDA violated the federal rulemaking process when it changed established procedures for reviewing the allowed synthetic and prohibited natural substances used in producing organic food. The group asked the court to require the USDA to reconsider its decision and re-establish the agency’s customary public hearing and comment process. At issue in the lawsuit is a rule that implements the organic law’s “sunset provision,” which since its origins has been interpreted to require all listed materials to cycle off the National List of Allowed and Prohibited Substances every five years unless the National Organic Standards Board (NOSB) votes by a two-thirds majority to relist them. In September 2013, the USDA changed the rule so that a material can remain on the National List unless the NOSB takes initiative to vote it off the List.

Survey on New Crop Insurance

The National Center for Appropriate Technology (NCAT) and the Rural Advancement Foundation International-USA (RAFI) are conducting a survey to assess farmers’ experiences with Whole-Farm Revenue Protection, a pilot crop insurance policy available for 2015 that offers coverage based on a farm’s five-year revenue history, and covers multiple crops with one policy. By completing the survey (bit.ly/FarmRevenue), participants will help RAFI, NCAT, and other organizations advocate for changes that improve Whole Farm Revenue Protection.

OCIA Scholarship Winner

The Organic Crop Improvement Association has awarded its 2015 Research and Education Graduate Scholarship to Utsala Shrestha from the University of Tennessee. Utsala’s research focuses on the carbon-nitrogen ratio of organic soil amendments as a non-chemical approach to control soil-borne pathogens and weeds. She is originally from Nepal, a country that is feeling the impacts of climate change and water scarcity, and is interested in sustainable agricultural practices. For more information about her research or the OCIA scholarship program, see www.ociaressearcheducation.org.

Podcasts

Chris Blanchard, market farming veteran, educator and popular MOSES Conference presenter, has started the Farmer to Farmer Podcast interviewing other farmers. Recent episodes of the hour-long show featured some of the presenters—Lisa Kivirist, Steve Fluss, and Allen Philo—who familiar to MOSES-goers. Shows cover topics such as soil fertility, business planning and managing for profit, managing employees. See www.farmertofarmerpodcast.com.

Hops Guide

The growers at Mighty Axe Hops, one of the farms in the Sandbox Cooperative in Ham Lake, Minn., have produced the Minnesota Hops Grower’s Guide. The guide is written for commercial-scale, homebrewers and backyard hops gardeners to learn new techniques that will make for better yields and tastier hops. The guide covers everything about local, sustainable hops production: design, install, planting, management, harvest, and postharvest handling. It is available free at www.MightyAxeHops.com/category/grow-hops.

Foreign Teaching Opportunities

Twin Cities-based Land O’Lakes is sponsoring the US Agency for International Development’s Farmer to Farmer (F2F) Program in the Middle East and North Africa, which provides short-term technical support to farmers, farm organizations and agribusinesses in the developing world in order to build capacity in the agriculture sectors in those countries. Volunteers travel to the host countries for 24 weeks; travel expenses and arrangements are taken care of by Land O’Lakes. For more information, see bit.ly/F2FFarmer.

Soil Samples

The National Soil Project is looking for soil samples from farms to evaluate humic acid, fulvic acid and humin content. Farmers can receive free results of the analysis. Learn more and download the sample submission form at bit.ly/SoilProject.

Organic in Wisconsin

Wisconsin leads the nation in organic dairy and beef production, according to Organic Agriculture in Wisconsin: 2015 Status Report, prepared by the University of Wisconsin Center for Integrated Agricultural Systems and the Wisconsin Department of Agriculture, Trade and Consumer Protection. The report says the state has 1,257 certified organic farms, making it second in the country in terms of organic farming; California is first. The report includes additional statistics about organic agriculture in the state, plus opportunities and challenges facing the state’s organic farmers. See the full report at bit.ly/2015StatusReport.

Organic Research Report

Ceres Trust’s 2015 report on organic research and outreach in the North Central Region shows that 1,970.17 acres of university land are being used for organic research in the region. The report lists key contacts and describes academic courses, degree programs, and hands-on learning opportunities in the region. Find the report under Current Research at moesorganic.org/projects/organic-research-forum.

**“In Nature there is abundance, With Farmers there is success”**

Organic Research Forum

Conduct soil, water, and plant testing. Order kits from the Organic Research Forum. The National Soil Project is offering Soil Samples for testing to determine content of humic acid, fulvic acid, and humin. The samples can be sent to the Organic Research Forum by the sample submission form at bit.ly/SoilProject.

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20’ Long tined weeder. $2,500 or best offer. East Central Wisconsin, 920-904-4962.

Row crop Flamer for sale. 8 row, used one year, electronic ignition. Reason for selling, I quit row crops. I can deliver. 701-336-7509 or 701-321-1580, southern North Dakota.

For Sale: 20’ long tine weeder, 3 point, excellent condition. Phone 920-904-4962.

Walk-in cooler. Exterior 14’ 3” by 7’ 8”, with 5 glass doors on one side. Service door on one end. Includes refrigeration equipment. Bought new, used 5 years, stored since. Delivery possible. $900 OBO. 320-632-4691 or cbamier821@q.com.

Red dragon row crop flamere unit model 6-RU 6 row, 3 point attachment. Excellent condition. Used one season. $12,000 OBO. Greg Dongvillo – LM 269-267-8527.

FARMS/LAND

Money Maker!!! Located 50 miles from Chicago, 74 tillable Certified Organic acres of farmland, updated 100 year old Sears home plus out buildings on 4.5 acres. Refurbished commercial wean to finish swine complex w/rental lease and manure income on 6.5 acres. Opportunity for quick payback, just add labor. Asking $2.1 million. Will separate. Contact: Ted Weydert 815-739-3062 or tgweydart@hotmail.com.

I have 133 tillable Acres for Rent In 2016 in Arcadia, WI, would like to do long term contract. Can be certified organic, was in CRP, call Jim 608-863-3895.

FORAGES


Organic dry heifer hay for sale. There was no rain on these medium square bales. One lot of 1100 bales at 115 RFV, another lot of 57 bales at 136 RFV. Moorhead, MN, Lee Thomas 218-790-0236.

Certified Organic alfalfa hay/baleage: for sale. 165 to185 RFV 18 to 24 pro. Located in NW MN. Delivery available. 580 tons available. For questions call Kyle 218-779-6694.

Organic Baleage - Single wrapped 3x36x6 big squares. RFQ of 110 to 150. Priced from $104 to $162 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.

GRAINS

Non-GMO oats, wheat, barley, rye feed mix (untreated/cleaned) suitable for all livestock, $125/ton semi loads available. 507-373-3161 or 800-352-5247.

We buy organic: corn, wheat, soybeans. Delivered to: Cromwell, MN. Contact: John 414-704-1344, jbrunnquell@egginnovations.com.

LIVESTOCK

Livestock Guardian Dogs: Protect your pastured poultry, goats and/or sheep from aerial and ground predators. Started and trained dogs available, free training advice. $250-$550, wonderacres@yahoo.com, 608-477-1981.

10 Bred Certified Organic Angus Beef Heifers: Vet Preg checked, vaccinated and ready to fall calf. $3200 each. Coon Valley, WI, Call Rod @ 608-452-2861.


MISCELLANEOUS

Bovine Basics - composted cow manure available in bulk, totes and bags. Contact Ed Rudberg at 952-212-6576 or ed@bovinebasics.com and visit us at www.bovinebasics.com. We are a bio-based certified product.

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.

Agricultural Grade Local Compost. 50 lb. N, 120 lb. P, 60 lb. K per ton plus micronutrients and organic matter. Minimum purchase: 20 tons. Sustâne Natural Fertilizer (Kenyon, MN), 507-263-3003, Email: kylej@ sustane.com. ***OMRI certified granular, dry, organic fertilizers also available.

BMR84 Seed Corn For grazing under $40 per 50 pounds. Go to www.pageseedcorn.com for seedsmen nearest you and prices. No computer? - call 507-645-6218.

Smart Organics offers 4 products to the Organic Farmer that are approved by the FDA and produce a superior Non-Chemical alternative to Antimicrobi- als, Sanitizers, Disinfectants and Folier Sprays. Takes the place of Toxic Pesticides, Herbicides, Fungicides, Algidicides and Preservatives. For Dairy a Non-Toxic Treat Dip that dramatically lowers Somatic Cell Count and replaces iodine. hradinah@tds.net or 414-732-7017.

HELP WANTED

Help Wanted: Central Illinois small turn-key acreage seeks person(s) to produce for local markets. Planting/care of vegetable beds, flock of laying hens and replaces iodine. hradix@tds.net or 414-732-7017.

Opportunities

We are seeking hard working individuals to join our crew. Must be able to work full time (M-F). Potential for year round work and opportunities for advancement. Visit our website to learn more: www.driftlessorganics.com.

Business for sale in Lanesboro. A rare opportunity exists for the right person/family in the heart of bluff country, 45 minutes from Rochester, MN. This lovely community has a small “local foods” grocery on main street available for purchase. If you are interested in learning more, please contact jan@rtcinfo.org.

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Opportunities


Driftless Organic is a 50 acre vegetable farm located outside of Viroqua, WI. We are seeking hard working individuals to join our crew. Must be able to work full time (M-F). Potential for year round work and opportunities for advancement. Visit our website to learn more: www.driftlessorganics.com.

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This form good through July 2015.
**Community Calendar**

### Webinar: Decoding Organic Feed and Supplement Requirements for Livestock
**May 5** | 2 p.m. Central  
Join Oregon Tilth and NRCS to learn about the breakdown of the livestock feed standards and how they apply to specific systems; an overview of feed supplements, including how they are classified and regulations for use; and guidelines for ensuring that your animals' nutritional needs are being met while remaining compliant with the standards. tilth.org/event/event-thats-upcoming-3

### Aquaponics Master Class
**May 7** | 8:30 a.m.-12 p.m.  
Hosted by the Minn. Dept. of Health, explore the human and environmental health issues at aquaculture events and operations, including farm layouts, apple orchards, pumpkin patches, and farms that host the public. Topics will include petting zoo safety, food licensing and handling, and more. tilth.org/event/event-thats-upcoming-3

### Women Caring for the Land Workshops
- **May 5**: 8:30 a.m.-3 p.m., Altoona, Wis.  
- **May 7**: 8:30 a.m.-3 p.m., Marshfield, Wis.  
- **May 14**: 1 p.m., Central
- **May 16**: 1-5 p.m., $80, Ashby, Minn.
- **May 21**: 12 p.m., Free
- **May 30**: 9 a.m.-12 p.m., $50, Gerald, Mo.
- **June 2**: 9 a.m.-3:30 p.m., $50, Gerald, Mo.
- **June 6**: 9 a.m.-12 p.m., $50, Gerald, Mo.
- **June 7**: 9 a.m.-3 p.m., $50, Gerald, Mo.
- **June 9**: 9 a.m.-3:30 p.m., Free
- **June 17-19**: 9 a.m.-3:30 p.m.
- **June 19**: 9 a.m.-3 p.m., Free
- **June 26**: 10 a.m.-1 p.m.
- **July 21-22**: 9 a.m.-3:30 p.m.

### Midwest Farm Energy Conference
June 17-19 | Morris, Minn.
Hosted by River Hills Harvest, learn about traditional culture, marketing workshops and harvest and post-harvest handling of the fragile elderberry fruit. Pre-register before June 7.

### Livestock & Orchards Field Day
June 28 | 1-4 p.m. | La Crescent, Minn.
Hosted by the Land Stewardship Project, learn about integrating livestock with organic perennial fruit production.

### Insights and Prescriptions
**Organic Broadcaster** — May | June 2015

**André Leu**

### The Myths of Safe Pesticides
Organic agriculturalist and author André Leu delves into a wealth of respected scientific journals to present the peer-reviewed evidence that proves the claims of chemical companies and pesticide regulators are not all they seem. Leu translates technical jargon into layman's terms to break down the five most repeated myths about pesticide use:

1. Independent scientific analysis shows that pesticides are not all as safe as industry leaders and regulatory agencies claim.
2. The most popular 12 monthly issues
4. **Subscribe today.**
5. $29 for $120 monthly issues

### A Holistic Vet’s Prescription for a Healthy Herd
**Richard J. Holliday, DVM, & Jim Helbert**

Holistic veterinarian Richard “Doc” Holliday reveals how animals are capable of self-regulating their trace mineral needs when provided with a free-choice selection of minerals. Doc takes on some of his most frequently asked questions regarding animal health to provide the reader with a clear idea of some organic and holistic solutions to common cattle care issues such as mastitis, milk fever, and calving.

**$36 for $51.95**

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