Farmers develop model for producing poultry in regenerative system

By Reginaldo Haslett-Marroquin

A story without background is like an uncooked drumstick. You can imagine everything about it, but you can’t taste it. So, let me put some flavor into what I am about to share with you.

As a child growing up in Guatemala in a family of 13 kids, one of my daily chores was collecting eggs from the few chickens my mother kept around. Although I was born in the dry corridor of Eastern Guatemala, we moved to the northern rainforest region when I was 4. Our internal migration was part of the settling of the northern rainforest region. My father and one of his brothers had gone exploring and found unoccupied forest areas where we could settle. There was no one there to challenge our land claim—at least not for another 40 years when the land had to be registered and title acquired.

The first thing everyone did when they resettled in this region was clear the old-growth forest, burn it and plant beans, corn, and squash. We were no exception. In a couple of years, we would clear it again, burn the debris, and plant. We were not only permanently hungry, but also overworked, barefoot, dirt poor, and frustrated.

Chickens and eggs were gold because they were our only available regular source of protein. I’ve yet to encounter anyone who understands chicken behavior the way my mother and other women in our village did. As a child, I was eager to learn everything my mother knew, from how to find the nests in the thick grass and bushes to how to manage the thick layers of leaves dropped on the ground below where the chickens roamed, protected by the thick canopy provided by orange and banana trees, and other food crops. The canopy was critical to ensuring that we did not lose the birds to aerial predators. It also protected the chickens from the intense, direct sun. Chickens are good teachers—we learned that they are jungle fowl purely by observing them in this habitat.

I went on to finish elementary and middle school, and then received a scholarship to the National Central School of Agriculture next to Guatemala City. All of my studies in the next 20 years from Guatemala to Augsburg University in Minneapolis to my scientific and business management training, pales in comparison to the mind-blowing knowledge I gained during those early years in Guatemala using simple observation and listening skills.

In 2017, I wrote In The Shadow of Green Man, where you can find the real flavor behind the work I currently do with two amazing organizations, Main Street Project and Regeneration International.

After USDA halts organic check-off proposal, groups look for alternatives

By Audrey Alwell

The USDA terminated the proposed rule for an organic check-off program in May due to a “lack of consensus within the industry in support for the proposed program.” The agency’s unexpected move shocked the program’s proponents, while opponents proposed program. “The agency’s unexpected move shocked the program’s proponents, while opponents praised the USDA’s decision.”

Batcha added.

Surely disappointed with the USDA’s halt of the proposed rule, which she called “stunning and unacceptable,” Batcha said. “Farmers far outnumber processors, and the majority (over 75%) of these farmers operate small or mid-size farms. They developed this thriving organic market, and they deserve to help lead its future.”

Some creative solutions for funding organic research and promotion already exist, at least on a smaller scale.

Poultry as Entry Point to Systems Change

The challenges we face around the diminished nutritional value of the food that dominates today’s market are the result of a system engineered not for the purpose of delivering nourishment, but for the purpose of making money by taking advantage of the fact that people need to eat every day. To change this, we need to transition from producing food products to delivering nourishment, to Regenerative Poultry on page 6.
Event will plot future course for organic ag
By John Mesko, Executive Director of MOSES

This February, we’ll host the 30th Annual MOSES Organic Farming Conference in La Crosse, Wis. Since our earliest days, MOSES has been a leading supporter, promoter, and caretaker of the organic and sustainable farming movement and the community which has grown around it. We’ve seen tremendous changes as more people have become aware of how agricultural practices impact the environment and human health.

Now, agriculture as a whole is being challenged to plan to feed a global population projected to reach 10 billion by the year 2050. This challenge is often used as a justification for increasing control of natural systems using biotechnology.

But, as this community knows, GMOs and toxic pesticides aren’t the answer. Farming practices that improve rather than degrade soil, nurture biodiversity, and yield bountiful, healthy food can prevail. Our “brand” of agriculture can in fact feed the world, especially if we approach the challenge with the same vigor and focus that non-organic agriculture does.

With that in mind, I am excited to announce we will host Organic 2051, a one-day conference Feb. 21, 2019 (just prior to the 2019 MOSES Conference), focused on the future of organic and sustainable agriculture. The purpose of this event is to bring together leaders in the organic and sustainable farming community to chart the path forward for truly sustainable farming by the year 2050 and beyond, demonstrating our capacity to feed the world.

Researchers, educators, funders, government, and commercial interests, and, most importantly, farmers will be invited to apply to participate. A selection committee will evaluate and choose up to 100 participants who will represent diverse subject-matter expertise.

Organic 2051 will be an innovative and forward-thinking event designed to make the farming practices championed at the MOSES Conference the standard for global food production in the years leading to the “tipping point” of 2050 and onward. It will stretch participants to collaborate in new ways. It’s an opportunity for our community to display to the world the teamwork which differentiates us within the broader world of agriculture.

In the coming weeks, we will be looking for anchor sponsors for Organic 2051 who want to let the world know organic farming practices can feed the world, and do it responsibly. You can be part of this, too, by making a personal donation in support of the work MOSES is doing to encourage organic farming, including Organic 2051. Donate securely online at mosesorganic.org/donate.

As of this writing, the 2018 Farm Bill is still being debated in congress. Like many, I’m concerned about the direction USDA may be taking on organic and sustainable agriculture issues. While the final version may be a ways off, I’m encouraged at the amount of conversation around organic issues. In January when I was in Washington D.C. advocating for additional funding for the Organic Agriculture Research and Extension Initiative, I met with several legislative staffers who seemed to understand the need for public dollars going into organic research as a means of leveling the field for agriculture.

The current Farm Bill debate is another example of the need for Organic 2051. It’s one thing to tell Congress, “We need more money for organic farming research,” It’s a whole other thing to say, “This is what we could do if we had X number of dollars to improve our environment, create an equitable food system, and feed the world.”

As plans for Organic 2051 develop, we’ll share details in the Organic Broadcaster and on our website at mosesorganic.org/organic-2051-conference.

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Groups build coalition to create regenerative agriculture system in Midwest

By Reginaldo Haslett-Marroquin, Regeneration Midwest

On June 28 - 29, about 50 people representing Midwest farm and farming-related businesses, nonprofits, investors, and economic development officials gathered in Northfield, Minnesota, to identify next steps toward formalizing the goals and launch of Regeneration Midwest (RM). RM is a 12-state regional coalition organized to serve as the foundation for transitioning five core sectors of the food and agriculture system from the current industrial model to a regenerative model.

RM came to life in late 2017, and has since been evolving as a platform for scaling up models that address the three pillars of regenerative agriculture: social, ecological, and economic regeneration. The coalition originated from the poultry-centered regenerative agriculture design pioneered by the Northfield-based nonprofit, Main Street Project. Similar to other organizations throughout the country, Main Street has built a successful, workable, and replicable model for re-designing the way poultry is raised. (See the related story on the cover of this issue.) The system delivers a diversity of food products that can be produced and branded under a regenerative standard, with poultry at the center.

While highly successful as a stand-alone project, Main Street faces the same challenges as other organizations building similar models in other sectors. In order to focus on their core competencies and unleash their full potential on a regional scale, these projects need large-scale regional infrastructure support throughout the entire supply chain, which includes farmers, aggregators, marketers, distributors, and processors.

RM will facilitate building and scaling up this regional infrastructure by focusing on five core strategically connected sectors of the food and agriculture industry. In this way, the coalition aims to address the common needs and challenges of individual organizations, so together they can scale faster and more efficiently.

Strategic Regenerative Opportunities

- **Poultry**
  Starting with Main Street Project’s design, RM will facilitate the infrastructure needed for replication of this model throughout the Midwest.

- **Grains**
  In partnership with the Midwest Grains Initiative and the Non-GMO Project, and in coordination with a large network of local operations, RM will aggregate existing standards that support agroforestry systems as a foundational blueprint for transitioning small-grain production for both human consumption and animal feed. The intention is to build supply chains to ensure a robust coordination and continuity of regenerative standards and the integration and stacking of related enterprise sectors to build larger-scale trading platforms.

- **Pork, Beef**
  RM will join existing pastured-pork and grass-fed beef producers to coordinate and identify strategies aimed at improving production methods aligned with standards that support the regeneration of land, local economies, and natural habitats for livestock species, in order to bring more valuable products to the marketplace.

- **Strategically Selected Vegetables, Fruits**
  Vegetables represent a challenging sector for regeneration standards development, and application. Vegetable production requires intense use of outside inputs, especially if the farm doesn’t incorporate livestock for manure that can be transformed into fertilizer. Cover cropping, crop rotation, incorporation of perennial crops, alley cropping, vegetables, and practices of this kind can help a farm regenerate its soil organic matter. RM will work to bring together regenerative standards that support regional scalable opportunities where separate livestock production and selected fruits and vegetable production can become more competitive as a result of their interdependence, and farmers can become their own region’s suppliers of natural inputs, thus regenerating larger landscapes.

- **Trade Infrastructure**
  A platform for large-scale trading of products will be central to the success of the 12-state coalition. RM’s role will consist of ensuring that the value-chain components are in place or that they are built by capable organizations, engaging these organizations and coordinating the process of building and scaling up a consolidated infrastructure so that participants in the 12-state region can access markets at all levels and use the trading platform to move more products from farms to tables. RM will not engage in direct market sales, or handling of products. Blockchain technology, trading boards and standardization of productions and transactions for volume trading, are examples of strategic infrastructure options under development.

- **Financing**
  Financing farms belongs at the local level, with local actors and local infrastructure. RM will help identify and support those organizations directly working at this level. Working with Iroquois Valley Farms (Evanston, Illinois) and...
Under normal circumstances, fall-planted or spring-planted small grains are an integral part of organic grain rotations in the Upper Midwest. However, this season has proved challenging for growing small grains. The extended cold (and snowy!) conditions during March and April followed by record high heat and dryness interfered with normal growth and development. We have heard reports of small grains—oats, wheat, barley and winter rye—heading out and shedding pollen very early and at a much shorter height than usual.

Small grains like oats, wheat, rye, barley and triticale are cool-season annual plants and have optimum grain and forage yield when plants grow, flower, and fill during cool weather. The University of Minnesota recommends planting small grains no later than the first week of May in the southern third of the state (and the western portion of Wisconsin). These dates are not set in stone, but the later small grains are planted from the optimum date range, the lower the yield potential (on average: about 1% per day) due to increased incidence of warm temperatures during pollenation and grain fill, potential lack of moisture, as well as increased likelihood and severity of disease pressure.

So far, it remains to be seen how small grains will fare this year as we see what the weather (especially night temperatures) will give us in July. Short small grains can compensate in yield for smaller head size and lowered tillers by increasing the number and size of kernels per head. Here are some general guidelines and recommendations for growing optimum small grains as part of a diverse crop rotation.

**Plant as early as possible.**

This seems especially ironic given our weather this spring, but in general, the earlier you can plant spring-planted small grains, the better. Early April (and even into March the further south you go) would be the ideal time in a normal year to plant small grains. Small grains can handle some light frosts; there’s folk wisdom that says oats yield better if they get a snow or two on them.

For fall-planted small grains, there is such a thing as planting too early. Typical date ranges for winter wheat are September 1 to October 15 (varies by your latitude), whereas winter rye can be planted right through snowfall in November.

Small grains planted thicker can be rotary hoed or tine weeded very early on in their development to control early weeds (before the plant reaches the two leaf stage).

**Choose the right variety.**

It’s important to select the proper variety for your location, soil-type, end-use and rotation. Choosing certified blue tag or registered seed vs. bin run or saved seed will give you more insurance as to varietal characteristics, disease resistance, maturity, and seed purity. As organic rules and regulations prohibit many inputs and techniques that conventional growers use to enhance and protect yield (like fungicides, sidewire applications of fertilizer, herbicides for burndown, etc.), organic producers rely on well-bred genetics for things like disease resistance, yield potential, grain quality characteristics, standability, maturity, competitive ability with weeds, etc.

Questions you should consider include:
- What crop will I have next in rotation and what crop came before?
- Am I looking for feed-grade/food-grade/forage or a cover crop?
- Will I be underseeding these small grains with clover, alfalfa or other forage or plowdown crops?
- What are the end-use marketing requirements of places I’d like to sell to?
- What weeds and disease pressure do I typically see in a given year?

**Plant at the proper rate and depth.**

It is critical to make sure your drill is calibrated to plant small grains at the proper rate and depth for optimum seed-to-soil contact, emergence, and population. In general, the more precision you can bring to seeding small grains, the better success you’ll experience. Planting deeper or shallower than 1-2” can result in uneven emergence and poor stands. Typical seeding recommendations often refer to lbs/acre or bushels/acre, but it’s worthwhile to gather additional information like germination rate and seeds/lb to calculate total seeding rate and desired population. Always ensure proper seedbed preparation when seeding as well.

**Fertilize appropriately.** Harvest, store properly.

Most small grains don’t require an excessive amount of available nutrients for optimum performance. In fact, applying too much manure can result in increased vegetative growth, delayed maturity and a higher incidence of lodging. Typically, recommendations land around 50 lbs N/acre unless you’re talking about wheat, which is more sensitive to lack of fertility.

Small grains are usually swathed and harvested in a windrow to ensure uniform maturity and drydown, and to control any green weeds that come through the ripening. Newer combine heads allow for straight cutting small grains, but harvest moisture is more of an immediate concern (as is assessing overall weediness of the field).

Grain storage, aeration, and cleaning after harvest is important to allow for optimum storage—moisture, grain quality, and eliminating chaff, weeds, and insects. Always ensure bins, augers, and combines are clean and ready for harvested grain; bins with aeration are usually preferrable to maintain quality for a longer storage period.

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**“What advice do you have about adding small grains to my rotation?”**

*Answer by Organic Specialist Matt Leavitt*

Under normal circumstances, fall-planted or spring-planted small grains are an integral part of organic grain rotations in the Upper Midwest. However, this season has proved challenging for growing small grains. The extended cold (and snowy!) conditions during March and April followed by record high heat and dryness interfered with normal growth and development. We have heard reports of small grains—oats, wheat, barley and winter rye—heading out and shedding pollen very early and at a much shorter height than usual.

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Researchers share five ‘fast facts’ to help growers understand biofertilizers

By Matthew D. Kleinhenz

An increasing number of products containing microbes as the primary active ingredient are being marketed to growers looking to enhance: a) crop growth, b) nutrient acquisition, uptake, or utilization, c) tolerance to stress (e.g., temperature, moisture), and/or d) yield. However, the effectiveness of many products is undocumented, leaving growers and advisors to assess efficacy and potential product return on investment.

A team led by The Ohio State University is assisting with that process by conducting on-station and on-farm evaluations and creating resources and educational opportunities helping guide product selection, use, and evaluation. Products are tested under a range of conditions – so far, 21 sites over seven states have been employed in experiments involving seven crops, 12 products, and 10 companies. For details, see u.osu.edu/vegprolab/research-areas/vegebionomics.

Microbe-containing crop biostimulants or biofertilizers are popular among growers and a growing source of revenue for product manufacturers and suppliers. Yet, many questions are unanswered. How should they be used? Are they effective? Do they offer a consistently positive return on investment? While more research is needed to address these questions in detail, the following five “Fast Facts” can help growers make informed decisions about using these products.

Fact One: They are numerous and diverse in important ways. We have tracked the number of these products and companies offering them since March 2015. Currently, we know of 247 OMRI-listed microbe-containing crop biostimulants offered by 150 companies in the U.S.1 The number of products and companies in this category have risen 1.6- and 1.5-fold, respectively, in three years. Also, individual products contain either an array of microbes (e.g., multiple types of bacteria, fungi, or both) or a much smaller subset (e.g., single species of bacteria). Some products also contain components designed to feed the microbes, crop, or both.

Fact Two: Overall, labeling and third-party documentation of efficacy are weak. Compared to fertilizers, biopesticides, and other inputs, regulation of microbe-containing crop biostimulants is minimal and inconsistent, with much state-to-state variation. Labels can lack complete or accurate descriptions of what is in the product, how and why it is being recommended, or detailed instructions for use. Currently, there is no systematic, third-party, state, regional, or national testing system or mechanism for developing efficacy information (unlike for biopesticides). Companies appear to differ significantly in the amount and rigor of third-party testing they conduct. As one consequence of this “Wild West” scenario, the best evidence of efficacy on farms is often not publicly available since farmer-focused, research-based reports on their use are rare.

Fact Three: They are increasingly popular among organic and other growers in the U.S. and globally. Projections are for the U.S. biofertilizer market (including products in which “microbes do the work,”) to reach approximately $250 million in revenue in 2022; globally this number is $2.3 billion.2 A survey of Organic Systems Plans covering 2009-2014 in Ohio revealed that biofertilizers and biopesticides accounted for 9% by number of all inputs on these farms.3

Fact Four: Biological and procedural factors may limit the efficacy of microbe-containing crop biostimulants. For example, potential host-specificity dictates that microbes in the products may form productive associations with only certain crops or associations with some crops may be more productive than with others. Competition with other microbes, predation, stress, and other factors may limit inoculant activity. Also, the influence of soil type, application regimen (timing, rate, method, placement), and other inputs on efficacy is unclear for many products. Understanding those influences more thoroughly requires time, effort, care, funds, and cooperation given the number of products, the diversity of their microbial contents, and the range of the conditions under which they are used. With support from USDA, SARE, various companies, and others, we and our collaborators work to develop resources that lessen some of the mystery around selecting, using, and evaluating microbe-containing crop biostimulants.

Fact Five: Ways in which these products work (modes of action) can lead to application effects being more subtle than with other inputs. Inoculated plants may grow a little faster, flower a little sooner, and appear to be healthier (e.g., in color) in a range of conditions but not yield considerably more. Of course, these differences will be apparent only when an untreated check area is available for comparison. Regardless, documented inoculant effects will allow users to know exactly what can or should expect from a product and to be certain it is what they want to pay for.

In replicated trials, statistically significant yield increases are rare and usually don’t exceed 5-7%. It’s common to see a range of responses to inoculation with a single product—over different trials in different seasons and involving different crops. Companies and investigators may consolidate responses from many trials into graphs resembling ones in the figure. The shape of the graph for a product is at least as important to growers as the average yield response, which is the most commonly reported statistic. The shape of the graph and, by association, the most frequently occurring yield response, may be a more reliable indicator of what growers should expect from the product. So, when inquiring about a product, consider asking for either the distribution of yield responses across trials and/or the most frequently occurring yield response, in addition to the average.

There is a tangible, justifiable, and widespread enthusiasm for the idea that purposeful inoculation of seeds, crops, and/or soil with beneficial microbes (e.g., bacteria, fungi) may enhance farm success and environmental stewardship. Inoculation would complement steps fostering the development and activity of naturally occurring, beneficial microbial communities. Being enthusiastic about opportunities created by inoculation is easy; so far, it rarely results in lower yield, it may result in higher yield, and it is often thought of as “cheap enough.”

However, the goal is to ensure that inoculation offers more growers a greater return on investment more often. Achieving that goal definitely requires more information and it may require better products. Based on these five fast facts, researchers offer these recommendations: First, stay tuned to reports from the microbe-containing crop bio-stimulant industry and trusted sources; second, experiment with biofertilizers using reliable guidelines—such as SARE’s How to Conduct Research on Your Farm or Ranch—and engage with others involved in this research. The Ohio State University Vegetable Production Systems Laboratory manages a listserv for vegetable producers to share information and field experiences with microbial-based biofertilizers. To join, see u.osu.edu/vegprolab/research-areas/vegebionomics.

Matthew Kleinhenz is a professor in Horticulture and Crop Science at The Ohio State University; Wooster, Ohio. Julie Laudick, Stephen Short, Zheng Wang, and Nicole Wright contributed to the content of this article.

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These simulated plots represent results from two typical scenarios, A and B (left and right). Both scenarios result in the same average yield increase, but Scenario B may be more favorable to the grower. The position of the upright line shows that yield increases occurred in far more cases in Scenario B than in A, as depicted by the location of the upright line connecting the trial axis to the dashed average line. The yellow rectangle around the average line represents the variation in yield increases; it is thinner in Scenario B, also a plus for product users and their advisors.

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the kind that gives life, regenerates the landscape and makes our minds, bodies, and spirits whole again.

To frame this way of thinking, let me clarify at least four core things:
1. Farmers don’t produce anything. Only nature can transform inedible energy present in the air, the soil and the sun, and turn that energy into eggs, chickens, nuts, vegetables and so on.
2. As farmers, who are simply energy process managers, we can choose to manage responsibly, allowing nature to produce plenty of food while keeping a good percentage of the energy in the ground (mainly carbon), so that the process can go on indefinitely. If we choose to manage this energy irresponsibly, we throw the energy cycles out of balance, and end up polluting our air, rivers, soil and especially the world’s fresh waters and oceans.
3. For a farming system to be regenerative it has to include animals. No ecology exists without the disturbance and the amazing physical, chemical and biological functions of animals.
4. For my team, it was critical to enter the food and agriculture systems work by choosing a universal livestock, the chicken. This strategy is central to engaging people in the foundational tenet of systems change. From this “seed” we can target the over 500 million small farmers with under 10 hectares of land that produce 70 percent of the world’s food, according to the Food and Agriculture Organization of the United Nations.

Production Unit (PU)
The starting point of our system is the production unit (PU). The PU represents the point in the production system where you want in order to get the greatest impact.

Economic Unit
The Economic Unit (EU) is the foundation for this effort. It’s the starting point of our system where you want the greatest impact. The EU is the basic energy source of how to estimate the size of a cluster, especially for meat broilers. We estimate that a cluster under 1.25 million meat chickens and 25 million eggs cannot sustain a support infrastructure or compete in the marketplace.

Economic Cluster
For a regenerative poultry farmer to succeed, the farm must have infrastructure support. This support comes in the form of what we call Economic Clusters. An economic cluster is formed by aggregating many economic units or farm operations in order to support regional system-level infrastructure. This infrastructure includes technical assistance such as veterinary services, agronomy, training, financing, branding, processing, marketing, and distribution.

The Economic Cluster is defined by a geographic set of boundaries, based mostly on economic considerations. Processing and value-added is the foundation of how to estimate the size of a cluster, especially for meat broilers. We estimate that a cluster under 1.25 million meat chickens and 25 million eggs cannot sustain a support infrastructure or compete in the marketplace. To this end, we are in the process of organizing Regeneration Southwest, a coalition of 12 Midwestern states designed to serve as the foundation for this effort.

Farmers who want to join the system, or nonprofits willing to engage in state-level organizing within the Midwest states, may reach the organizers of Regeneration Midwest by emailing regenerationmidwest@gmail.com.

Reginaldo Haslett-Marron is Chief Strategy Officer at Main Street Project, founding member of Regeneration Midwest, regenwang@gmail.com.

Other benefits farmers in our system are seeing are savings on groceries—a family can save upwards of $7,000 a year on food purchases by deploying this system on their farm. Farmers who deploy our poultry system not as the center of their operations, but as a supplement to other production systems, can save on fertilizer inputs and increase their income by selling chickens direct at a higher value to their existing customers.

In a regenerative agriculture design, the benefits come from many different production areas on the farm and throughout a region. Our approach is to treat each farmer as a unique economic unit and develop poultry-centered business plans that meet their needs without compromising the consistency, the integrity of the system, or the standard and the replicability across large landscapes. As a stand-alone operation, a farmer is highly vulnerable to a significant number of risks. That’s why aggregating producers throughout regions is central to the success of the regenerative poultry system strategy.

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Reginaldo Haslett-Marron is Chief Strategy Officer at Main Street Project, founding member of Regeneration International, and Director of Regeneration Midwest.
Industrial hemp interest high, but infrastructure, legalities still roadblocks

By Bailey Webster

At the MOSES Conference 2018 workshop “Prospects for American Hemp,” led by Kevin Gibson and George Weiblen, the first order of business was to pass around a package of hemp hearts made in Hastings, Minn.

“I can’t tell you what an unexpected privilege and pleasure it is to be passing around the first legally grown cannabis from Minnesota in many years,” Weiblen said to spontaneous applause and a few hoots. “These are [hemp] seeds with the hulls taken off, and they are quite nutty in flavor, with a complete protein, and balance of omega 3/6 fatty acids that the heart-healthy are particularly interested in.” He encouraged participants to taste them.

Weiblen has been studying Cannabis sativa—the species that includes both the psychoactive marijuana plant and industrial hemp, which is used for food, fiber, and an array of industrial applications—for many years. For a long time, he was one of only two researchers in the country with a permit to grow cannabis for study.

In “Times are a-changin’ for U.S. industrial hemp farming,” in the May/June 2016 issue of the Organic Broadcaster (mosesorganic.org/industrial-hemp), we offered an overview of the illustrious history of industrial hemp in the U.S., as well as hopes for its future. Research and pilot programs were just getting started in various states at that time, and there were a lot of unknowns about the future of industrial hemp in the U.S.

Now, two years later, progress has been made in research, and a lot of farmers are interested in hemp production. But the ultimate question—can hemp be a profitable crop for American farmers?—hasn’t been satisfactorily answered.

Many states have initiated pilot programs to put in a hemp crop. Hemp seed has a shelf life of up to ten years, so putting in a hemp crop now will ensure farmers have quality seed when they are ready to start growing it. Hemp seed is also a valuable product, with many uses in the food industry. Hemp hearts are generally processed the seeds before they even consider growing hemp—MDA supplies seed for the growers, which isn’t the case in other states.

Market for Hemp Hearts

Hemp hearts are touted as a “superfood” in the natural foods market. They’re one of the few plant sources that provide a complete protein; beans must be combined with rice or another grain to provide the balance of amino acids necessary for a “complete protein.” Hemp hearts have a 3:1 ratio of omega-6 to omega-3 fatty acids, which is important for heart health. (America’s corn-centric diet generally provides a much higher omega-6 to omega-3 fatty acid ratio than is good for us). There is also a lot of interest in hemp oil, which has the same fatty-acid ratio.

Ken Anderson of Legacy Hemp in Prescott, Wis., is hedging his bets on hemp hearts as the most likely market for industrial hemp farmers, at least initially. Originally working in the construction industry, Anderson met Dr. David West, a well-known cannabis researcher who also lives in Prescott and had test plots of cannabis in Hawaii.

The two got involved in manufacturing HempStone, a hempcrete product that West had invented, made from hemp “hurd,” the woody inner fiber of a hemp stalk, and lime mined from limestone. In order to make this durable, nontoxic, environmentally friendly building material, he was importing the hurd from The Netherlands. “Wouldn’t it be great if American farmers could grow this?” he thought to himself.

On speculation, Anderson began buying up cannabis cultivars before anyone else was interested. He was one of the first people to legally import hemp seed to the U.S. since it was criminalized in the 1970s. He recently started Legacy Hemp, a certified hemp seed company. The company is in the process of choosing a location in Wisconsin for their first hemp seed processing facility. The goal is to produce viable hemp seed for hemp heart and hemp oil production for American farmers who would otherwise be importing seed from Canada.

When advising farmers interested in growing hemp for seed production, Anderson cautions, “You can’t make the mistake of growing lots of acres without a buyer at the end of it.” He’s committed to developing the hemp heart and hemp oil market in the food industry. Hemp hearts are generally thought of as a raw ingredient best sprinkled on salads or thrown into smoothies. But, Anderson has a vision of hemp hearts being used as a staple ingredient in a lot of different packaged food items.

Anderson is passionate about increasing the hemp market before increasing production. “A rising tide raises all ships,” is his proverbial analogy. If it goes the other way around, he cautions it will be “…a race to the bottom of the price market.” And farmers know that race far too well.

When he talks with farmers who want to grow hemp, Anderson has two essential questions: “Do you have a postharvest plan? Do you have a buyer?” Farmers must have a plan for drying and processing the seeds before they even consider putting in a hemp crop. Hemp seed has a shelf life of more than 30 growers with 1,200 acres in cultivation. The numbers are not officially in for 2018, but applications were up, and the numbers have likely increased again this year. Minnesota is one of the easier states for farmers to trial industrial hemp—MDA supplies seed for the growers, which isn’t the case in other states.

in the May|June 2016 issue of the Organic Broadcaster.

To Industrial Hemp on page 8
Organic Check-Off — from page 1

Stonyfield, and Nature’s Path. Organic Voices developed the Only Organic website (www.only-organic.org) and the Just Label It campaign to educate consumers about the benefits of organic food and to advocate for mandatory GMO labeling.

A program already in place at the national level to fund research and education is the USDA’s Sustainable Agriculture Research and Education (SARE) project. While the project isn’t focused specifically on organic research, SARE does occasionally put out calls for research focused on organic production.

OFAs Mendenhall pointed out that the way forward may or may not include a nationwide council or program to oversee funding for research, promotion, and technical assistance.

“But, since organic farmers are highly innovative, we are certain creative solutions can be identified by including them at the table,” she added.

Organizers of the annual MOSES Organic Farming Conference plan to hold a workshop about organic check-off alternatives at the 2019 conference (Feb. 21-23 in La Crosse, Wis.). And, just prior to MOSES 2019, industry thinkers will be participating in a one-day conference, Organic 2051, designed to lay out the path forward for organic and sustainable agriculture for the critical years beyond the population’s 10-billion mark. Additional ideas for collectively funding organic research and promotion could come out of that think tank.

Audrey Alvell is the communications director for MOSES.

Ask a Specialist — from page 4

As people arrive, it’s helpful to have someone who can act as a greeter and do things like welcome guests, point out restrooms, and share where and when the next farm tour will begin. If guests feel welcome and know what their opportunities are to engage, they’re more likely to have a good experience and develop a better understanding of your operation.

Of course, there are more complicated parts to hosting an on-farm event than just making sure guests arrive and have fun with planned activities. There are also potentially immense legal concerns ranging from insurance and injuries to food service and zoning regulations.

Before you start planning your on-farm event, make sure you have insurance to protect yourself in case someone is injured on your farm. Talk with your insurance provider and specify if this will be a one-time event or an ongoing occurrence.

If you’ll be serving food, you might need to get a food permit. Contact your local agency responsible for food safety regulations to ask questions about best practices and necessary permits. Whether food is being served by you or potluck-style, you can still be liable for illness. Make efforts to reduce flies and use good handling practices such as managing temperature (cold or hot) to reduce the potential for illness. And, of course, provide hand-washing stations or hand sanitizer to encourage good hygiene.

I highly recommend downloading the “Hust Safer, More Legally Secure On-Farm Events” resource from Farm Commons to find more information about the legalities of on-farm hosting. The Farm Commons website is managed by attorney Rachel Armstrong and provides many introductory resources to help farmers navigate the legalities of farming.

You can also contact a Small Business Administration (SBA) office in your state to learn about state laws, sales tax, and accessibility standards that may apply to your farm’s event.

Industrial Hemp — from page 7

of only 12-18 months, so having a buyer lined up is equally essential. Anderson is excited to be that buyer for some farmers, once Legacy Hemp has a processing facility up and running.

Legal Gray Area

Part of the issue for farmers wanting to grow hemp is the constantly shifting and unclear legal landscape. Because all Cannabis sativa—even the strains with almost no THC, the psychoactive chemical in marijuana—was categorized as a Schedule I (most dangerous) drug from the 1970s until very recently, the legal parameters for growing and selling cannabis plants and products are extremely unclear.

For example, cannabidiol (CBD) oil is thought to have beneficial properties, and can be produced from plants that don’t make THC. CBD oil is being actively sold by health food co-ops and stores, but it doesn’t actually have a clear legal status, either actively sold by health food co-ops and stores, but it doesn’t actually have a clear legal status, either.

The Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP), which runs the state’s pilot program, has applied to the U.S. Drug Enforcement Agency (DEA) to be registered as a seed importer, but has not been approved yet. So, growers in Wisconsin are on their own for acquiring seed. DATCP’s website says, “Moving seed into Wisconsin is done at your own risk.”

In Indiana, commercial activity in hemp production is not allowed, so farmers couldn’t make money on it. The permitting system is so cumbersome that it’s virtually impossible for farmers to grow hemp, even if they want to do it for free. There is new legislation being rolled out, but the system won’t change until next year at the soonest.

Hemp Myth-Busting

Hemp has gained a somewhat mythical status through the years, touted as the “ideal crop.” It’s supposed to be easy to grow, with minimal fertility needs, low weed pressure due to rapid canopy establishment, and virtually pest-free. It’s said to have an enormous range of uses, from food to fiber, paper, fuel, and industrial applications.

While there are nuggets of truth within these claims, hemp is a crop like any other, with specific nutrient, day length, and moisture requirements. It needs about 100 lb. of nitrogen per acre, similar to canola and most vegetable crops. Weeds can be a big issue in hemp, especially if the fertility is low (which affects the height and canopy). So far insect and disease pressure has not presented much of a problem in hemp trials, but bird predation of seeds has been a big issue.

Hemp does have a wide range of uses, that much is true. However, all of the uses of hemp require quite a bit of processing, and large-scale processing facilities simply don’t exist in this country anymore. Before we can begin growing hemp on a large scale for food, fiber, and industrial uses, processing facilities must be built.

Don’t Bet the Farm

The overall tone of the people who are “in the know” about hemp is cautious optimism. There are many committed farmers, researchers, and industry people interested in hemp, but there are kinks that still need to be worked out in the legal system and in terms of production. Hemp seed needs to be more accessible, and processing facilities must be built. But hemp has a strong history as an agricultural crop in this country, and many committed farmers, researchers, and industry people intend to make it work. But, as Weihlen said wryly in response to questions of profitability for farmers, “I would caution against betting the farm on hemp at this time.”

Bailey Webster is a MOSES team member and an organic vegetable grower.

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Farmer’s problems in rural Kansas smack of racial discrimination
By Bailey Webster

Kansas farmer Carlos Valencia is passionate about poultry. He has credentials in the field of poultry farming and processing as long as you arm. But, because of racially motivated mistreatment and impediments by Norton County, where his farm is located, he’s not able to have any livestock on his farm right now. While most farmers struggle to make a living, not all have to contend with racial discrimination. For some, though, racism is a real and enduring problem, as Valencia’s story shows.

Valencia is black and Hispanic. He grew up in the Bronx in New York City. His parents were entrepreneurs who always worked for themselves. After high school, he got an associate degree in marketing management from New York Technical College. He went on to get a bachelor’s degree in finance from the University of Long Island. He moved to Denver, Colorado to pursue a combined MBA/ JD program at the University of Denver. The program wasn’t for him, so he quit a year in and started a business selling industrial and agricultural equipment overseas. Through a client, he got involved in selling chicken backs and necks to the Jamaican government.

The rest, as they say, is history. Valencia became deeply involved in the poultry industry. He closed his export business and went to Colorado State University (CSU) to study production and operations management and poultry science. He brought a unique perspective to the program with the background in marketing and finance, and was soon traveling all over the world working with poultry producers and scientists. He traveled to over 50 countries as part of his work. While still a student, he was invited to be a guest lecturer by CSU’s animal science department. After in-depth research at the USDA, he wrote the syllabus for a course on the commercial poultry industry, which he also taught.

He has worked as a poultry industry consultant in the U.S. and Europe, Africa, the Caribbean, and Latin America. Valencia has owned two USDA-certified poultry processing plants. He has advanced training in HACCP (Hazard Analysis Critical Control Points) from the University of Nebraska-Lincoln, an essential requirement for managing a poultry processing plant. He took a one-semester course on feed manufacturing at Kansas State University in preparation for operating the existing feed mill at his current farm.

In 2007, Valencia began managing a farm in Norton, Kansas that was owned by Golden Duck LLC. He had a unique arrangement with the company—instead of earning regular wages, he was working for equity in the farm, with the goal of owning it himself eventually. He planned to raise poultry there, and had submitted paperwork to the Kansas Department of Health and Environment to get the necessary farm operating permits to raise geese on a commercial scale. The paperwork was taking a long time to go through (it typically takes 3-5 months, depending on the complexity of the operation), and in the meantime he had to make a decision about his first season on the farm. Geese only hatch for a short period during the year (February - June), and if Valencia didn’t order his birds during that window of time, he wouldn’t be able to earn income from the farm for the first year.

Having submitted the paperwork in good faith, Valencia decided to start raising geese on the farm, even though his permits were still being processed. The previous farm owners had had an industrial hog operation, so he assumed his paperwork would go through without a problem. He started out with 20,000 goslings, which is a relatively modest number compared with many poultry operations in the area. Poultry farms often will have 50,000 to over a million birds at a time. In June of that first year, misfortune struck. After several weeks of extremely hot, dry weather, there was an unusually strong hailstorm that killed 800 of Valencia’s birds. With so many birds dead, he chose to incinerate them, a common practice on poultry farms. The local authorities caught wind of it, and panicked that the birds had died because of disease. The USDA and the state did biopsies on the dead birds to check for disease. The results confirmed that there was no disease present.

However, due to the lack of a permit, Norton County confiscated all of Valencia’s birds anyway and sold them at auction for a fraction of their value. He was ordered to stay off of the property (under threat of arrest) while they removed the birds. The county also gave away thousands of dollars’ worth of his poultry equipment to the people who came to the auction to buy the geese, Valencia didn’t receive any of the money, and in fact was charged $10,000 for feed that was brought in during the confiscation process, even though there was about 64 tons of feed grain in bins on the farm at the time. The fact that he had filed paperwork for the proper permits was not taken into account, and Valencia was not given the opportunity to explain his situation.

Beginning in 2010, Valencia’s farm was vandalized three times. $15,000 worth of equipment was stolen, and the vandals damaged property throughout the farm, shooting bullets through several windows, his van, and a doorknob. While two perpetrators were caught and made to return some of his property, they received only a $1,500 fine each and a warning. The county kept the fine, and even though Valencia filed a motion to receive the money as partial compensation, he never received any money for the thefts or the damage done to his property.

In the last few years, Valencia has been working toward organic certification of his farm. His dream is to have a combined poultry and vegetable operation, all of which would be certified organic. He has again experienced significant setbacks, however.

Two years ago he was notified by the county that he had to control a noxious weed problem on his farm, or they would have the weeds sprayed and Valencia would be charged. He communicated to the county verbally and in writing that he was...
Dirt-under-the-fingernails wisdom shared through MOSES mentor program

By Brittany Olson

With many years of experience in organic dairy and grain farming plus a bachelor’s degree in education, Dave Campbell finds it natural to be teaching the next generation of organic farmers through the MOSES Farmer-to-Farmer Mentor Program.

“It comes easy for me and is something I am very passionate about,” said Campbell, who owns and operates Lily Lake Organic Farm about 50 miles west of Chicago. He has 156 tillable acres of certified organic crops, including buckwheat, corn, soybeans, wheat, hay, oats, and red clover as a cover crop. He grew up on an organic farm, well before “organic” was a label; his father went organic in 1967 when Campbell was 12 years old. Campbell and his wife moved to their current farm in 1988, transitioning the entire farm to certified organic production.

Campbell became a mentor in the MOSES mentorship program in 2010, and has mentored a farmer every year since then. “One year I had two,” he added. He is currently mentoring Ben Hagenbuch, who recently moved from the Twin Cities back to his “old stomping grounds” with his wife and four young children.

Hagenbuch grew up on his family’s 1,000-acre conventional cash crop operation not far from Campbell’s farm. He has had a successful career in banking but “always had an inclination to farm,” he explained. His dad plans to retire “eventually,” and neither of his brothers is interested in taking over the farm. So Hagenbuch is planning ahead. His plans include transitioning part of the family operation to organic—something entirely new for the Hagenbuchs.

True to his banking roots, Hagenbuch wanted to minimize risk and increase the likelihood of his success by being cautious about organic production from an experienced organic farmer before he makes the transition. He attended the OGRAIN Winter Conference in January at the University of Wisconsin-Madison, where he met Organic and Sustainable Cropping Systems Specialist Erin Nelson of Wisconsin-Madison, where he met Organic and Sustainable Cropping Systems Specialist Erin Nelson. She recommended the MOSES mentorship program to him.

The MOSES Farmer-to-Farmer Mentoring Program provides one-to-one guidance from an organic farmer who is experienced with the particular enterprise that another farmer wants to explore.

“Planning ahead is crucial to a successful organic transition, and Ben was very motivated to learn and succeed,” said Jennifer Nelson, the program’s coordinator. “And, Dave is such an incredible mentor. They’re a good pairing.”

The mentor-pair met at the MOSES Organic Farming Conference in La Crosse earlier this year. The MOSES Conference is not only where you wrap things up with previous mentees, but also where you meet new ones and learn about their operation,” Campbell said. “You also learn whether it’s a good fit or not.” They discussed expectations, and agreed that Campbell could help Hagenbuch investigate which practices would work best for his land, and help him write a business plan to transition some of the farm to organic production.

Campbell and Hagenbuch have met about three times in person to walk through options for particular parcels of the Hagenbuch family farm and other details of organic production, and the two correspond regularly by email, texts, and phone calls.

Campbell said that being a mentor strikes a fine balance between being helpful, but not too helpful to the point that the mentee cannot draw their own conclusions with the knowledge at their disposal. In addition, if he doesn’t have the answer to a question that the mentee is looking for, he wants to be able to point them in the right direction.

“For me, the mentorship experience is all about giving them a combination of information to survive and do the job, and encourage them along the way while providing enough common sense to get through the highs and lows,” Campbell said. “You want to lay things out for them, but not get too involved so that you aren’t making the decisions for them.”

For Hagenbuch, it is that willingness to help combined with decades of hard-fought experience that have made Campbell a fantastic mentor.

“Dave has helped with education and planning,” Hagenbuch said. “I was taking in as much as I could from him in regards to which parcels of land would work best for transitioning to organic production. We are only partway through the mentorship, but Dave has been very helpful with not only walking through my business plan and offering critique when needed, but also making sure the plan is viable.”

Campbell enjoys working with Hagenbuch particularly because of his planning skills.

“He’s taking time this year to plan for next year. He’s an excellent planner, and those skills are hard to find. Most farmers are planners, but not to the extent that Ben is,” Campbell said. “Ben will be starting small because he does have a full time job, but he still needs the equipment to get started in organic.”

Hagenbuch plans to be certified organic by 2021, with 2019 marking the first year of the transition process. He doesn’t want to go all in only to have the venture turn into a bust, but wants to manage his risk carefully.

“It may be as small as 20 acres and it may be as large as 60,” Hagenbuch said. “My thought behind this is to start small and keep my risk low so I can expand gradually and convert more ground in the years ahead. I want to expand beyond basic organic, build soil organic matter, and be a better steward of the land,” he added.

For Campbell, being a better steward of the land is not only something he can get behind, but

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To Mentorship Program next page

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simply what organic farming is all about. As an example, he is growing a cover crop of sorghum sudangrass for fallow this crop year on two of his fields, in order to control Canada thistle on his farm. He saw firsthand the benefits of using sorghum sudangrass as a method of eradicating Canada thistle when he served as a farm advisor for a SARE-funded research project through the University of Illinois.

Sorghum sudangrass is aggressive enough to block photosynthesis of the shorter Canada thistle plants. In addition, the massive root system of sorghum sudangrass takes up moisture that will be in limited supply to the lateral thistle roots, especially later into the summer when soil moisture is typically in shorter supply. Campbell calls it a “smother-and-starve” approach.

“When the sorghum sudangrass reaches a certain height I’ll clip it about a foot off the ground with my haybine, leaving the sorghum sudangrass residue on top of the plant stubble, thereby keeping the sunlight out, eventually chisel plowing it under later in the fall,” Campbell explained. MOSES and OGRAIN will host a field day Aug. 29 at Campbell’s farm to showcase this method. See mosesorganic.org/aug-29 for more details and to register for the free event.

Campbell said he treasures the privilege of being able to guide the next generation of organic farmers into a socially, environmentally, and professionally sustainable method of farming that attracts more interest from farmers, new and experienced, all the time.

Brittany Olson is a freelance writer and dairy farmer from Chetek, Wis.
Shared Capital Cooperative (St. Paul, Minnesota), RM will bring these financing tools to every organization in the 12-state region and facilitate their engagement. RM will also work to attract investors from around the country.

- **Markets**
  In partnership with existing organizations, RM will support the creation of marketing campaigns to differentiate regenerative products in the marketplace through targeted regional and state campaigns.

- **Education**
  In partnership with existing organizations, RM will support targeted regional and state campaigns aimed at educating industry leaders, investors, consumers, and government officials at all levels.

- **Supply Chain, Tracking Progress**
  The supply chain and flow of products from farms to markets is the foundation to successfully transitioning agriculture. Tracking the progress across the supply chain and ensuring that it improves continuously, that it is verified to meet regenerative standards and that there is integrity in the processes, is central to the operational goals of the RM coalition. RM will track progress on key indicators such as number of products available, number of farms engaged, acreage impacted and farmers’ overall financial performance. These indicators will ensure that we can monitor, measure, and continuously improve a successful transition to regenerative agricultural practices.

**Building Executive Teams**
Thanks to the strong support from Main Street Project, Regeneration International and Organic Consumers Association, RM has an organizing team and three core executives working daily to plan and execute the start-up phase of this initiative.

Based on regional conversations that took place during the 2018 MOSES Conference in La Crosse, Wisconsin, and local conversations in Minnesota, Nebraska, Iowa, Wisconsin, Kansas, Indiana and other states, we have produced a base directory of players across the 12-state region. Even though three people currently oversee the larger effort, members from each state are expected to join only if they are ready to work in cooperation, willing and partially resourced to carry on the process of building state-level coalitions and to work in alignment with the larger regional vision.

Farmers who want to join the system or non-profits willing to engage in state-level organizing within the Midwest states can reach out to the organizers of Regeneration Midwest by emailing regenerationmidwest@gmail.com

Reginaldo Haslett-Marroquin is Chief Strategy Officer at Main Street Project, founding member of Regeneration International, and Director of Regeneration Midwest.
Produce growers: Take steps now to comply with FSMA Produce Safety Rule
By Teresa Wiemerslage

The Food Safety Modernization Act (FSMA) Produce Safety Regulation is the country’s first mandatory federal standard for the safe production of fruits and vegetables. It is being implemented in stages, with some rules in effect since 2016, and more-taking effect in January 2019. While small- and medium-sized farms will be exempt from the regulation, all farms that grow and handle vegetables and fruits should understand and follow best practices to keep produce safe to consume. These eight steps will help improve your farm’s understanding of best practices and get your farm ready to comply with the FSMA Produce Safety Rule (PSR).

1. Document your farm’s FSMA PSR Status.
The FDA has created a flowchart to help growers determine their FSMA status—except, qualified, exempt, or covered by the regulations. See the chart online at mosesorganic.org/fsaf-safety. To determine your farm’s FSMA status, you will need to know whether the commodities grown on your farm are covered or not; the average annual produce sales of your farm; the average annual food sales of your farm; and which of your customers are “qualified end users.” Farms were required to start keeping these records in March 2016. If you have not been keeping records, go back now and gather as much financial documentation from March 2016 onward as possible. You could use tax filings or accounting reports to show your annual produce sales and annual gross sales for each year. Simple worksheets are available to help farmers with this documentation.

2. Attend a PSA Grower training.
The best way to learn about the PSR is to attend a Produce Safety Alliance (PSA) Grower Training. This curriculum covers the FSMA Produce Safety Rule requirements as well as Good Agricultural Practices (GAPs) for on-farm food safety. PSA is a collaboration among Cornell University, FDA, and USDA to prepare fresh produce growers to meet the regulatory requirements included in the FSMA Produce Safety Rule. Official trainings are offered by individuals trained by the PSA and are generally eight hours long. Attendees are sent official certificates upon completion. See producesafetyalliance.cornell.edu and click on “Training” to see a list of upcoming grower trainings planned around the country. In addition, check with your state department of agriculture to find local trainings.

The PSA Grower Training also meets a requirement of the PSR that “at least one supervisor or responsible party from a farm subject to the FSMA Produce Safety Rule must have successfully completed food safety training at least equivalent to that received under standardized curriculum recognized as adequate by the Food and Drug Administration.”

3. Track what you grow, where you sell it.
Exclusions and exemptions to the PSR are largely based on the types of commodities grown, total annual sales of produce, and where and to whom the food is sold. Farms should have a record-keeping system to collect those figures. Sales records, harvest logs, and packing logs can be useful documents. Create a list of your buyers and sort them as “qualified” or “non-qualified” end users. Farmers market and CSA sales can be lumped into one category.

4. Update your labels, signage.
A qualified exempt farm is subject to certain labeling requirements. Any product that leaves the farm in a box (going to a restaurant, grocery store, or CSA member) needs to have a label on it that includes the farm name and complete business address. When you sell products at a farm stand, farmers market, or other direct point of sale, you must post a sign with the farm name and business address where the produce was grown. Check your box and container labels, farmers market signage, and invoices to see if they need to be updated. Make this change when you re-order supplies.

5. Update records for required elements.
The PSR requires a few specific records. If your farm is already doing some record-keeping and documentation of food safety efforts, your log sheets may need to be updated. New items to include are the name and location of the farm; the date and time of the activity documented; initials of the person making the record; and space for a reviewer signature and date. There may be some overlap between organic and food safety records. Farms are encouraged not to duplicate records for food safety if they are already tracking those details in their organic record-keeping.

6. Test your agricultural water for generic E. coli.
The FDA is exploring ways to simplify the agricultural water standards established by the PSR. They have extended the compliance dates for agricultural water requirements out to 2022 and beyond. Until then, make sure you are testing all water sources used for irrigation, fertigation, packing, cleaning, and hand-washing for generic E. coli at least once a year (more frequently for surface water). If your farm is covered by the PSR, there are specific water tests that are acceptable. Many states are compiling lists of labs that offer the accepted tests. Check with your extension service or state department of agriculture.

7. Create documents to train workers, visitors.
The PSR potentially presents fully covered organic farmers with a whole new set of duties related to training workers and ensuring that health and hygiene practices are followed. Workers must be trained at least annually, and one representative of the farm must attend a PSA training. Field sanitation requirements are the same as existing OSHA requirements, but FSMA has a long list of practices that workers must follow. Written records must be kept to document several of these requirements. You must also make farm visitors aware of your health and hygiene practices. This can be done verbally or through signage.

The FDA is conducting a risk assessment of the number of days needed between the application of raw manure as a soil amendment and harvesting, to minimize the risk of contamination. This is estimated to take between 5 and 10 years to complete.

At this time, the FDA does not object to farmers complying with the USDA’s National Organic Program standards, which call for a 90 or 120-day interval between the application of raw manure and harvest. In areas where raw manure is applied, covered crops that do not touch the ground can be harvested 90 days after manure application. Crops that do touch the ground cannot be harvested until at least 120 days after manure application. Composted manure needs to follow an approved process and have logs or supplier documentation of process.

Teresa Wiemerslage is a certified Produce Safety Alliance lead trainer and Food Safety Field Specialist for Iowa State University Extension and Outreach.
working toward organic certification, and would be managing the weeds without chemicals. He demonstrated an earnest effort to comply, including submitting photos of weeds that he had mechanically removed and bagged. He also submitted names and phone numbers of witnesses who had worked with him on the problem. Nevertheless, the county hired someone to go onto his property and spray his weeds with chemicals while he was away from the farm. To cover the cost of the spraying, his taxes were increased by 80%.

Last year the situation repeated itself, although this time Valencia had notified the county that he would be in the hospital for several days having back surgery, and wouldn't be able to manage the weeds until he recovered. While he was in the hospital, the county sent an airplane pesticide applicator out to spray his entire farm (which is only 45 acres). Again, he was billed for the spraying.

This year Valencia has been able to get a handle on his weed problem using mechanical means, and the county has not sprayed his land. Officials have been out to inspect his farm, consistently showing up when he was away from the farm. He has specifically requested by phone, in writing, and in person that they notify him before they come onto his property.

Because the farm was sprayed by the county last summer, he will have to wait another two years before he can get his land organically certified. Undeterred, Valencia is busy putting up greenhouses where he will grow hydroponic vegetables, which he hopes to have organically certified as early as September of this year. He's also growing microgreens, using organic seed and certified as early as September of this year. He plans to make this into a greenhouse by himself. He'd like to turn it into a greenhouse by himself. He'd like to retrofit a 13,000-square-foot poultry barn to make it a greenhouse by himself. He'd like to turn it into a greenhouse by himself. He'd like to turn it into a greenhouse by himself. He'd like to turn it into a greenhouse by himself.

![Dramatic Natural Fish Fertilizers](image)

Valencia believes his mistreatment by local authorities stems from racial prejudice. The roadblocks, extremely high fees, and petty behavior by county officials make him think there are people in Norton actively setting up the legal framework to take his property from him. He knows white farmers in the county have specifically requested by phone, in writing, and in person that they notify him before they come onto his property.

"Yeah, they're ruthless," he said. "They're stuck in the 50s and 60s, I think." Jeltz left Norton because it became increasingly clear that he would wind up in jail or worse if he didn't. "Carlos tries to do everything by the book," he continued. "He's very intelligent, far more intelligent than most people in Norton. But, he's fighting a losing battle."

Jeltz points out that Valencia has put everything into his farm and wouldn't get a good price if he tried to sell it. The neighbors have expressed eager interest in purchasing the farm at a "fire sale price," which Valencia has consistently rejected. If you have feedback for MOSES on this article, or anything to do with diversity, equity, and inclusion, please email equity@mosesorganic.org. To find out how you can become involved in ending racism and injustice in agriculture, check out these resources: www.soulfirefarm.org, plantjustice.org, showingupforracialjustice.org.

Bailey Webster is a MOSES team member and an organic vegetable grower.
New apprenticeship program trains farm managers
By Laura Jessee Livingston

Skilled farmworkers are an asset to any farm. Yet, experienced staff who return year-after-year are not as common as farmers might like. In Wisconsin, a new Organic Vegetable Farm Manager Apprenticeship will educate farmworkers for careers in organic agriculture. This new apprenticeship program creates a path for farmers to train and retain employees perennially.

The Wisconsin Organic Vegetable Farm Manager Apprenticeship is the first state-accredited apprenticeship program for organic vegetable farming in the United States. It was crafted by farmers and is designed to provide an accessible and holistic training program that assists farmers in developing skilled workers on their farms. The Organic Vegetable Farm Manager Apprenticeship provides a long-term training opportunity that combines hands-on field work (90% of the program) with coursework delivered through the Wisconsin Technical College System (10% of the program). The two-season training allows apprentices to grow into managerial roles that are not only satisfying for the apprentices but also highly beneficial to the farmers who train them.

Stacey and Tenzin Botsford of Red Door Family Farm are the first farmer-educators to register an apprentice. Red Door Farm is a diversified, organic family farm nestled in Athens, Wisconsin selling fresh produce into direct markets. “We always say the CSA is the backbone of what we do,” Tenzin said. Stacey and Tenzin have enrolled Aaron Griner as an apprentice this summer. Aaron will continue his hands-on training through 2019, and may eventually take on a managerial role at the farm.

There are many other positives for farmer-educators besides training skilled labor. “Being part of the apprenticeship program will allow us to continually evaluate what we’re doing and why, and help to ensure that we are making the best decisions as a farm,” Tenzin added.

This apprenticeship will also fill an educational gap that is often a barrier to beginning farmers. The traditional system of learning farming skills while growing up in a farming family is declining, leaving a gap in knowledge transfer. Although there are agriculture courses and books, Stacey noted that “the most effective teaching method for me has always been hands-on learning. And, although I know there are many things you can learn from taking a class or studying books, it’s nothing like seeing things happen in the field and watching a farmer work out solutions.”

Twelve established organic farmers from across Wisconsin shaped the curriculum, standards, and competencies of the apprenticeship program. The competencies and curricula which guide farmer-educators and apprentices through the skills to be mastered, provide a helpful framework for the program.

As Tenzin pointed out farmers “can best train the next generation of organic vegetable growers by giving them the opportunities to do the work—to feel the work day-in and day-out—to have some amount of ownership over their successes and failures, so that they know what that’s like, in their bones.”

To learn more and find out how you can be involved as a farmer-educator or an apprentice, email strader.claire@countyofdane.org or attend the Apprenticeship Kick Off Event Wednesday, Aug. 29 from 3 to 5 p.m. at Fazenda Boa Terra in Spring Green, Wis. For details, see bit.ly/VegApprenticeKickoff.

Apprenticeship program development was coordinated by Owen Smith, WI Department of Workforce Development, Claire Strader, Dane County UW Extension and FairShare CSA Coalition, Julie Dawson, UW Madison Department of Horticulture, Val Danzian, Northeast Wisconsin Technical College, and UW Madison Agroecology graduate students Laura Jessee Livingston and Alex Steussy-Williams.
### MOSES Conference Workshop Planning Survey

Help us focus in on the workshop topics you’d like covered at the 2019 MOSES Organic Farming Conference. Voting runs through Aug. 31, 2018. You may select up to 6 workshops per category. Take the survey online at www.surveymonkey.com/r/2019workshops or vote here and mail your completed survey to: MOSES, PO Box 339, Spring Valley, Wis., 54767.

#### Field Crops
- Industrial hemp
- Impact of Midwest farms on gulf fisheries
- Organic corn/soy production
- Brewing grains
- Organic wheat production
- Small grains
- Technology for row crops
- Fertility for commercial-scale farmers
- Agroecology on a commercial scale

#### Livestock
- Silvopasture
- Year-round grazing
- Pastured broilers
- Pastured pork
- Managed grazing
- Holistic goat health
- Small dairy
- Egg production
- Organic beef
- Integrating crops/cover crops and livestock
- State of organic dairy

#### Vegetables and Fruits
- Year-round indoor salad gardening
- Healthy soils, healthy plants, healthy people
- Fruit tree grafting
- Germination specifics for vegetables
- Small-scale vegetable farming
- Winter vegetable production
- Elderberry production
- Biodynamic farming
- Crop planning for veggie farmers
- High tunnel vegetable production
- Ginger/turmeric in the Midwest
- Indigenous food systems
- Flower production for veggie farmers
- Strawberry production
- Upcoming seed varieties
- Regional variety selection and seed trials
- Sustainable vineyard techniques
- Understanding organic amendments and fertilizers
- Feeding the soil microbiome
- Compost science and utilization
- Tools to assess your soil
- On-farm composting
- Pros and cons of tillage
- Working with living soils
- Mycoremediation of contaminated soil and water
- Creating abundant life on the farm
- Interpreting soil tests
- Healthy soils, healthy plants, healthy people
- Biologics for better early crop-growth
- Biodegradable plastic mulch

#### Business, Marketing, and Management
- Getting things done on the farm
- Marketing beyond the farmers market
- Selling farm products online
- Social media marketing
- Branding your farm
- Attracting the right customers
- Asset protection, tax reduction, and estate planning
- Buying land for organic farming
- Making the health connection for consumers
- Developing a healthy farm business with your partner
- Employee management
- Consumer market trends for organic farmers
- Holistic management farm finances
- Farming without the bank
- Keeping your farm dream from becoming a nightmare

#### Organic Certification and Regulations
- Transition for commercial-scale farms
- Organic certification for veggies
- Writing an organic systems plan
- Crop rotation during transition
- Mock certification inspections
- Food safety/GAP/FSMA
- Regenerative organic labels
- Blockchain technology and organic integrity
- Organic international trade update
- Employment law for farmers

#### Policy and Emerging Issues
- Agroecology
- Dealing with pesticide drift
- Restoring food biodiversity
- Farming with climate change
- Assessing farm-scale greenhouse gas emissions
- Policy for value-added production
- Planning for farm transfer

#### Pests, Weeds, and Beneficials
- Mycopesticides for organic pest control
- Online decision tool for weed management
- Weed control in vegetables
- High-residue cultivation
- Managing beneficials on the farm
- Pollinators

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Free Admission to MOSES Conference
You could win a free pass to the 2019 MOSES Organic Farming Conference if you enter and win the program cover photo contest. Even if you don’t win the coveted spot on the program cover, you’ll still get recognition for your amazing farm when we show your farm photo before the keynotes. You also give MOSES authentic farm photos to use to promote organic farming.

As you’re working on your farm this summer, take photos of field work, happy livestock, your barn—whatever says “organic farming” to you. To submit photos, go to mosesorganic.org/conference and click on photo contest link. Deadline is Sept. 15, 2018.

New Organic Fact Sheets from MOSES
We have revised and updated two popular fact sheets: Managing Soil Fertility in an Organic System, and Organic Pest and Disease Management. The first explains how healthy soil creates the foundation for a successful organic farm and how to manage fertility to build soil organic matter. The second provides an overview of the hierarchy for dealing with pests and diseases in an organic system. These sheets are free to download online at mosesorganic.org/organic-fact-sheets or call 715-778-5775.

Farmer of Year Nominations
Recognize an amazing organic farmer by nominating that person/family to be the 2019 MOSES Organic Farmer of the Year. This prestigious award honors a Midwest certified organic farmer or farm family for practicing outstanding land stewardship, innovation and outreach. It will be presented at the 2019 MOSES Organic Farming Conference Feb. 21-23 in La Crosse, Wis. The nomination form is online at mosesorganic.org/organic-farmer-of-the-year. Deadline for nominations is Sept. 15, 2018.

In Her Boots Podcast
The MOSES “In Her Boots” podcast currently features conversations between host Lisa Kivirist and organic pioneer Joyce Ford. New episodes come out every Friday. Subscribe on iTunes or Stitcher or listen online at mosesorganic.org/in-her-boots-podcast.

Urban Women Caring for the Land
MOSES will offer two unique Women Caring for the Land workshops: Wednesday, Sept. 12 in Madison, and Wednesday, Sept. 19 in Milwaukee, Wis. The workshops target women who live in urban areas and own rural land, giving them information on conservation practices and programs they can access to improve their land. See mosesorganic.org/in-her-boots/events/#wcl.

Organic & Non-GMO Forum
Now in its fourth year, the Organic & Non-GMO Forum is the source for conventional food and ag businesses to learn about opportunities in the organic and non-GMO sector, and for those in the field to discuss supply chain challenges and opportunities. This event, which has grown three-fold, promises unique insights from leading experts, and unparalleled networking opportunities.

Tickets are $799, but farmers in the MOSES community may use the following discounts: producers with more than 5,000 acres under organic or transitional production use the code MOSES to reduce registration to $650; those with fewer than 5,000 acres use code FARMER to reduce registration to $499.

Organic Integrity Pilot Program
A task force of the Organic Trade Association has created a pilot fraud-prevention program that’s being tested this summer by 11 companies, including Clarkson Grain, Grain Millers, Organic Valley, and Pipeline Foods. The companies will run a specific product or ingredient through the fraud prevention and detection strategies developed over the past year by the task force, gathering input from others in their unique supply chain. The goal is to facilitate the industry-wide implementation of systems and measures to preserve the integrity of organic.

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(608) 970-7753 | Paul.Dietmann@compeer.com

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(612) 597-4005 | Sai.Thao@compeer.com

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Organic & Non-GMO Forum
mosesorganic.org/in-her-boots/events/#wcl.

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Sound management starts with soil pH maintenance
Soil pH dictates nutrient availability and pH levels below 6.0 can reduce yield by as much as 30 percent. Rather than correcting pH every few years, agronomists now recommend a regular pH maintenance program.

98G corrects soil pH faster than aglime and maintains consistent, yield maximizing pH levels year after year. Maintain your operation’s pHull potential with 98G.
**National Organic Program Director**

The USDA has appointed Jennifer Tucker as Deputy Administrator of the department’s Agricultural Marketing Service (AMS) National Organic Program (NOP). Dr. Tucker has served as Associate Deputy Administrator of the National Organic Program since 2011.

**IFOAM Standards Committee**

Former Deputy Administrator of USDA’s National Organic Program Miles McEvoy has been appointed to serve on the Standards Committee of IFOAM-Organics International. He is the sole U.S. representative on the committee, which is scheduled to revise the IFOAM Standard over the next three years.

**Organic Sales Data**

The Organic Trade Association’s latest industry survey shows U.S. organic sales reached a new record of $40.4 billion in 2017, up 6.4% from the previous year. The organic food market hit $45.2 billion in sales in 2017. Organic dairy and eggs represented the second-largest category.

**Wisconsin Dairy Task Force**

Gov. Scott Walker recently announced the formation of “Wisconsin Dairy Task Force 2.0” to create solutions to the crisis in Wisconsin’s dairy industry, which accounts for nearly 80,000 jobs. The task force is chaired by Mark Stephenson, director of Dairy milk —second only to California. The task force and produces roughly 14 percent of the nation’s industry, which is scheduled to revise the IFOAM Standard over the next three years.

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**Hawaii’s Pesticide Ban**

Hawaii has become the first U.S. state to completely ban use of the pesticide chlorpyrifos. The state’s new law also requires agrochemical companies to share where and when they will apply all restricted-use pesticides. Because Hawaii’s climate allows for year-round growing, agrochemical companies have used the state as a testing ground, spraying up to 16 times per day.

**Spotted Wing Drosophila**

Spotted wing drosophila, the highly invasive fruit pest, has been spotted in University of Minnesota’s 2018 monitoring traps. The university has two new podcast episodes on organic management methods from Mary Meyer, assistant professor of horticulture, and Jim Riddle, long-time organic fruit grower. The podcast is at www.fruitedge.umn.edu/kalepodcast.

**Workshops on Pollinator Habitat Planning**

The Xerces Society and the Natural Resources Conservation Service (NRCS) will present two all-day workshops in Wisconsin to give growers a crash course on bee field identification, pollinator biology, habitat restoration, bee-friendly farm management, and federal programs for support. The courses run 9:30 a.m. to 4:30 p.m. Aug. 14 in Edgerton, Wis., and Aug. 30 in Evansville, Wis. Registration is $50. See xerces.org/event.

**Workshop on Preventing Farm Injuries**

The National Children’s Center for Rural and Agricultural Health and Safety will host an in-depth workshop Aug. 14-15 in Marshfield, Wis., on strategies to safeguard children from farm injuries. It is aimed at farm organizations, insurance professionals, bankers, Extension, FFA, and public health officials. Cost is $249. See details at www.marshfieldresearch.org/caip-workshop.

**Lean Farm Training**

Ben Hartman, author of two books on “lean farming,” is teaching his method of vegetable production through three events: a workshop Sept. 7-8 at his farm, an online course this fall, and a weekend “Market Farming 101” training with Ray Tyler in Solon, Tenn. Oct. 22-26, 2018. For prices and details, see claybottomfarm.com.

**Weed Control Demonstration Day**

The Midwest Mechanical Weed Control Field Day will take place Wednesday, Sept. 26, at PrairiErth Farm in Atlanta, Ill. The event includes demonstrations of in-row cultivation tools for vegetable crops, and displays of tractors and equipment, including flame weeder and finger weeders. See thelankconnection.org/farmers/ mechanical-weed-control-field-day-2018.

**PSA Grower Trainings in Minnesota**

The University of Minnesota Extension and Minnesota Department of Agriculture just announced dates for the state’s FSMA Produce Safety Rule training courses—14 total between November 2018 and March 2019. Cost is $25 for the one-day workshops. See www.mda.state.mn.us/food/safety/producesafetyprogram.aspx or call 651-539-3648.

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For Sale: Oregon Certified Organic Nursery Business. Owners retiring, selling Eugene area wholesale/retail nursery business. Active accounts, 5 greenhouses plus associated equipment, materials and historical data. No land, must relocate. Great customer base and great business opportunity. Owners will share business planning and operation experience. $165,000 min bid. OGNurserySale@gmail.com

For Sale: Tempered, insulated, double-pane glass. Large panes for sunrooms, solar homes, ag buildings, greenhouses or ??? One hundred fifty thousand sold since 1979; 32’ x 74” x 1” double-pane only $49.00. We will be closing or selling Arctic Glass in 12 months. If you need glass, now would be a good time! Arctic Glass, www.kissourglass.com, 715-639-3762 or josephh424@gmail.com.


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For Sale: Rocket Organic Farm near Columbus, Indiana. KW 507-272-0526 to view this unique ag opportunity.

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For Sale: 136-acre previously organically certified Farm for sale near Columbus, Indiana.

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

For Sale: Tempered, insulated, double-pane glass. Large panes for sunrooms, solar homes, ag buildings, greenhouses or ??? One hundred fifty thousand sold since 1979; 32’ x 74” x 1” double-pane only $49.00. We will be closing or selling Arctic Glass in 12 months. If you need glass, now would be a good time! Arctic Glass, www.kissourglass.com, 715-639-3762 or josephh424@gmail.com.


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Twilight Farm Tour: Leelanau Specialty Cut Flowers
Join Michelle Slackford for a farm tour through the flower fields for a real hands-on visual on flower farming. Please RSVP: 231-622-5253.

In Her Boots Workshop: Humble Hands Harvest
July 26 | 10 a.m. - 3 p.m. | $25 | Decorah, Iowa
MOSES field day - See page 15.

Uplands Watershed Group Farm Tour and Lunch
July 27 | 9 a.m. - 1 p.m. | Free | Spring Green, Wis.
MOSES partner field day - See page 15.

Achieving Financial Success with Grazing Cover Crops
July 30 | 7-8:30 p.m. | Free | Online webinar
Practice Farmers of Iowa will introduce the best management principles and practices for maximizing the economic value of cover crops. Practice Farmers of Iowa: 515-232-5661

Rationally Raised: Making Small Grains Work
July 30 | 10:30 a.m. - 5 p.m. | $50 | Monroe, Minn.
Sessions on integrating animals with a small grains operation, marketing small grains, production of small grains, and more. Practical Farmers of Iowa: 515-232-5661

OGRN Workshop & Farm Tour: Wilson Organic Farms
July 31 | 9 a.m. - 2:30 p.m. | Free | Cuba City, Wis.
MOSES field day - See page 15.

CRAFT Field Day: Regenerative Grazing and Clover
July 31 | 10 a.m. - 3 p.m. | $30 | Caledonia, Ill.
Learn about Angelic Organic’s livestock regenerative grazing practices over the past decade, and cover cropping and soil fertility methods. Angelic Organics: 815-389-8455

MAA High Tunnel Field Day at The Good Acre
August 2 | 10 a.m. - noon | $30 | St. Paul, Minn.
Learn about a “fermentation system” that allows you to analyze plant nutrients and adjust fertilizer accordingly through drip irrigation. We will also discuss how to apply for your own high tunnel through NCRS. Minnesota Food Association: 651-433-3676

Steel in the Field for Organic Row Crops
August 2 | 7 - 8:30 p.m. | Free | Wolcott, Ind.
A field day at Living Prairie Family Farms in Wolcott, Indiana. Jason Federer, owner of Living Prairie Family Farms, operates a split operation, managing both conventional and certified organic grain production. Purdue Extension: 765-284-8414

Pasture Walk: Rosene Farm
August 2 | 5 - 7 p.m. | New London, Wis.
Learn from graziers across Wisconsin. Focus on Silvopasture project funded through SARE Farmers Rancher grant. RSVP to Kirsten: 262-993-2077

Four Elements Workshop: A Medicinal Herb Intensive
August 3 | 5-6 p.m. | North Freedom, Wis.
A comprehensive, hands-on educational weekend covering all aspects of medicinal herb production from seed to product, on our certified organic herb farm. Four Elements: 608-522-4492

In Her Boots Workshop: Raleigh’s Hillside Farm
August 3 | 10 a.m. - 3 p.m. | $25 | Brodhead, Wis.
MOSES field day - See page 15.

Soil Sisters: A Celebration of Wisconsin Farms & Rural Life
August 3 | 5-6 p.m. | Free | Decorah, Iowa
MOSES field day - See page 15.

Johnson Farms Tour
August 9 | 8:30 a.m. - 1 p.m. | Free | Madison, S.D.
MOSES field day - See page 15.

Managed Grazing and Soil Health
August 9 | 8:30 a.m. - 12 p.m. | $50 | Falk River, Wis.
Learn to manage grazing to improve soil health. Southwest Badger RC&D: 608-258-2301

Flame Weeding Workshop
August 12 | 9:30 a.m. - 5 p.m. | $3 | Concord, Neb.
Learn how to do proper flaming to control over 10 major midwestern weeds in 7 agronomic crops. Call Dee Fosse: 402-584-3837

On-Farm Foodservice Field Day
August 12 | 10 a.m. | $3 | Squash Blossom Farm, Onneco, Minn.
August 23 | 10 a.m. | $3 | Campo Di Bella, Mt. Horeb, Wis.
Are you a farmer curious about potentially diversifying into on-farm food service such as a farm-to-table dinners or a pizza farm? Renewing the Countryside: 612-919-7602

Pollinator Habitat Planning For Farmers & Landowners
August 14 | 9:45 a.m.-4:30 p.m. | $50 | Evansville, Wis.
Xerces Society and NRCS present a course in basic bee field identification, pollinator biology and habitat, habitat restoration, bee-friendly farm management practices, and federal programs for support. Registration required. 608-241-9744

WCRCO Organic Dairy Day
August 14 | 10 a.m. | Free | Morris, Minn.
For more, contact: Cal: 320-389-7711, ext. 2718.

Child Agricultural Injury Prevention Workshop
August 16-17 | 4 - 7 p.m. | Marshfield, Wis.
Learn how you can help safeguard children and youth who live, work, and play on farms and ranches. Marshfield Clinic: 715-387-5241

Wisconsin Farmers Union Summer Conference
August 16 | All day | Chippewa Falls, Wis.
Learn about traditional Hmong farming culture and daily life, as well as many other artists. Farm Aid: 202-248-5487

Tour of Angelic Organics farm and hear a panel discussion of Hemp Production & Hmong Farming Culture
August 16 | All day | Square, Minn.
Learn about integrating wildlife habitat, with a focus on pollinator habitat, into a farm operation. Angelic Organics: 815-389-8455

High Tunnel Selection, Construction, and Production
August 25 | 1 - 4 p.m. | Spring Valley, Wis.
MOSES field day - See page 15.

Midwest Mechanized Weed Control Field Day
September 26 | 9:30 a.m.-4 p.m. | $50 | Prairie Erth Farm, Minneapolis, Minn.
Learn the principles and tools for precise mechanical weed control from farmers, researchers, and suppliers.

HELPING CONVENTIONAL AG NAVIGATE ORGANIC & NON-GMO
The Organic & Non-GMO Forum brings together handlers, buyers, and processors to address current and future challenges in meeting growing demand for organic and non-GMO products and other emerging opportunities for specialization in conventional agriculture. Do not miss the ONG Forum, October 29-30th, in St. Louis!

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