

THE UNIVERSITY OF WISCONSIN CONTINUES TO GROW ITS ORGANIC PROGRAMMING



With the onset of COVID-19, the organic market has experienced growth in all of the staple food categories, from dairy and eggs to breads, pastas, rice, grains, and baking supplies. This growth is anticipated to increase, as long as supply is available to meet consumer demand. Organic meat, poultry, and fish, which has historically been the smallest organic food category, saw almost 10 percent growth, the biggest jump of any organic food category. With this growth in the organic market, organic agriculture is an increasingly strong contributor to Wisconsin's agricultural landscape. For this reason, the University of Wisconsin-Madison has a strong commitment to organic agriculture, not just for our own state but for our entire region.

More Organic Opportunities for Students

In response to expanding consumer interest and to invest in a shared organic future, UW-Madison is launching a new initiative to expand its educational offerings and its contributions to the organic industry: the "Wisconsin Consortium for Organic Research and Education" (WisCORE). This effort will significantly expand our coursework and curricular opportunities in undergraduate and graduate education, providing wide-ranging opportunities for students not only interested in directly engaging in farming, but those interested in pursuing careers to support our organic farmers, such as crop consulting, agricultural economics, business, communication, and health. In addition to new organic-focused course offerings, we will also be providing opportunities for students to get hands-on experience in organic production and related businesses. This initiative also expands our research capacity by funding five new graduate students, expanding research in the areas of cover cropping, plant breeding, organic markets, and pest/disease management.

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FSB LOCATIONS

301 W. Falcon, Flanagan

403 State, Benson

2401 E. Washington, Bloomington

111 N. Fayette, El Paso

500 S. Persimmon, Le Roy

208 E. Gridley, Gridley

Organic Research

UW-Madison is conducting a wide range of research relevant to organic farmers, including projects related to grains, vegetables, and dairy systems. Several research programs, including those led by Drs. Bill Tracy, Julie Dawson, Lucia Gutierrez, Phil Simon, Irwin Goldman, and Damon Smith, are developing cultivars of field corn, sweet corn, vegetables, soybeans, winter wheat, and oats specifically for organic management systems, including quality, disease resistance, and weed competitiveness. Strategies for reducing tillage in organic systems are being developed by several different research teams, including Dr. Erin Silva, Dr. Brian Luck (Department of Biological Systems Engineering), and Dr. Matt Ruark (Department of Soil Science), investigating organic no-till corn and soybean, and Rue Genger and Dylan Bruce investigating no-till vegetable production. Partnerships are being expanded with equipment companies, ultimately providing more options for organic farmers in their pursuit to develop successful no-till systems with the production strategies appropriate for organic farmers. Research projects are also underway to understand the impacts of long-term organic management on soil biology and soil health indicators, with sampling conducted both at the long-term systems trial at the Arlington Agricultural Research Station and on organic farms across WI.

In addition to these projects, UW-Madison faculty have received several new federal grants through the USDA Organic Research and Extension Initiative (OREI) addressing issues important to organic farmers, including reducing tillage in organic grain systems, building collaborative organic plant breeding networks for organic systems, strengthening value-added organic grains for local and regional food systems, and naked multi-use barley for organic systems.

On-Farm Research

Recognizing the diversity that characterizes our organic farms – as well as the incredible innovations of so many of our organic farmers – supporting farmers in conducting trials to evaluate new products and techniques on their farms is an important way to facilitate the generation of information to continue to refine their farming operation. Another new initiative being launched at UW-Madison and UW-Extension will assist in this goal. This effort, led by Anne Pfeiffer, will create a network of farmers to develop farmer-driven research questions that are addressed by on-farm research and data collection. The goal of this work is to expand our farmer-led, on-farm research capacity in the state, creating a space where farmer innovation and "real-world" research results come together to increase farmer success.

Organic Extension

UW-Extension has many specialists and educators that can help answer organic farmer's questions on a variety of topics, including aspects of disease and insect identification, soil fertility management, and crop production. Further, UW-Madison



has two specialists with program emphases in organic production, Dr. Erin Silva and Dr. Julie Dawson. Dr. Dawson's program works extensively with organic vegetable farmers throughout Wisconsin and beyond, conducting and facilitating variety trials both on the certified organic land at our research stations as well as on farmer's fields through the "Seed to Kitchen Collaborative". The results of these trials can be found on her website, https://seedtokitchen.horticulture.wisc.edu/.

Dr. Erin Silva's Extension program, OGRAIN (the "Organic Grain Resource and Information Network -

https://ograin.cals.wisc.edu/), focuses on organic grain production. OGRAIN hosts field days and workshops, as well as generating fact sheets and other resources. Due to concerns about COVID19, OGRAIN will not be hosting a face-to-face conference in 2021 but will be partnering with MOSES (the Midwest Organic and Sustainable Education Services) to host an organic grain track at their virtual conference to be held at the end of February. Further, we will be hosting a series of virtual workshops beginning in October, with the theme "How to stay afloat in stormy waters - managing for low organic corn prices". These workshops will include larger community-based presentations and discussions about production and financials, as well as more targeted discussions for farmers in the same region to share their experiences and knowledge. To stay up to date on these events and more, you can subscribe to the OGRAIN listserv by sending an email to join-ograin@lists.wisc.edu.

It's an exciting time for organic agriculture at UW-Madison! You can follow our progress on social media by following @uworganic on every platform (Facebook, Instagram, and Twitter).

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CURRENT STATUS OF ORGANICS

Fall is in the air and farm activities are intensifying on many farms with folks preparing for the harvest and planning for next year. The shift in activities and the number of things to worry about varies a lot with different types of farming operations. At the University of Illinois, grad students and staff worked extremely hard this summer to establish and maintain an organic systems trial that is in its third year of organic transition. This is a 20-acre site where we are investigating plant-soil interactions in 3-yr (corn-soybeansmall grain/red clover) and 4-yr (corn-soybean-small grainpasture mix) rotations. This site also hosts an organic corn breeding nursery that complements our on-farm research and lets us engage with farmers who constantly share their knowledge and experience to help us try to make our work more useful to them. This year, our trials were tremendously affected by a hailstorm in the middle of July when the corn crop was entering its reproductive stage. For more on our organic research go to

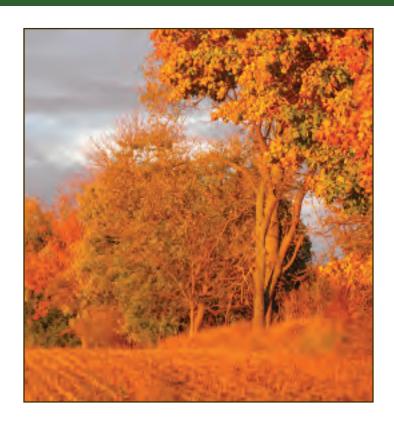
https://cornsoilhealth.web.illinois.edu/>. Please check out the 'Ears to the Ground' video series at

https://www.youtube.com/playlist?list=PLZMuQJAj6rOrnqeLV5Rj1wOR-NOHuKnJ7 or check our updates through social media on

https://www.instagram.com/cornandsoilhealth/>.

It isn't difficult to empathize with folks farming hundreds or thousands of acres as they wrap up summer demands, rebuild waterways, and clean and repair equipment before the harvest starts. One hopes that they snuck in at least a short 'staycation' in this crazy season and are not too stressed out. I admit that, in addition to other things, the weather is stressing me out because there is no doubt that the increased rainfall that we have observed in both fall and springs of recent years is the new normal. As a researcher interested in soil stewardship, I try to follow what is happening both on the ground and in the farming world to encourage ways for farmers to keep their soil in shape and in place to improve agricultural success and avoid polluting our air or water resources. In addition to concerns about prices, erosion and, nutrient loss, I am worried about drift and increases in insecticides found in our waterways.

Low grain prices are a big worry because folks trying to survive by farming more ground will find it difficult to use the 4 Rs or avoid ill-timed operations that cause nutrient loss and soil compaction. Rapid growth in tile drainage in IL, which already has the largest percentage of tile-drained acres in the nation, spells bad news for water quality and on-farm nutrient use efficiency. Interest in the use of cover crops and improvements in both the information and equipment needed to manage them is encouraging. The emerging markets for soil C sequestration could provide a needed supplement to reward farmers for added effort and risk. New crop insurance options that help offset risk by discounting cover crop costs might help offset the risk associated with terminating cover



crops and getting the cash crop in. While these opportunities are great, I don't see the doubling of cover crop acreage from just 2 to 4% of the cropped area as evidence that soil stewardship has become mainstream.

Rapid growth has also occurred in the organic sector where estimates suggest 40 million bu of corn, 7.6 million bu of soybean, and 20 million bu of wheat were grown organically in 2019. This amounts to 20%, 38%, and 47% increases, achieved respectively, since 2017. With all the demands associated with farming and added weather risks, some might wonder why organic farmers would take on the complexity of managing more diverse rotations and the associated need for more equipment along with increased demands for reporting. They might also wonder how established organic grain farmers have navigated risk associated with cover cropping or 'green manuring' without access to crop insurance or C sequestration payments. This is at least in part due to the premium paid for organic products.

I've been very interested in organic standards because they are aspirational standards in that farming system goals are to protect the environment through soil-based farming systems. The standards proscribe that this is done using production methods that do not include synthetic chemicals and maintain or improve the condition of the local environment while reducing reliance on external inputs. By emphasizing soil stewardship and resource conservation, organic standards

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CURRENT STATUS OF ORGANICS (CONT)

have provided an economically viable way for farmers to achieve the goals for a circular economy that is not yet met by other certification schemes. Unfortunately, wording choices and provisions contained in the 1992 Organic Food Production Act that established our National Organic Standard did not explicitly state that organic systems are soil-based and, this has allowed soilless systems to gain certification, which, has shaken the confidence of some in organic certification. This is too bad in my opinion because aspirational standards are elegant in their simplicity when compared to emerging sustainability accounting methods.

Right now, folks considering transitioning to organic grain farming should be aware that numerous studies have proven that soil-based organic farming systems that use diversified crop rotations provide long-lasting air, water, and soil quality protections that many consumers desire. In addition to higher prices and greater price stability, growers might consider transitioning to organic because they can succeed while farming fewer acres and join a welcoming network. If you are new to organics you should reach out to more experienced growers or university sources to get advice. Even established organic growers might want to consider some of the newer 'add on standards' for premium markets or just follow related conversations to learn from peer-to-peer exchange. By working with and, learning from organic farmers, I have found they tend to be strong innovators that rapidly adopt and adapt technology to suit their needs.

While I am hopeful that new technologies including equipment and increased access to information can help all farmers improve their wealth by protecting soil health, I want to emphasize that we don't need a digital readout to know that leaving soil bare and working soil when it is wet are bad practices. Hopefully, farmers will have time this fall to plan ahead to try and achieve their stewardship goals.

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CONVENTIONAL VS. ORGANIC CROP COMPARISON

Organic Yield and Price Compared to Conventional

| | Yield | Price |
|-------------|-------|-------|
| Corn | 68% | 268% |
| Soybeans | 71% | 210% |
| Wheat | 68% | 204% |
| Oats | 81% | 227% |
| Alfalfa Hay | 90% | 123% |
| | | |

*Data taken from FINBIN farm records from 2015 - 2019 on 3,162 farms from 8 states.

Conventional vs Organic Crop Comparison Cost of Land Purchase Per Acre Per Year

% Down - 25% • Interest - 4.11% • Amortization - 30 years

| | • | Net return per year after all economic and accounting costs | |
|---------------|------------|---|--|
| Cost per acre | Organic | Conventional | |
| \$6,000 | (\$211.87) | (\$383.72) | |
| \$7,000 | (\$276.83) | (\$448.68) | |
| \$8,000 | (\$341.78) | (\$513.63) | |
| \$9,000 | (\$406.73) | (\$578.58) | |
| \$10,000 | (\$471.40) | (\$643.25) | |
| \$11,000 | (\$536.28) | (\$708.13) | |
| \$12,000 | (\$601.17) | (\$773.02) | |
| \$13,000 | (\$666.05) | (\$837.90) | |

The chart above shows the amount after all income, expenses, and opportunity costs that needs to be subsidized to pay for the land. It assumes a 25% down payment at 4.11% fixed rate for 30 years. The interest rate is for a 90% Farm Service Agency Guarantee sold on the secondary market through Farmer Mac 2. The costs and income numbers were derived using 5-year averages from FINBIN from 2015 – 2019 for a conventional crop rotation of corn and soybeans and an organic crop rotation of wheat, hay, corn, and soybeans. This illustration is to be used as a guide only. We realize that every farmer will have different numbers.

Richard Ritter Flanagan State Bank On the 2,500+ Certified Organic acres of Janie's Farm, Harold Wilken, his son Ross, nephew Tim Vaske, and other farm team members grow dozens of varieties of corn, soybeans, wheat, oats, buckwheat, hay, and more in a biodiverse rotation. Then, at Janie's Mill just a few miles up the road, we transform those crops into dozens of flours, cracked grains, and other products destined for artisanal bakers, brewers, distillers, tofu-makers, and others throughout the United States.

Of course, all of this didn't happen overnight! Harold grew up on a conventional farm and farmed that way for many years. He credits his first landlady, 82-year-old Ivadelle Dubois, with getting him on the path toward organic production. Wilken says that "Upon receiving her first herbicide bill from me in 1982, she said: 'If you would learn how to set a cultivator, you wouldn't have to waste money buying this crap."

In 2003, when Harold began transitioning his first field (33 acres) to organic, he quickly saw the benefits to the soil, and to his operating margins. Not only were his input costs much lower, but he was also making far more money per bushel with the premium prices on organic grains.

But to Harold, the community and health benefits are more important than the financial benefits. Because more eyes and hands are needed on a diverse, organic operation, Harold has been able to hire more and more people from our rural community. He says that people are often told "don't come back to the farm, there's no room for you." But organic farming provides the opportunity to bring in a new generation of farmers.

Not only are more man-hours needed to work an organic farm, but more landowners want their land farmed organically, and more individuals and companies are clamoring for organic grain and hay, so additional farmers are needed. "The thing I learned right after I started to transition to organic," Wilken says, "is there are a lot of landowners out there who want their land farmed organically. I have been shocked at the number of people who have contacted us about this." He says the field is wide open for anyone wanting a more diverse, resilient, and profitable business model for their farm.

Harold had long been thinking about bridging the gap between commodity production and the local food movement, in which consumers want to know who is growing their food and how. So in early 2016, Harold and Ross Wilken, along with Head Miller and Mill Manager Jill Brockman-Cummings and U of I Extension Educator Bill Davidson, visited small stone mills on the east and west coasts to learn about the art and science and business of stone-milling.

About a year later, after ordering two stone mills from the



Janie's Mill Overview - John Merkle/MerklePhoto.com



Janie's Mill Best Sellers include these 4 bread flours. - John Merkle/MerklePhoto.com

Danish company, Engsko, and purchasing and cleaning up an old building near the Ashkum exit on I-57, a few miles from Janie's Farm, we began milling small batches of grains. We worked closely with artisanal bakers in Chicago to ensure that our flours were of the high quality and consistency that bakers demand.

Gradually, Janie's Mill added wholesale accounts and ramped up flour production to meet demand. Then, as home bakers learned about our flours, we began offering retail packages as well. These packages were a tiny percentage of our business, but we were happy to meet consumer demand.

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Our supply chain cannot be broken because it is just down the road — it goes from Janie's Farm's fields to Janie's Mill to the consumer. When the avalanche of orders started coming in, they were from people all over the United States, and beyond. Although retailing tons of flour a day was not part of our original business plan, we were able to turn on a dime and meet the demand almost overnight because we are small, flexible and nimble, and have a short and secure supply chain.

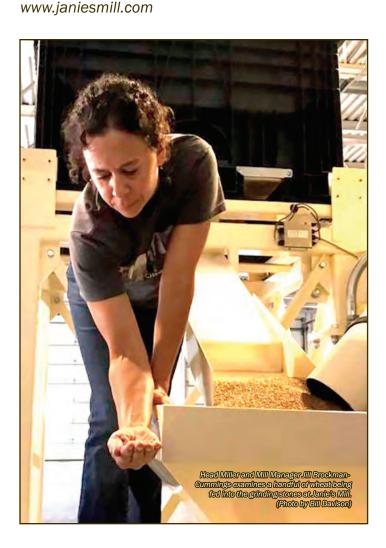
Harold and Ross have hundreds of thousands of bushels of grain in 2-ton totes in cold storage in the mill and big grain bins just a few miles from Janie's Mill. So, when the demand for our flour suddenly skyrocketed, they simply got that grain for us to mill. As soon as the grain was milled, we bagged it, boxed individual orders, and got them on the UPS truck to all our new customers.

Retail sales continued to soar as the word got out via social media and mainstream national and even international media that, not only did Janie's Mill have flour when store shelves were bare, but we had the kinds of flours that home bakers want and need, including high-protein bread flour, sifted artisan blend, pizza flour, rye flour, and others. As demand continued to rise, Harold and Ross purchased a second semi-automatic bagging machine and hired more people. For a while, Janie's Mill had three shifts working around the clock to meet consumer demand. And these were not just abstract consumers, they were people who posted ecstatic comments and photos of Janie's Mill flours and the baked good they made with them. In this way, the coronavirus allowed us to make thousands of relationships we wouldn't have made otherwise.

Looking at the bigger picture, the pandemic helped Harold Wilken realize his two-part vision for Janie's Farm and Janie's Mill, which is to build relationships and to feed people. We were, and continue to be, happy to fulfill retail orders because it also fulfills that vision. Bread is more than flour—it is alive, and brings life, and is based on wheat, the staff of life. It is our honor and privilege to grow grains on Janie's Farm and mill flour at Janie's Mill, bringing sustenance and comfort to many people, especially in these uncertain times.

Terra Brockman Janie's Mill Director of Communications Janie's Mill 405 N. 2nd St. Ashkum, IL 60911

Mill Manager: 815-644-4032 Customer Service: 815-953-1073 info@JaniesMill.com



PICKING ORGANIC MARKET PATHS — FEED OR FOOD

Once certified for organic production, you can choose to raise crops to feed animals or to more directly feed humans. The distinction is significant and invites serious consideration about which works best for you. The food market generally pays the highest price. In return, it requires greater attention to quality. The feed market is more convenient and more forgiving but also more subject to foreign competition, both fair and fraudulent. Here are some factors that you might

| Сгор | Units | Conventional | Organic Feed | Organic Food |
|--------------|-------|--------------|-----------------|----------------|
| Corn, yellow | Bu | \$3.50 | \$5.50-\$6.50 | \$8.50-\$9.00 |
| Corn, white | Bu | \$4.00 | NA | \$10.00 |
| Corn, blue | Bu | \$5.00 | NA | \$12.00 |
| Soybeans | Bu | \$9.50 | \$18.00-\$19.00 | \$21.00 |
| Sunflowers | Lbs. | \$0.17 | NA | \$0.37 |
| Wheat | Bu | \$5.00 | \$6.00 | \$9.00-\$10.00 |
| | | | | |

Choice of genetics: Food buyers will specify the hybrids and varieties that they want. These choices are made based on the needs of their clients which will be some combination of color, taste, texture, nutrition, processing efficiency, cultural acceptance, and agronomics but without a sharp focus on grain yield. Feed buyers will generally accept any hybrid or variety that you care to grow. That leaves you free to make your own genetic choices and to focus as narrowly on yield as you wish.

Maturity choice: Food buyers might want maturities that do not well fit into your production zone. Most of the best food-grade corn hybrids, for instance, range between 114-and 118-day maturity. Would those maturities allow you to follow up with a preferred cover crop or winter crop? Could you harvest without fear of frost damage? There are good food-grade soy varieties than range from Group I to Group IV. Still, you need to find a buyer of a maturity that is comfortable for you.

Physical quality factors: Buyer discounts and rejections come mostly from damage by high heat rapid-drying, molds, rocks, foreign materials, and insects. Food buyers need to be pretty strict and disciplined about such details. Otherwise, both they and you will lose market access. Standards of acceptance will vary from crop to crop depending on overall quality factors but will always be more disciplined in food markets compared to feed markets. If you are daunted by such quality factors, think feed markets instead of food.

Farm storage: Most buyers prefer you store on-farm and deliver to meet the buyer's processing or shipping schedule. Some buyers, both food and feed, can take in much of their annual needs at harvest. Most can't. If you have your own storage, great. Your choice of markets should be more robust. If you lack storage for part or all of your harvest, you will need to look for a buyer that can help.

Farm drying: Cracked and broken kernels can be a nightmare for food processors. If you doubt your ability to dry organic crops gently with plenum temperatures less than 110° F, think feed markets. That is where the food markets send their rejects and discards.

Fraud: According to the Organic Trade Association, over 50% of the organic corn and over 70% of the organic soybeans used in the US come from overseas. If caught, domestic fraudsters go to jail and pay fines. Foreign-based fraudsters, however, can cheat without fear of jail and fine. If caught, they lose their USDA organic certificate. But those outside the US jurisdiction have been given a fantastic incentive to cheat – profit without penalty of fine or jail. Some US buyers love the elasticity and economics of using such supply chains. Protected by the US government's failure to require them to police their supply lines and follow the US Food Safety Modernization Act rules, some US buyers regularly rely on questionable foreign sources for organic grains and oilseeds. Think India, Turkey, Ukraine, Argentina, and Brazil.

Such foreign sourcing impacts most directly US organic feed markets, depressing domestic organic prices. Unlike feed markets, food markets generally require identity preserved production of specific hybrids and varieties that are not so easily acquired from outside the US. Since all markets are competitive, pressure from foreign and fraudulent organic crops falls mostly directly on the feed markets and somewhat indirectly on food markets.

So, if you want the highest returns, think about contracting production ahead of planting with those buying food crops. If you are challenged to meet quality factors and seek greater convenience, think about feed markets. If you wish to avoid the markets most depressed by foreign sourcing, consider food markets. There is no "right" choice. The question is which works best for you.

Lynn Clarkson, Clarkson Grain www.clarksongrain.com Cerro Gordo, IL September 2020

TOP FOX: FROM OUR FARM TO YOUR FAMILY

The Journey of an Idea into an innovative healthy snack!

Vision: Starting with the end in mind may be easier said than done, nevertheless it's a critical component of every successful endeavor. The question, "Where do you want to go?" must be answered before you decide who can help you get there and how you will make it happen. In our case, it started with a passion for creating healthy, organic food that we could serve from our farm to your family.



Teamwork: We all know teamwork is the fuel that allows common people to attain uncommon results. Teamwork allows a group of individuals to accomplish more together than the sum of each individual acting alone. Our project is certainly proof of that. A consultant who heard we were growing organic pumpkins encouraged us to look at growing them for the seeds. Our farm manager discovered a plant breeder and some research studies by doing online research. The plant breeder gave us agronomy tips and yield data that indicated feasibility. A local machine shop helped us design custom equipment. A Midwest consulting firm gave us direction on marketing, product development, digital and retail sales strategies and so much more. In addition, there were so many other individuals and companies that contributed to the project in various ways: Our fertilizer dealer, local growers, university researchers, organic crop input suppliers, equipment suppliers, specialty crop growers and the list continues.

Nothing worth doing is ever easy. It's a simple statement, but one that is as true as the law of gravity. From poor emergence, low yields, agronomic failures, equipment that didn't work, cash flow woes and roasting process trial and error, this project certainly had its ups and downs, and I nearly pulled the plug until my wife talked me out of it at the bottom of my discouragement.

Future: We're really, really excited about our product. We believe it will be the disrupter of the seed and nut category. A leader of the pack! We launched on Amazon and at www.topfoxsnacks.com on April 1, 2020, and our sales have surpassed our expectations. We are in discussions with several retailers to put our product on their shelves. We began contracting with some local growers to have them raise organic pumpkins for us, and we look to contract with more growers in 2021 and beyond.

www.topfoxsnacks.com info@topfoxsnacks.com (309) 938-4150

TopFox™ is owned by Rock Creek Farms, a 400 acre organic family farm in Danvers, IL focused on innovative value-added crops.



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