



The Germinator

SUMMER 2019 • VOL. 40 NO. 3



SUMMER'S WONDERS

NPSAS members showcase beautiful variety at events

PAGES 15-22

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Poetry

Poetry is sometimes like running on ice, which I do fairly often; just as you feel your foot slipping out from under you, you are flowing to the next. If you are lucky you don't end up on your knees, but you know how close you have been to it.

—Terry C. Jacobson

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Mission Statement

Northern Plains Sustainable Agriculture Society
promotes sustainable food systems
through education, advocacy, and research.

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Fundraising for the future, in honor of the past

Greetings from the leadership team at NPSAS. I'd like to share some important updates.

In April, I was asked to complete the term of board chair after Les Miller stepped down from this position. Please join me in thanking Les for his service when you see him at the Food & Farming Conference. Board member Lynn Brakke also agreed to become our treasurer, which is one of those thankless jobs that is crucial to the health of this organization. Thank you, Lynn.

We are also pleased to hold up our dedicated staff in the Moorhead office. In June, we hired Verna Kragnes to serve as executive director. She is very ably assisted by Kayla Pridmore, whose talents shine in event planning, office administration, and bookkeeping. We feel blessed to have such a strong office team to help with the planning for the programming and research that will ensure NPSAS realizes

its mission of promoting sustainable food systems through education, advocacy, and research.

Our leadership team of board and staff is preparing for an audit to further strengthen the organization. This effort will enhance record-keeping and better position NPSAS to raise funds for our events, research projects and educational programs.

In July, the leadership team committed to 100 percent participation in a fundraising goal we adopted at that same meeting: to raise \$40,000 by March 1, 2020, in honor of our 40th year. Members can help NPSAS meet this goal by spreading the word about NPSAS and by participating in one or both of these online giving days in the coming months: GiveMN (Nov. 14) and Giving Hearts Day in North Dakota (Feb. 13).

NPSAS values its past, actively promotes its mission in the present, and is always planning for the future. With the future in mind, we continue to investigate mutually beneficial partnerships with organizations and groups that have mission statements similar to our own. Such partnerships prove the old barn-raising adage: "Many hands make light work." One of our newest relationships involves support for a New Roots Farm Incubator Project near Dilworth, Minn. It is an effort to lend support for and train a new generation of sustainable farmers on the Northern Plains. Look for an article on this amazing group of beginning farmers in the fall *Germinator*. Of course, we also continue to find ways to support the research work of the Farm Breeder Club, develop strong programming for the Food & Farming Conference and Summer Field Days, and seek ways to bring extended value to NPSAS members. 🐾



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It's a vital moment for the work of NPSAS

It is remarkable that a full year has passed since Lynn Brakke and Gretchen Harvey invited me to meet the NPSAS board and to consider helping with the 2019 Winter Conference. I have a great respect for NPSAS, and it is an honor and privilege to be able to support this organization as Executive Director at this critical juncture, both within the life of the organization and in agriculture today.

Plans are well under way for this year's conference. Please plan to join us at the Holiday Inn again in Fargo, January 23-26. Keynote Speakers for the 2020 Food & Farming Conference include Gary Matteson, Farm Credit Council, Washington, DC and Dr. Don Wyse, University of Minnesota.

New to this year's conference is the NCR-SARE Farmers Forum. The Farmers Forum is a traveling annual event giving farmers, ranchers, researchers and others the chance to share information about sustainable agriculture practices with a national audience.

These presentations focus on research, demonstration, and education projects that promote profitable practices that are good for the environment and community. The projects highlighted in these presentations and the Farmers Forum are funded by grants from North Central Region-Sustainable Agriculture Research and Education (NCR-SARE), a USDA-funded program that supports and promotes sustainable farming and ranching by offering competitive grants and educational opportunities.

Since early May, when I assumed duties as Interim ED, Kayla and I have been working on many other tasks simultaneously.

- First, there was early season organizing and then implementing the summer program of five field days and a local foods event in three states.
- The IRS form 990 was reviewed and filed.
- The merger of the two non-profits is now complete. Check out

For more information about

NCR-SARE, see:

www.northcentralsare.org or contact NCR-SARE by email: ncrsare@umn.edu, or phone 612-626-3113.

the NPSAS listing on the GuideStar website at www.guidestar.org.

- The Inwood, Iowa Business Office was closed this spring to reduce costs and duplication of staff activities. With training from Catherine Lundberg, a CPA with Freedom Accounting Services in Fargo, Kayla has expanded her role and duties with bookkeeping. The bank accounts in Iowa have been closed and those funds moved to Bell Bank in Moorhead.
- Extensive modification to the procedures for registration of sponsors of the conference were developed and implemented, and this is expected to dramatically reduce associated staff costs and behind-the-scenes potential for error. While online options are streamlined, you can still call the office to register for events over the phone.
- NPSAS is providing technical support to the New Roots Farm Incubator, a N.D. cooperative that provides shared use of equipment and access to land for beginning farmers. New Roots, a program piloted by NPSAS, provides support for aspiring farmers in meeting the requirement for farm operation experience necessary for either an FSA operating loan, micro-loan or a farm ownership

loan. The New Roots model is in a "prototyping phase," and when refined, NPSAS will seek additional funding to offer the same opportunity to assist beginning farmers in other communities.

- Finally, we have started updating the website, proofing the summer *Germinator* and writing the Fall issue.

There is much to do together.

The United Nations, USDA, US Secretary of Ag and Wendell Berry all suggest renewing vibrant local/regional economies. Janet's thought-providing article (page 30) also points to questions of scale. This year, due to the disruptive weather events, trade war and tariffs, agricultural communities are hurting. The kind of farming NPSAS members do can be a partial antidote to climate change, at the same time that it is also affected by the changing climate:

"Agricultural systems cannot be sustainable unless they are resilient to disruptions — of which climate change is the most formidable. Systems managed according to the agroecological principles (including organic, regenerative, biological, biodynamic, conservation agriculture, permaculture, agroforestry, holistic management, etc.) will result in systems resilient to climate change." (NSAC position paper on Climate Change, adopted September 2019)

This may be the year that some of those friends, family and/or neighbors who have been doubting and even critical of your choice to go organic or sustainable may ask you how you are doing it.

We are planning a rich array of topics this January to support the sustainability and resiliency of your farming efforts. Along with your NPSAS board members, I am committed to supporting farmers interested in organic, sustainable, and regenerative agriculture at any scale. 🌱

Not knowing: A space for learning and growth

I have a colleague who calls himself a “not-knower.” He uses a #notknowing hashtag in his social media and shares the idea at gatherings he hosts. And I have to say, as a person who values knowledge of all sorts, when I first heard this idea it really ticked me off.

It sounded, to me, like a celebration of ignorance. There are plenty of clueless people in the world. Why should we deny or suppress what we *know*? How can we lead or make decisions from a position of “not knowing”?

In the years since, I’ve started to understand how “not knowing” can be a useful frame of mind. The point isn’t forgetting or denying all the knowledge we’ve gained in our lifetimes—it’s deliberately clearing the slate, so to speak, for a period of time to make room for something new. You can’t add water to a cup that’s already full, as the saying goes. It’s a way to get our minds and hearts ready for learning.

And, as I’ve come to realize, it also makes room for understanding one another. We can see from other people’s perspectives more clearly when our own preconceived ideas (which is another way to think about knowledge) aren’t blocking the view. Maybe that other person isn’t as clueless I assumed—maybe there’s a reason, a piece of truth, in their view also.

“Not knowing” is not a space we can live in all the time. Our work, our roles as parents, our roles as citizens and even as NPSAS members often call upon us to be “knowers” and act on that knowledge. But if we value learning, and if we value building new relationships and strengthening

old ones, we should regularly—even frequently—become “not knowers,” open to the possibility that there is more—more to learn, more to understand, more true connection to be experienced.

I bring this up now because I sense that this might be a good time for those of us who care about sustainable agriculture to practice “not knowing” for a while—not denying, and certainly not denouncing, the knowledge that has brought us this far, but holding it to the side as we consider where our values are calling us to go from here, and what new learning might be required to help us get there. We may discover possibilities we would never have otherwise dreamed.

We have new challenges to face. I invite us to “not know” for a little while to make ourselves flexible enough to make the journey ahead. ☺

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Summary of NPSAS board meetings

April 25, 2019:

- Five events were scheduled as of the meeting. The board discussed how to use *The Germinator*, media and other means to advertise these events.
- Bookkeeping files arrived at the Moorhead office, where Kayla will seek out best practices for bookkeeping arrangements.
- The Partnership 4 Health project is ready to launch, and beginning farmers are ready to get started.
- A motion was approved to proceed with a search for a permanent executive director.
- A motion was approved to hire Verna Kragnes as interim executive director.
- A motion was approved to accept Les Miller's resignation from the board.
- A motion was approved to elect Curt Petrich as board chair.
- A motion was approved to elect Krysti Mikkonen as vice chair.
- Board members discussed the need to create board action teams to manage the workload.
- A motion was approved to add Curt Petrich, Lynn Brakke, and Verna Kragnes to the bank signature cards, and remove Les Miller.
- Krysti shared a seed inventory update.
- The board will look into options for setting a regular meeting day and time each month.

May 10, 2019:

- A motion was approved to accept

Roger's resignation as treasurer.

- A motion was approved to elect Lynn Brakke as treasurer.
- The finance committee will include Roger and Lynn, and will include consultation with any outside expertise as necessary.
- A motion was approved to follow the recommendation from Cathy Lundberg (a CPA consultant) regarding NPSAS's 990. The board will apply for an extension and proceed with finance committee work prior to filing the completed report.
- The personnel committee will provide a recommendation to the board soon.
- The winter conference P&L was reviewed.
- Mental health will be highlighted in the spring issue of the *Germinator*.
- The board will adopt a meeting schedule on the second Thursday of each month at 8 a.m. via conference call, with face-to-face meetings on a quarterly basis. Future agendas will have the NPSAS mission statement on them as an important reminder of the vision and purpose of the work we do on behalf of NPSAS membership.

June 13, 2019:

- Verna provided updated estimates of members, publishing schedule of the *Germinator*, progress on summer events, and winter conference planning in her report.
- The board discussed the

Partnership 4 Health project's status and future goals. P4H is a product of a collaboration between the MN Dept. of Ag & MN Dept. of Health because of an obvious shared interest and recognition that increasing healthy food production and increasing public health go hand in hand. This discussion led to two conclusions: that NPSAS would do well to focus on its mission and that its ED needs latitude to pursue grants and other partnerships that fall under mission-based parameters established by the board. A motion was approved to continue the NPSAS collaboration with P4H for the next three years.

- The board will provide final approval of the 990 via e-mail.
- A motion was accepted to the finance committee's recommendation for handling of funds and segregations of functions, which align with current best practices for nonprofits such as NPSAS.
- The board discussed staffing and other personnel issues. A motion was approved to designate Verna Kragnes as NPSAS's executive director.

The full text of the minutes from past NPSAS board meetings can be found at <https://www.npsas.org/about-us/board-meeting-minutes/>.

SAVE THESE DATES!



Nov. 14, 2019

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Feb. 13, 2020

impactgiveback.org

We hope you will voice your support for NPSAS through a donation on one of these special days. Donations on these days will receive extra publicity and help to spread the word about the good work that NPSAS is doing throughout the region.



Extension's Brummond Named to Hall of Fame

FARGO, N.D. — North Dakota State University Extension agent Brad Brummond has been named to the National Association of County Agricultural Agents (NACAA) Hall of Fame.

Brummond, NDSU Extension's agriculture and natural resources agent in Walsh County, is the first North Dakotan to be selected for the honor. He was honored at the association's conference in September.

The NACAA Hall of Fame Award was established in 2006 to recognize NACAA members for demonstrated commitment, dedication and effective leadership in job performance as an outstanding educator, association involvement at the state and national level, and outstanding humanitarian service.



Brad Brummond

"It is a very simple thing to care and want to help people make their lives better," Brummond says.

Brummond joined NDSU Extension in 1982 as the assistant agent in Traill County. In 1984, he became the agent in Hettinger County. Four years later, he took over as the agent in Kidder County, and in 1992, he moved to Walsh County.

Throughout his career, he has helped producers improve their crop production. That includes working to improve soil health, control weeds and identify new pesticide-resistant weeds, and providing training in the proper use of pesticides to keep farmers and the public safe. He also has become an expert in organic crops and sustainable agriculture.

"Brad's career has been one of weaving together the resources of the for-profit, non-profit, governmental, research and educational sectors to meet the evolving needs of agriculture," Theresa Podoll of Prairie Road Organic Seed,

Fullerton, N.D., wrote in a letter of recommendation.

"Early in his career, recognizing an underserved constituency, Brad worked hard to study the needs of sustainable and organic farmers by immersing himself in the few support organizations they had," she said. "He didn't just visit their farms to understand their production systems, issues, questions, research and marketing needs; he immersed himself. He saw the work that needed to be done, how he could serve as an Extension educator, and he stepped forward; no task was too small or too great."

She added: "Our farm and organic farms throughout the state and region have greatly benefitted from his knowledge, networking and support."

He was recognized for his efforts in 2016 by being named a Sustainable Agriculture Research and Education (SARE) Hero.

"That is their highest award, and was a great moment in my life," he says.

Brummond also has been instrumental in strengthening 4-H programming. He has served as a role model and mentor to the 4-H'ers.

"Brad has shaped my life and ultimately determined my career path," former Walsh County 4-H'er Justin Zahradka wrote in his letter.

At age 17, Zahradka joined Brummond's cover crops demonstration project. The first year, the youth grew a forage-based cover crop and tracked how much weight his family's cattle gained while grazing the cover crop.

"Brad helped me every step of the way," said Zahradka, now 25. "It was through this process that I gained such tremendous agronomic knowledge and began to share Brad's passion for sustainable agriculture." ☘



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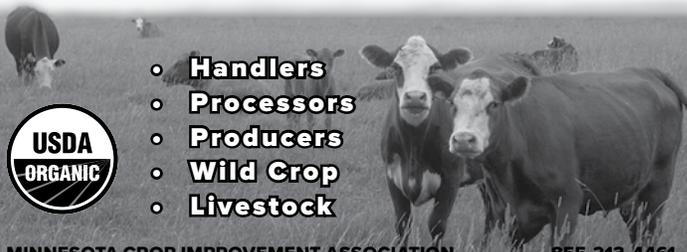


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Consider signing to support ag's role in climate change remedies

This year's extreme rains, floods, and delayed planting have brought home the urgent need to address the climate crisis and its impacts on agriculture.

As sustainable and organic farmers, we can do much to build the resilience of our farms and ranches to extreme weather events, store excess carbon in our soils and trees, and reduce greenhouse gas emissions. But we cannot do it alone—and now is the time to join thousands of other producers across the nation to ask policymakers and federal administrators to help us meet the challenges of a changing climate and become part of the solution.

As a member group of the National Sustainable Agriculture Coalition, NPSAS is gathering signatures on a Farmer Letter on Climate Change. Beginning in the spring of 2020, we will use this letter in meetings with members of

Congress, USDA program leaders, and other key decision-makers to urge effective policy action to combat climate change, and especially to help farmers and ranchers weather the storm and lead the way towards a more sustainable future. You can read the letter on page 11, then add your signature at <http://bit.ly/farmerclimateletter>.

Note that we are specifically seeking signatures from farmers, as defined by USDA as producers who sell at least \$1,000 in farm products annually. If you are a gardener, service provider, advocate, or organic consumer who is not making income from farm products, there are other ways that you can help. For starters, you could share this sign-on opportunity with the farmers in your networks.

Thank you for your consideration and support!

—NPSAS, in partnership with the National Sustainable Agriculture Coalition



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We, the undersigned farmers and ranchers, write to express our deep concerns about climate change impacts on agriculture in the United States and to call for solutions that invest in our rural and agricultural communities.

Agriculture is on the front lines of a changing climate. Compared to a generation ago, we are experiencing greater weather extremes, from recurrent 100-year floods to severe and prolonged droughts to greater heat waves that threaten workers, crops and livestock. As temperatures continue to rise, new pest and disease pressures are impacting crop yields and quality. As farmers and ranchers, we are accustomed to adapting to change, but the greater extremes we are experiencing today are unprecedented. Our rural communities lack the resources and infrastructure, making them especially vulnerable to climate change impacts. We recognize that these challenges are not experienced equally—disproportionately affecting socially disadvantaged communities, especially farmers and ranchers of color.

Climate change presents a fundamental threat to our ability to remain viable in the years to come. We must act now to avoid the worst impacts of climate change, reduce our greenhouse gas emissions, change to a renewable energy system and advance a multitude of solutions, including the unique and important climate solutions offered by agriculture. We also need investment in conservation practices and farm programs that make our operations and rural communities more resilient to extreme weather events.

We are committed to being part of the solution. By improving soil health and increasing soil organic matter on our farms and ranches, we have the power to draw

down atmospheric carbon levels at the root of climate change. This approach is recognized by farmers and scientists throughout the world as a critical climate strategy. Through our use of soil health practices like cover crops, crop rotation, improved grazing management and reduced tillage our farms and ranches can become net carbon sinks. These same practices are necessary for adaptation to climate disasters; soil organic matter increases water holding capacity and reduces erosion, which can help our operations withstand some weather extremes. We can and must also reduce potent greenhouse gas emissions, like nitrous oxide and methane emissions, through a diversity of strategies.

We must also protect our agricultural land from the ongoing loss to non-agricultural development. When agricultural lands are converted to urban uses, the greenhouse gas emissions associated with that land increase significantly. One study found that an acre of urban land emits 70 times more greenhouse gas emissions than an acre of irrigated cropland and 100 times more than an acre of rangeland. Protecting our farms and ranches will ensure this vast and important land is available for both food production and carbon storage for generations to come.

Our farms and ranches can also produce renewable energy in unique and important ways. More farmers than ever before are taking steps to reduce their reliance on fossil fuels, as well as producing on-farm renewable energy them-

selves, including solar and wind, with the opportunity to continue to grow this into an even greater source of renewable rural energy.

Many of the climate solutions offered by agriculture provide multiple benefits to our farms, our communities, and our environment. Among them are increased crop yields, greater resilience to weather extremes, improved air and water quality and enhanced wildlife habitat. We should seek to advance climate solutions that provide these multiple benefits.

But agriculture cannot become part of the climate solution without significant investment. We must reduce the risk to producers in shifting to new climate-friendly agricultural practices by investing in relevant technical assistance, financial incentives and research—especially for socially disadvantaged farmers and ranchers. No climate policy at the national level will be complete or effective without recognizing the role agriculture must play in avoiding the worst impacts of climate change, reducing our greenhouse gas emissions, enhancing our carbon sinks and our resiliency. Our food security depends on embracing agricultural solutions to a changing climate.

These solutions to climate change will promote an agricultural economy that is based on fairness and opportunities for family farms and rural communities.

We cannot afford to wait. Action is needed now to address our changing climate. Agriculture can and must be part of the solution.

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Land is a critical resource, IPCC report says

It is under pressure from humans and climate change, but it is part of the solution

GENEVA, Aug 8 – Land is already under growing human pressure and climate change is adding to these pressures. At the same time, keeping global warming to well below 2°C can be achieved only by reducing greenhouse gas emissions from all sectors including land and food, the Intergovernmental Panel on Climate Change (IPCC) said in its latest report August 8.

The IPCC, the world body for assessing the state of scientific knowledge related to climate change, its impacts and potential future risks, and possible response options, saw the *Summary for Policymakers of the Special Report on Climate Change and Land* (SRCL) approved by the world’s governments in Geneva, Switzerland. It will be a key scientific input into

forthcoming climate and environment negotiations.

“Governments challenged the IPCC to take the first ever comprehensive look at the whole land-climate system. We did this through many contributions from experts and governments worldwide,” said Hoesung Lee, Chair of the IPCC.

Better land management can contribute to tackling climate change, but is not the only solution. Reducing greenhouse gas emissions from all sectors is essential if global warming is to be kept to well below 2°C, if not 1.5°C.

Land must remain productive to maintain food security as the population increases and the negative impacts of climate change on vegetation increase. This means there are limits to the contribution of land to addressing climate change, for instance through the cultivation of energy crops and afforestation. It also takes time for trees and soils to store

carbon effectively. Bioenergy needs to be carefully managed to avoid risks to food security, biodiversity and land degradation. Desirable outcomes will depend on locally appropriate policies and governance systems.

“Agriculture, forestry and other types of land use account for 23% of human greenhouse gas emissions. At the same time natural land processes absorb carbon dioxide equivalent to almost a third of carbon dioxide emissions from fossil fuels and industry,” said Jim Skea, Co-Chair of IPCC Working Group III.

The report shows how managing land resources sustainably can help address climate change, said Hans-Otto Pörtner, Co-Chair of IPCC Working Group II. “Land already in use could feed the world in a changing climate and provide biomass for renewable energy, but early, far-reaching action across several areas is required.”

—www.ipcc.ch



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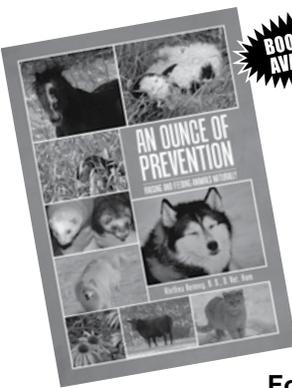
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Compost could boost carbon sequestration

A recent study out of the University of California, Davis suggests that compost plays a larger role than once thought in building soil carbon. It also found that carbon levels fluctuate more in deeper soil than most evaluation methodologies tend to account for. The findings could mean compost has been undervalued by agricultural incentive programs, and that we've been measuring carbon levels in soil all wrong.

Nicole Tautges, co-author of the study, says it wasn't a surprise to find that compost is good at helping soil store carbon—it's where exactly it does this that was revealing. "The surprising piece was that it raised soil carbon between one and two meters deep. Because the big question is, 'How does the carbon get down there when we're only applying it in the top foot?'" adds Tautges, the chief cropping systems scientist at the U.C. Davis Agricultural Sustainability Institute.

Her team has hypothesized that it has to do with how water moves through soil, and they plan to continue studying its movement.

—www.civileats.com

New report outlines NOP failure to stop organic fraud

The crisis of imported grain fraudulently labeled organic is ongoing, and the National Organic Program has not done enough to stop it, according to a paper co-authored by John Bobby of OFARM and Anne Ross of The Cornucopia Institute.

"NOP's failed enforcement efforts have left many organic farmers in

dire straits with seemingly nowhere to turn, except off the farm," the authors state in the paper.

The NOP has most of the investigative work done by organic certifiers, only acting itself when the case is essentially handed to them, Bobbe said. Ross warns that the situation for domestic grain farmers could only get worse if the NOP doesn't act to stop fraudulent imports.

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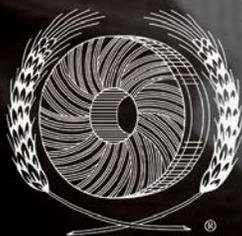
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2019 Summer Events

Gardendwellers and Farmtastic Heritage Food Hub Tour

A day of many flavors

Our first farm tour of the season was the last Wednesday in June at gardendwellers farm and ranch and Farmtastic Heritage Food Hub. We had a great crowd of NPSAS members and future members.

We met the long-running employee of the month, Millie the sheep guardian. Millie's mom, the farmer and educator Holly Mawby, suggested we have a farm dog-focused workshop at the winter conference.

Holly's son, Adam, runs a ranch parallel to the herb farming, which compliments the gardens well. He raises sheep and chickens for on-farm and farmers market sales. Adam had some great info to share about pasture mixes and using sheep to help keep a tree line clear. There is a permaculture bent to the Mawby's farm; they talked about only planting trees in their tree line that served some other purpose and used the rain water flowing of their barn roof to grow mushrooms.

Scattered around their property are all sorts of charming touches; beautiful old bed frames serve as benches, and a seating area made of antique windows is in the yard. It's very clear they expect and enjoy visitors to their farm and have prepared the most unique agro-tourism attraction by offering relaxing "basil baths" where visitors can have a relaxing soak in a stock tank filled with aromatic basil.

We said goodbye to the Mawbys, Millie, and their beautiful farm and pressed on, wandering somewhat through GPS directions taking us down prairie trails, to the town of Anamoose where Julia Petrovich had prepared a feast.

Julia and her husband started homesteading in North Dakota after volunteering on organic farms across the northern United States. Last year they opened Farmtastic Heritage Foods Hub, a food hub and cafe. They help aggregate and deliver food from local farmers, but most of it becomes ingredients in their incredible food. We were served pirogies, fermented dill pickle soup, red cabbage, potato salad with pickles, and a seemingly endless array of amazing baked goods.

Every Thursday they have an international dinner, and on the day we were there they were preparing for a Japanese-themed meal.

—Kayla Pridmore



Photos by Kayla Pridmore

Top: Adam Mawby speaks about his ranch. Above, center: Beautiful basil is a feature at gardendwellers. Above: Holly Mawby speaks about her business. Left: Millie the sheep guardian has an important role on the farm. Far left: The meal at Farmtastic included potato salad and red cabbage.



Carrington Research Extension Center Annual Field Day

Regenerative ag spices up conversation

A lot of information was packed into a tour of organic research and education at the NDSU Carrington Research Extension Center on July 16. Here are some interesting tidbits from the presentations:

- Steve Zwinger and Rick Mittleider spoke about buckwheat production and varieties, which the Farm Breeding Club is working on developing. Mittleider said “Buckwheat is organic farmers’ RoundUp”—it’s as fierce a competitor as you can find, so it can crowd out weeds. The seeds have low persistence in the soil—plants won’t come back after a year or two
- Jim Eckberg and Tom Rabaey, production research agronomists at General Mills, explained that General Mills has set a goal of



Steve Zwinger

1 million acres planted using regenerative agricultural principles. They aim for a resilient supply chain, and to restore profitability to this kind of production. The goal is making change on the landscape and creating products that drive sustainability and improve human health.

- One part of regenerative ag is intercropping—oats with peas, for example. Complementary pairs help to break up the pest cycle. Allergens must be considered when intercropping, however.
- Someone from the crowd asked if regenerative agriculture is contradictory to organic because reducing or eliminating tillage is a goal. The response: No, regenerative agriculture can be a pathway to organic, and some regenerative plots are already organic. The goal for regenerative ag is minimizing soil disturbance and herbicide.
- Greta Gramig, an associate professor



Buckwheat passed among the crowd to admire.

of plant sciences at NDSU, spoke about efforts to deal with Canada thistle, which has forced some farmers to quit organic production. Research at 10 different farms looked at different management techniques, including control through crops like buckwheat, tillage, rotations, and

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frequent mowing. The trick is finding a management technique that also makes money.

- Blaine Schmaltz of Blaine's Best Seeds in Rugby, N.D., gave an account of his experience with growing emmer, or hulled wheat. Emmer hasn't made as big of a splash in the food industry as he was counting on, but it has had huge benefits for his farm. He's found it's the best crop for addressing soil needs. Marketing, however, has been difficult. He advocated keeping an open mind: "A farmer has to be a person who can adapt, or we should quit."
- Claire Keene, an Extension agronomy specialist and North Dakota's Sustainable Agriculture Research and Education (SARE) program co-coordinator, has been working on creating organic training for Extension agents in North Dakota. About 20 percent have now been through the training.
- A Regenerative Organic Standard was discussed. Some felt that using regenerative without organic was "stealing" organic's principles. There was wide agreement that regenerative agriculture was not well understood or accepted in North Dakota.

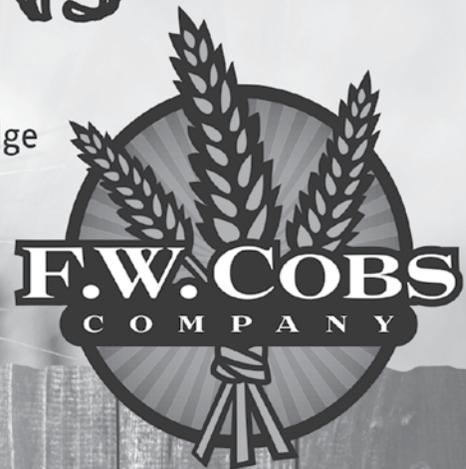


A sunny day for a field tour: Steve Zwinger and Clair Keene speak at one of the stops on the organic track at Carrington.

Photos by Kayla Pridmore

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Solar Field Day, Doubting Thomas Farm

Renewables, smarter energy use in focus at Solar Field Day

The sun was shining and the wind was blowing on a late July afternoon in the Red River Valley when about 60 folks gathered at Doubting Thomas Farm for the second event of NPSAS' summer program.

Northern Plains partnered with Minnesota Farmers Union and Noreen and Lee Thomas, long-time members and presenters at last year's conference, to have dinner on the farm and talk about how to reduce energy use and increase renewable energy options.

Kayla Pridmore, event coordinator for NPSAS, made a big pan of paella with oat groats from Doubting Thomas Farm. Traditionally made with rice and seafood, the oats and garden tomatoes gave it a decidedly more Northern Plains twist.

Minnesota Farmer's Union published a Farmer's Guide to Solar and Wind Energy in April and were eager to share what they'd learned.

"Deciding whether to engage in renewable energy production raises many preliminary questions. For example, is wind or solar energy production appropriate for the farmer's land, resources, and lifestyle? Does the farmer want a small wind turbine or solar system for on-farm energy use? Or, does the farmer wish to work with a developer to engage in a larger wind or solar energy project?"

Also at the event were folks from Clean Energy Resource Team, which has staff devoted to helping farmers find ways to reduce energy use and integrate renewables. CERTS has a page devoted to farmers: <https://www.cleanenergyresourceteams.org/farmers>

Julie and Bill Rosin, NPSAS members, have installed solar and wind on their organic farm: <https://www.dakotarural.org/energy/member-projects/wind-solar-organic-oh/>



Photos by Kayla Pridmore

Above: Doubting Thomas intern Fallon Ryan demonstrates the solar oven. Below, left: Northern Plain's paella featuring oat groats and vegetables from Doubting Thomas Farm. Below, center: Mass transit: a bicycle with five seats was an entertaining challenge for visitors. Below, right: A chance to get under the hood of a 100% electric vehicle.





Local Foods Fair

Local foods take center stage in Sioux Falls

Fresh local foods & locally-fermented beverages were available for sample at the Local Foods Fair in Sioux Falls on July 31.

Centered around the historic Stockyards Ag Experience Barn in Falls Park, the 2nd Annual Local Foods Fair event showcased locally-grown foods through cooking demonstrations, vendor booths, kids activities, and a food truck.

Consumers had the opportunity to learn about local foods and where to get them. Guests enjoyed complimentary tours of the Stockyards Ag Experience Barn and enjoyed music provided by Humbletown.

Gardeners, and the South Dakota Specialty Producers Association (SDSPA).

Miner Brewing Co. and Prairie Berry Winery Taproom and Fernson Brewing Company shared stories about their products and provided beverage samples upstairs in the barn. Their products contain South Dakota grown fruits and local hops.

Chef Nicholas Skajewski, Avera Executive Chef, provided a cooking demonstration on 'Confit Local Bruschetta' for the attendees. Chef Ellen Doerr, Chef Ellen Catering, served up 'Chard-Basil Pesto & Sausage Stuffed Patty Pan Squash.' Recipes are available on the SDSPA website. Ingredients were sourced from Dakota Fresh Food Hub producers.

Information provided at the Fair informed consumers that these fresh local foods and value-added products are available in many ways in Siouxland.

The Local Foods Fair was sponsored by Midco, Pomegranate Market and The Natural Foods Coop. The event was organized by the Stockyards Ag Experience, Dakota Fresh Food Hub, SDSPA, and NPSAS.

—SDSPA

"We know that consumers have lots of choices when it comes to their food. The Local Foods Fair is a chance for consumers to meet some of their local producers face-to-face and learn about their operations," said Abby Bischoff, Executive Director, Stockyards Ag Experience.

A farmers market event featured product vendors including Sweetgrass Soapery, Little Shire Farm, Heart of the City Bakery, Leffler Gardens, Alexandria Locker SD, Dakota Fresh Food Hub, The Co-op Natural Foods, and Pomegranate Market, along with resource providers including Northern Plains Sustainable Agriculture Society (NPSAS), Prairie Sky, Live Well Sioux Falls/Sioux Falls Food Council, Southeast Tech, Minnehaha Master



Photos by Heidi Marttila-Losure

Above: Families look through the local food options. Below, right: Chef Ellen Doerr prepares squash for her dish, Chard-Basil Pesto & Sausage Stuffed Patty Pan Squash, shown at left. Below, left: The duo Humbletown provided music.





Johnson Farms Tour

Event keeps growing in numbers, interest

If you could order the perfect weather, I'm pretty certain Charlie Johnson would have ordered exactly what he and his family were blessed to get for their field day on August 1 near Madison SD. About 70 people attended this year.

Farming organically has been a practice at the Johnson farm since 1976. Actual organic certification took place in the '80s and has been the niche of their farm operation ever since.

Charlie may be the face of the farm, but his two brothers, Kevin and Allan, are also part of the farm, along with Charlie's son, Jordon. Together they have 2,800 acres of corn, oats, beans, and alfalfa, with rye is used a green manure. A cousin to the Johnson brothers, Aaron, farms 560 organic acres nearby and was part of the event as well.

The fields were impressive looking, especially considering the amount of rain farmers across the region had throughout the summer. The wet conditions prevented many organic operations from timely cultivating and other weed management



Charlie Johnson speaks before the farm tour. Photos at right: The tour included visits to fields of soybeans and oats. Photos by Kayla Pridmore

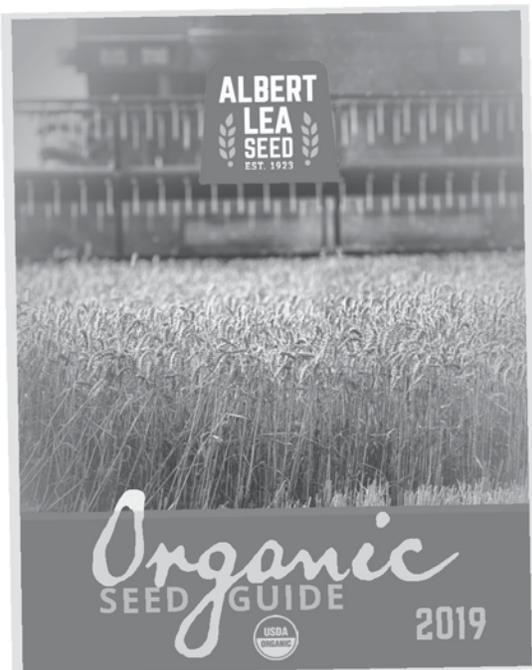
strategies. If one were driving by, or even stopped to look closely in the soybean field that event participants saw, they would have likely never assessed it to be organic, it was so clean.

Margaret Smith, an agronomist with

Albert Lea Seed, shared her insight on the history of the organic. Each year the Johnsons like to have a different speaker come and share some insight into the organic industry's history, strategies, trends, or changes.

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“This is the seventh or eighth farm tour, and every year it gets bigger,” Charlie said. “It’s exciting to introduce people to the organic industry.”

Charlie indicated that about two-thirds of the field day attendees each year are people who’ve never attended before. “It’s nice to see new people taking an interest in what we’re doing.”

—Krysti Mikkonen



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Mikkonen Organic Farm Tour

Family works on new crops with a new generation

The Mikkonen family started farming organically near Frederick, S.D., in 1986, when Rory and Lonnie Mikkonen's father, Ray, asked which of the brothers was going to run the sprayer.

"I said I'm not going to, and Rory said he's not going to," Lonnie said during a field day presentation on Aug. 28.

Other factors also played a role, he explained.

"We were also looking at reducing input costs," he said. "The idea at that time was get big or get out, and we didn't want to do that. We didn't want to start managing people or getting big. We were looking for alternatives."

Rory heard about organic from a cousin, and it seemed like a good option for them. The first years were not easy, though.

"We transitioned the whole farm in the first couple years," Rory said. "And there were some lean years. We had crops that didn't perform very well, and we didn't have markets for our crops. There was a lot of stress."

He'd suggest that those transitioning to organic do perhaps 10 percent or 20 percent of their acres at a time instead of everything at once, so not everything is at risk while you build knowledge and develop markets.

Lonnie and Rory are welcoming the next generation into the farming operation: Lonnie's children, Mariah Heine and Jayden Mikkonen, are now farming with them.

Mariah explained that they've started growing edible



beans in recent years, and they intend to expand the amount they produce, even though, as Jayden explained, they are not easy to grow.

"The pods are about two inches above ground level," he said. "It's difficult combining, and slow."

Another challenge is weed pressure: Black beans don't compete well with weeds. In one field this year, Jayden had to mow over the top of the beans because the weeds were shading them out.

"It's just one of those years," Rory said. "Timing is so important in organic in terms of rainfall. Mother Nature has a whole lot to say about how successful you are. We can't control the rain. When we plant a crop and we have a big rain right after planting, the weeds just love that."

The field day included presentations from Glen Rabenberg of Soil Works LLC and Chad Peterson from the Natural Resources Conservation Service.

—Heidi Marttila-Losure



Photos by Heidi Marttila-Losure

Top, left: Glen Rabenberg of Soil Works LLC speaks about measuring the aerobic area in the soil, stressing that soil needs to be able to breathe. Top, right: Mariah Mikkonen, right, points to samples of the crops grown at Mikkonen Organic Farm in 2016: oats, wheat, barley, black beans, buckwheat, soybeans, and red kidney beans. Above: Jayden Mikkonen, center, speaks about growing edible beans.



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Gary Matteson

Senior Vice President, Beginning Farmer Programs and Outreach at Farm Credit Council

Gary Matteson is an advocate for young, beginning, small, and minority farmer programs at the Farm Credit Council, trade association for the Farm Credit System of farmer-owned lending cooperatives. He's a frequent speaker/educator/trainer of young farmers on topics related to farm business start-ups, farm business transition, business planning, financial skills development, and leadership. This includes extensive work in local food system issues. He's also chairman of the board for the Farmer Veteran Coalition.



Don Wyse

Professor and Co-Director of The Center Integrated Natural Resources & Agricultural Management, University of Minnesota

Dr. Don Wyse conducts research on the biology and ecology of invasive weeds, diversification of cropping systems, weed management in annual and perennial cropping systems, design and management of renewable energy systems, and selection and breeding of winter annual and perennial crops. He is developing crops that provide new economic opportunities and improve water quality in the Mississippi River basin.



NCR-SARE Farmers Forum

The Farmers Forum is a traveling annual event giving farmers, ranchers, researchers and others the chance to share information about sustainable agriculture practices with a national audience. These presentations focus on research, demonstration, and education projects that promote profitable practices that are good for the environment and community. The projects and the Farmers Forum are funded by grants from North Central Region-Sustainable Agriculture Research and Education (NCR-SARE), a USDA-funded program that supports and promotes sustainable farming and ranching by offering competitive grants and educational opportunities.

Registration begins in November!

It's time (really!) to focus on our mental health

When you hear the words “mental health,” do you pull back a little, or maybe get a little defensive? Does your mind automatically go to “mental illness”?

If you do, you wouldn't be the only one, according to Ted Matthews, the Director of Rural Mental Health for the Minnesota Department of Agriculture and the State of Minnesota.

“If I say, to a farmer, ‘You need to look at your mental health issues,’ they're thinking, ‘I'm not crazy. I'm not mentally ill.’ (But) I never said mentally ill. I said mental health,” Matthews said. “Why wouldn't everyone want to be healthier, no matter how healthy you are? If you are the happiest person alive, you should have a goal of being happier still. Why wouldn't you?”

There should be no feeling that your mental health has to sink to a certain level of “bad” before you can address it, he said. “Why not take care of yourself as best you can, as soon as you can?”

And with today's challenges for farmers and their families, there's never been a better time for farmers to make mental health care a priority.

Farming's unique challenges

In his work, Ted Matthews focuses on farmers and their families, helping them with ag-related mental health issues, either as families or individuals. He also helps farm mediators deal with the situations that are very stressful or upsetting, and there are more of those lately. He says it's important that those in the ag community have mental health professionals who really understand their issues.

“Far too many people assume they understand farms and farmers, and they don't have a clue,” he said.

For example: Farmers think about their work differently than those who work

typical 9-to-5 jobs. If farmers expect a job to take 10 hours but it actually takes 12, they work 12 hours—they don't put two hours of work off to the next day. “Farmers get it done that day, whatever it takes,” Matthews said.

A more serious misunderstanding is not seeing farming as a way of life, not just an occupation.

Someone familiar with business but not with farming might suggest that if a farm is losing money, the farmer should just sell and do something else. “Well, why don't you just take a gun and shoot the guy?” Matthews asked. “That is not logical for a farmer.” Farming is tied into a person's whole life in a way that few other occupations are.

“It's the only occupation that I know of, that once you're out, you're out,” he

added. “There is no, ‘I sold my farm, and now (five years later) I'm going to buy a farm (because) I've changed my mind.’ You can't do it. ... If you're out, you're out, and that's a tough thing.”

Some of the stresses of farm life are plenty common everywhere, but they show up in the middle of working life on a farm since family and work are often intertwined. One example is the fact that men and women tend to communicate differently.

“Women, in general, when stress levels are high, focus on more talking—‘Let's talk about this some more,’” Matthews said. “Men do just the opposite. They pull away.”

“If you are on the same farm, and one wants to talk more and more, and the other wants to talk less and less, you've got a huge problem, just because communication is different.”

Working with family just by itself can cause tension. People in other professions can go home to let off some steam about what happened that day with their co-worker, but what happens when that co-worker is the spouse or the child also there at home?

These problems are a part of the lay of the land, and recognizing that can be helpful.

“It's hard to work with your kids or your spouse because we have higher expectations of them,” Matthews said. “It's a natural thing. We automatically have higher expectations. What do with that is what counts.”

Today's new challenges

Farming today presents new potential stressors that previous generations didn't face. A big change, with extensive repercussions, is in the role of women: They are much more likely to be working off the farm, and they are also often taking a more active role in farm decisions.

A woman's off-farm work affects the farm significantly. Harvest time is a good example: Years ago, women supported

Feeling down? Here's where to get help

- Institute on Aging 24-hour friendship line: (800) 971-0016
- North Dakota Helpline Mental Health Association in North Dakota 800/472-2911
- South Dakota Rural Helpline: 800/664-1349
- Minnesota Farmer Assistance Network: 877/898-6326 or 651/201-6327
- 1-800-FARM-AID (1-800-327-6243)
- Nebraska Rural Response Hotline 1-800-464-0258
- <http://www.mentalhealthamerica.net/im-looking-mental-health-help-myself>



harvest crews with food that made the work worthwhile.

"You'd be combining, and it was a lot harder combine back then, but the reward was you had this awesome meal four times a day that the women would bring out," Matthews said. "Now, the youngest farmer goes to McDonald's and buys a hundred hamburgers and a hundred shakes and a hundred orders of fries, because the women are working in town.

"It doesn't look the same. It's not the same. ... We have to have a respect that never was there before for what the women were doing on the farm."

There are, of course, positives to women working, in that the farm gets additional cashflow or the family gets health insurance. But, while some women find work that suits their skills and talents, that's not easy in rural places. Often women end up in less than ideal working situations.

"Working off the farm to pay down the debt or for insurance—those are horrible reasons to have to work," Matthews said. "If the spouse doesn't understand the sacrifices they are making, it can be very resentful. Why wouldn't you resent not being identified for making a lot of sacrifices when you are? That can create a lot of conflict.

"Listen to her day, and the difficulties she is having. It's not all about the farm. It's not. It's about the people on the farm. She represents half of the farm. And they need to get a lot of respect for having to do that to help make the farm run."

As women have gained education and work experience, they've also often taken over bookkeeping for the farm. And that has led to other tensions: When before women might have stayed out of financial decisions, they now have opinions and questions about them.

"All those questions are healthy in the long run, but men haven't had to deal with that before. In prior generations, they made those decisions on their own," Matthews said, adding that farmers can't talk to their parents about this tension, because that wasn't how it was for them.

Another change in the family dynamic that Matthews sees is that children aren't as integrated into farm life as they once were.

"When I do presentations, I ask, 'How many of you did chores?' Everybody raises their hands. 'How many of you liked them?' Two or three brown-nosers will raise their hands. They didn't like them either," Matthews said. "Then I ask, 'How many of you are proud that you did them?' Everyone raised their hands.



Ted Matthews testified before the Minnesota House agriculture division about funding for mental health counseling for farm families. Photo by Paul Battaglia/house.leg.state.mn.us

"Why is that different now?"

"I don't expect my kids to want to do chores, but they need to do them. Work ethic is not a philosophy. It's based on work. We can't expect that when our kids reach a certain age, they will have a work ethic—that's not how it works. A work ethic is created by work."

Outside pressure

Some stresses on farm life have come from far beyond the farm. The drop in milk prices, for example, has created a crisis for many dairy farmers.

"The only reason people are in dairy is because A) they're crazy or B) they did it their whole life ... and 99 percent of the time it's B, it's a family tradition," Matthews said. "It has to be in your blood. A lot of people don't understand that. It's *their* cow. It's not *a* cow. Because it's *their* cow, they have an attachment to it." He's noticed that when dairy farmers go out of business, they don't try to work for another dairy farmer—they do something else. "Because (the appeal) isn't working with cows. It's working with *their* cows."

The challenge for conventional commodities is the stress of not knowing how long they have to hold out while they are losing ground.

Continued on page 26

Preventing suicide: What you can do

Suicides by farmers have been in the news in recent years. Ted Matthews provides this advice to those who want to help. (These are Matthews' words, edited for length and clarity.)

First, realize that there will always be people who commit suicide. The idea that if we do everything right, we will stop suicide—that is not true. If we do everything right, the numbers will go down. That is true.

Second, find someone who can help a person who is suicidal. If I don't know what to do, that's exactly what I'll do—nothing. If I was worried about someone, who could I call? Let's say it's clergy. I can talk to the clergy member right now and say, 'How comfortable are you calling somebody?' If that person isn't comfortable, OK, I can go elsewhere. I need to know NOW what to do if something happens. When it happens, we are nervous. We just hope somebody else will do something. But if we know what to do, then we act.

Third, know that sheriff's departments are awesome. If there's a suicidal person, and I get a call, if it's in 500 miles, I can't just go there. Who do I call? I call the sheriff's department. They immediately go to that farm. They get some help right away. The sheriff's department becomes one of my best allies. When they go out and bring divorce papers, they are doing their job. When they go out and help someone who is suicidal, they are doing their job. They have saved a whole lot more people than most other occupations I can think of. Use the sheriff's department. They are really a great resource.

Finally, work together. We're all in this together. Farmers are competitive, and they need to be in some situations. But they need to put it aside when it comes to suicide. How much can a person take? Do we want to find out? I can take more than you—how much more? Do you really want to find your breaking point? I'm one person, and I need to look at my stress, and not compare it to anyone else.

"Everything is cyclical. We all know that. The problem is we don't know how big the circle is. It's been, what, five years now, since we've had a decent price. Crop prices have gone up a little bit, because a lot of farms aren't going to have a crop at all. What are we going to do next year?"

It gets hard to consistently face things that aren't in a farmer's control. The price of land is another example.

"The price of land is the worst thing in the world that ever happened to farming, because you can't get into farming anymore if you don't own the land already," Matthews said. "People don't farm for the price of the land. They farm because they are farmers. The land isn't worth anything unless they sell it. How many farmers do you know who say, 'Can't wait to sell my land?' ... I frankly wish all land was worth \$3.50 an acre. The farmers would still farm."

Another tension that has crept into farm life is divisive partisan politics. Before, if a farmer mentioned he was a Republican to a farmer who was a Democrat, they might exchange some snide remarks, "but it was no big deal. Now, it's a big deal," Matthews said. "There's immediate hate. I've never seen politics being as significant to farmers as it is now."

Find a way forward, a step at a time

So what can farm families do to reduce their stress levels? Here's some of the advice Matthews gives to the families he works with. (*These are Matthews' words, edited for length and clarity.*)

Look at what you can do and don't focus on what you can't do. We only have so much energy. If we waste it all on the things we can't do anything about, we don't have energy left to focus on the things we *can* do something about.

It's not very glamorous to focus on what you can do, because sometimes you can improve things 5 or 10 percent, and what you really want to do is have a fix. But 5 or 10 percent beats the heck out of zero, and you need to know that. The more you work toward that, the more 5 percent turns into 10 percent. That's a healthy way to look at it.

Stop talking about how important families are, and start looking at our families, and say, what can we do to make this family stronger? Farming has changed drastically. Are we working together to find ways to make that better, or aren't we? I can't emphasize

that enough. I hear that all the time how important family is. When I ask, "What are you doing to strengthen the family?" they look at me like, what are you talking about? I don't mean that it's because they don't care. It's because their stress levels are so high that they just don't think about those things. Show me that you believe what you said.

Women need to be heard far more. Tradition is the only reason there aren't more women farmers. Women can farm. And in the next generations, there will be many more women farmers. We haven't caught up with our technology yet. This is no longer a totally male job—it's a combination. There's no reason women can't do it. They talk about what they are feeling about what's going on—all kinds of things that are really healthy and positive.

Be nice to yourself, because the nicer you are to yourself, the better you are able to be nice to other people. It's the opposite of what everybody seems to think—if you're nice to other people, then it will come back to you. That's not true. If you're nice to yourself, you'll have the ability to be nice to other people and take care of them. Do what you need to do be nice to yourself, and everyone around you will be happier and healthier. 



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TWEAKS ON TRADITION

10 ideas to make the most of your tomato harvest

*W*e are in the most satisfying time of the year for gardeners, when you can reap the rewards of all your hard work.

In many gardens, the arrival of shiny red jewels dangling from a tomato plant is the high point of the harvest, with one bite of a homegrown tomato containing the essence of summer. Sometimes, though, this bountiful harvest at the hands of a talented gardener can signify another phase of work: figuring out what in the world you will do with all of them!

Here are 10 ideas for how to use your tomatoes to maximize the potential of your harvest, from traditional ideas, perhaps with a twist, to unique ones to try something new!

1. Fresh Salsa

This is a traditional idea that is a great one to take care of a lot of your vegetables from the garden, with the bulk of the recipe being tomatoes. Although many varieties are sold in stores, making salsa from fresh tomatoes will always be the best.

2. Homemade Spaghetti Sauce

The Italian way to do spaghetti is to cook a sauce with your own fresh ingredients. This is a great option during

Classic Fresh Tomato Salsa

- 3 tablespoons onion (finely chopped)
- 2 small cloves garlic (minced)
- 3 large ripe tomatoes (peeled, seeds removed, and chopped)
- 2 chile peppers (hot or mild, chopped)
- 2 to 3 tablespoons cilantro (chopped)
- 1 1/2 to 2 tablespoons lime juice
- Salt (to taste)
- Freshly ground black pepper (to taste)

Gather the ingredients. Put chopped onion and garlic in a strainer; pour 2 cups boiling water over them then let drain thoroughly. Discard the water. Allow the chopped onion and garlic to fully cool. Combine onions and garlic with chopped tomatoes, peppers, cilantro, and lime juice. Add salt and freshly ground black pepper, to taste. Refrigerate for at least 2 hours to blend the flavors. Serve as a dip or a condiment with Mexican style dishes. It can be refrigerated for up to 5 to 7 days. (The tomatoes will continue to release juices while it is stored; drain the salsa before serving if it has too much liquid.)

<https://www.thespruceeats.com/classic-fresh-salsa-3060434>

years when you have a large amount of big tomatoes. They can also be sealed and stored, to be enjoyed for months to come.

<https://www.thespruceeats.com/how-to-make-tomato-sauce-1388960>

3. Cherry Tomato Jam

A somewhat unique way to use cherry tomatoes is to batch them up into a sweet or savory jam. Tomatoes lend themselves to being paired with other foods, like strawberries for a sweet jam, or garlic for a savory one.

Start with savory: <https://www.thefullhelping.com/super-versatile-homemade-cherry-tomato-jam/>

Or go sweet: <https://www.loveandoliveoil.com/2016/07/strawberry-tomato-jam.html>

4. Ketchup

Ketchup is a well-known table condiment that some people insist on putting on everything. Few people, though, have had the privilege of trying *homemade* ketchup, and should really get the chance to at least once in their lives!

Ketchup

- 2 tablespoons olive oil
- 4 cloves garlic, minced
- 1 medium onion, diced
- 1 can (28 oz. size) peeled whole tomatoes, or 3 large fresh tomatoes, peeled
- 3 tablespoons tomato paste
- 1/3 cup brown sugar
- 1 tablespoon molasses
- 1/3 cup apple cider vinegar
- 1 tablespoon Worcestershire sauce
- 1/2 teaspoon chili powder
- 1/4 teaspoon powdered ginger
- 1/4 teaspoon ground allspice
- 1/4 teaspoon cinnamon

Heat a 4-quart sauce pot over medium high heat. Add olive oil and onions and sauté until translucent, about 8 minutes. Add garlic and sauté until fragrant, about 2 minutes. Add tomatoes, tomato paste, sugar, molasses and cider vinegar. Bring to a slow boil, lower to a simmer and using a spoon crush the whole tomatoes. Add remaining ingredients and simmer, uncovered for 45–55 minutes, stirring occasionally, until very thick. Keep an eye on it and stir it to keep it from scorching. Use an immersion blender to puree the ketchup. If you don't have an immersion blender, transfer it carefully to a blender or food processor and process until smooth. Chill in refrigerator for at least 2 hours. The ketchup will continue to develop flavor and thicken.

<https://thepioneerwoman.com/food-and-friends/how-to-make-ketchup/>

5. Sun-Dried Tomatoes

If healthy eating is your choice, drying your tomatoes and eating them as a snack is a great option. Loaded with vitamin A and potassium, among other things, they can help control heart rate and reduce high blood pressure.

6. A treat for the birds

If you find yourself with an overabundance, the birds will also appreciate this treat! Sun-dried tomatoes are easy to add to any bird feeder, where they can pick them apart slowly, or as another ingredient to your own bird mix.

7. Smoothie

As popular as tomato juice is, many people generally don't think of adding it to their smoothies. A great weight loss ingredient and with a flavor that is savory but not too strong, it can easily be the main ingredient or just an additive for its additional benefits.

8. Bloody Mary

While maybe not as "pure" as some of the other options, this is a great one for those that know they enjoy a relaxing afternoon every once and a while. Although other ingredients are needed, using your own tomatoes for the tomato juice will give this a fresher kick than ever before!

<https://www.forkintheroad.co/homemade-bloody-mary-mix/>

9. Skin Care

For those of us on a never-ending quest for better skin, tomato juice is an option to try! It is used in many products to prevent signs of aging by helping to minimize pore size and give your skin a great glow. Try adding four drops of tomato juice into a tablespoon of water and massaging it into your skin with a cotton ball, then leaving it on for 15 minutes before washing off.

10. Hair Care

Finally, making tomato juice and using it as a hair mask can aid in fighting hair loss as well as adding moisture back into your hair without chemicals. For many, it can help to treat dandruff and itchy scalp because of its high vitamin C content.

Now that you know about all the ways tomatoes can benefit you other than eating them off the vine, we hope that you are able to reap the rewards of your harvest leading a healthier and fresher life than ever before!

Amanda Williams is a freelance writer from Brookings, SD. With a background in Horticulture, even if she isn't in the garden, she is writing about it. She can be reached at amanda.joyce.williams@gmail.com

'Feeding the world' isn't a simple problem

I was supposed to spend a week in Haiti in July. Sadly, my trip was cancelled at the last minute by political unrest, demonstrations in the streets, roads blocked by demonstrators and an uptick in gang violence. I have since then been dreaming about the Caribbean and my Haitian friends who can't choose to be somewhere else. Corruption in government, inflation, devaluation of the Haitian Gourde and rising food prices have made life difficult. People are angry, frustrated, hungry, and have little to lose by marching in the streets.

Feeding the world is often simplified down to a need to increase yields, specifically on North American farms. The numbers would seem to support that. It is estimated that by 2050, there will be more than 9 billion people on the planet. Many of those people will live in the developing world. Food production, according to some sources, will need to double by the middle of this century. The only way to do that, according to corporations like Monsanto, Cargill, Sygenta, and others, is to increase production by the use of technologies like genetic modification of seeds, precision agriculture, pesticides, chemical fertilizers and large, supposedly more efficient equipment.

Farm equipment and technology as we know it is not the answer everywhere in the world. I have met Americans who have been to Haiti and were appalled that their Haitian hosts were planting their corn by digging a hole by hand and dropping in the seed. Wanting to help improve the life of their friends, they launched a fund raising drive and bought the Haitians a tractor. I asked if they had left money for repairs of the tractor or if they were going to fly down periodically to do maintenance. Could the farmer afford diesel fuel? Where was the farm? Much of Haiti's farmland is on slopes so steep that it can only be tilled by an oxen and planted by hand. Often the fields are planted with mixed crops not monocultures. Labor saving equipment isn't as important in a place where there are many unemployed workers. Haitian farmers are labor rich and capital poor. Their farms are small and often far off a major road.

What works on the Northern Plains may not work somewhere else in the world.

The Food and Agriculture Organization of the United Nations has studied this question extensively. Their publication "How to Feed the World in 2050" is interesting to read. They point out that much of the increase in production will need to come from developing countries themselves. There will need to be investment in infrastructure like roads to get farmers' produce to market in a timely manner and in distribution systems to get the food from rural areas to the ever growing numbers of urban consumers. We all will need to waste less food and eat less meat, especially those animal proteins that need huge amounts of cereal grains, corn and soy. The WFO also emphasizes the need to invest in regenerative and organic agricultural practices and yields on small landholdings. That is where the largest increases in production will be achieved according to these researchers.

We need to consider how our own export and food aid policies impact farmers and long-term food security in developing countries. Haiti used to produce more than enough rice to supply all of the country's needs. The US flooded the market with low priced and sometimes free rice ostensibly to feed hungry people. The plan, not coincidentally, also reduced our farmers' excess rice stocks and improved prices. Haitian rice producers couldn't compete and lost their farms, moved to the city and joined the 80% of workers who have no job. We send surplus peanuts and peanut butter to the island and undercut domestic peanut growers. Without a reliable source of domestic peanuts, it is nearly unfeasible for anyone to develop a viable peanut processing business.

There are no simple answers to feed the world. It is not a simple problem. The world's farmers produce enough food for everyone now living, yet nearly 800 million do not have enough to eat. Will doubling food production on farms in the U.S. solve world hunger in the future, or will the same people still be hungry because they are still poor? 🐾

http://www.fao.org/fileadmin/templates/wsfs/docs/expert_paper_How_to_Feed_the_World_in_2050.pdf
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