NODPA News

Northeast Organic Dairy Producers Alliance

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The Alexandre Family

FEATURED FARM: ALEXANDRE FAMILY FARM, CRESCENT CITY, CA

Regeneration: The Blake & Stephanie Alexandre Family

By Tamara Scully, NODPA News Contributing Writer

Managing the family's Crescent City, CA certified organic dairy farm, means "trying to do the right thing at every turn," Blake Alexandre, who operates Alexandre Family Farm along with his wife and five adult children, said. For the Alexandres, farming in a manner which improves the environment, enhances the nutrition of their milk, keeps the cows healthy and happy, and provides income for

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SAVE THE DATE FOR THE 21st ANNUAL NODPA FIELD DAYS

Wolfe's Neck Farm, Freeport, Maine • September 30th and October 1st, 2021

By Nora Owens, NODPA Field Days Coordinator

We all have been through a lot this past year. The COVID-19 pandemic kept us apart; even led to the postponement of the 20th Annual NODPA Field Days. All of the in-person meetings and conferences were canceled and are now being held virtually. I sincerely thank all of the people responsible for organizing the virtual conferences, weekly lunch meetings, webinars, and discussion groups. This has

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Message from NODPA Co-President

It has been a full year that both farmers and consumers have rolled with the COVID challenges. Virtual weddings and funerals, Zoom calls, kids studying at home. Well, you know. Farmers were encouraged to have an emergency plan if COVID took out their work force; I looked around at our situation. Three family members and a devoted girlfriend. No hired help, no local family. So when we all tested positive for the virus in early February, we knew we just had to bull through it. Overwhelming exhaustion was the worst symptom, so we did the milking and chores in the morning and slept for the afternoon, repeating the milking and chores at night. We quarantined ourselves, sanitized everything in the milkhouse that the driver might touch before every milk pickup. We got through it, thankfully. Then we started seeing some pneumonia in some of the cows and a few calves. Now, several times over the years, family members arrived with a cold when they visited for the holidays. A few days after they were gone, animals started coughing. We knew that it was possible for sick people to transmit some viruses across species. Was this what was happening this year?

As with the human population, some of the sicker ones made sense: they were animals that had pneumonia before, or were substantially frailer than their herdmates, or under greater stress than others. Most of the herd appeared unaffected. But several of the cows that showed clinical signs of pneumonia needed multiple doses of Inforce 3 and Vitamin C before recovering; one animal did not recover. As researchers are just really getting a grip on how this virus moves through human populations, it's just not on anyone's radar to look at how it might move into livestock. But my suspicion is that it can.

The warmth of the sun helps us shake off the long winter, and although most weather forecasters predict a dry year again, the recent rains have greened up the pastures and hay fields. Spring promises it's season of rebirth and abundance. From all of us, we wish you health and prosperity this season!

Liz Bawden, NODPA Co-President
Hammond, NY | Phone: 315-324-6926

ORGANIC INDUSTRY NEWS

From the NODPA Desk:

By Ed Maltby, NODPA Executive Director

We made the decision to have an in-person Field Days for 2021, at Wolfe's Neck Farm at the Wolfe's Neck Center for Agriculture and the Environment, Freeport, Maine in Thursday, September 30th and Friday October 1st, in the knowledge that we may have to make changes, adapt, and the all too popular, 'pivot' as the situation changes. If it becomes too risky or even uncomfortable we will make the changes we had to make last year. Nora and I have had the vaccine – Have you?

Liz Bawden in her introduction clearly highlights the Covid 19 challenges that producers have faced. The new administration, after being lobbied by many groups including the National Organic Coalition and Organic Farmers Association, has widened the type and number of groups eligible for assistance payments. At least $6 billion is being dedicated toward new programs. This includes the reopening of the Coronavirus Food Assistance Program (CFAP) sign-up for at least 60 days beginning on April 5, 2021. In the announcement, USDA also shared that they will develop rules for new programs to put a greater emphasis on outreach to small and socially disadvantaged producers, specialty crop and organic producers, timber harvesters, as well as provide support for the food supply chain and producers of renewable fuel, among others.

According to USDA, they expect to invest approximately $500 million in expedited assistance through several existing programs and services by April 30. There was also a separate bullet that mentioned assistance with organic certification fees, which means that, hopefully, they will use the pandemic funds to fix the poor bookkeeping at the USDA that resulted in a reduction in certification cost share. Similarly, the US Small Business Administration has extended and widened the scope of the Paychex Protection Program to more accurately reflect the financial accounting of sole proprietors who have a limited number of employees. Organic dairy producers fit squarely into this category of commodity farmers with low margin retention of gross sales for net income or loss.

All the milk buyers profess to their consumers a concern for the environment, the rural economy and the quality of life but have failed their suppliers during this pandemic. While large and small companies paid essential workers more per hour, organic milk buyers did nothing to financially assist their suppliers despite evidence of hardship and problems. It is left to the administration to step in and provide much needed support for a situation beyond the control of organic producers.

We have been promised more information on the fate of the Origin of Livestock and the Organic Livestock and Poultry Practices (OLPP) at the forthcoming National Organic Standards Board (NOSB) meeting on April 28th, when the National Organic Program will make its report. The NOSB meeting runs from April 28 to April 30, from noon to 5pm ET each day. It's available to view virtually if you can spare any time, and we will report on it in the next NODPA News. NODPA has also produced comments on the livestock section gleaned from its work with the National Organic Coalition.

The integrity of the Organic Seal got another hit recently when the United States District Court for the Northern District issued a ruling in Center for Food Safety's (CFS) lawsuit challenging U.S. Department of Agriculture's (USDA) decision to allow soil-less hydroponic operations to be certified organic by exempting such operations from the requirement that certified organic crop producers build soil fertility. It was a victory for the Coalition for Sustainable Organics (CSO). "This case stems from an ongoing debate about whether hydroponics, a form of soil-less agriculture, may be certified organic," wrote Chief Judge Richard Seeborg for the U.S. District Court in Northern California, "…..USDA's denial of the rulemaking petition reasonably concluded the applicable statutory scheme does not exclude hydroponics from the organic program." In response to the Court's decision, CFS and the plaintiffs issued the following statements: "Under the Court's ruling, hydroponic producers can sell their crops as organic without building soil fertility, yet organic farmers growing food in soil have to meet various soil-building requirements to be certified organic, " said Sylvia Wu, senior attorney with Center for Food Safety and counsel for plaintiffs. "This double standard violates the very purpose of the Organic label and is contrary to the federal organic act. We are analyzing all our legal options and will continue to work hard to defend the meaning of the Organic label." The fight goes on. Rulings like this undermine organic's claim as being the gold standard for CO_2 reduction and long term soil improvement.

There are a number of agriculture based climate change bills that will soon be introduced or reintroduced from 2020, in Congress, these are currently the Booker Climate Stewardship Act, Pingree Ag Resilience Act, Stabenow-Braun Growing Climate Solutions Act. There is a long list of production practices that we are advocating to be recognized as incentive based conservation options. These include manure and composting to increase carbon sequestration; mulching; pollinator habitat; water/irrigation management, or possibly credit for growing a crop with reduced irrigation needs; increases in the minimum payment of the Conservation Stewardship Program to make it more attractive to smaller acreage farmers. And finally, not forgetting the idea that certified organic farmers should be paid so much per acre depending on the crops they grow because they are farming using the gold standard for climate friendly agriculture. The administration is asking for comments on the Notice of Request for Public Comment on the Executive Order on Tackling the Climate Crisis at Home and Abroad which are due April 29th, 2021. https://www.federalregister.gov/documents/2021/03/16/2021-05287/notice-of-request-forpublic-comment-on-the-executive-order-on-tackling-the-climate-crisis-at-home.

Busy, busy times to ensure that the billions of dollars coming out of the Federal government are put to good long term use. ◆

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Save the Date for the 21st Annual NODPA FIELD DAYS

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challenged everyone but the creativity that emerged has been remarkable. For some, the opportunity to attend virtual events was terrific since it meant they wouldn't have to leave the farm in order to extend their learning. For others, there has been a longing to see everyone in person, chatting in the corner of a conference room or walking together through the fields at a farm tour. It seems everyone is anxious to gather together, enjoy sharing their news, learning new information, and breaking bread together. So, it's really exciting to announce that we are now planning the 21st Annual NODPA Field Days. Last year, we were forced to postpone Field Days (not cancel it!) and are now moving ahead with plans to hold it on the coast of Maine, at the Wolfe's Neck Center for Agriculture and the Environment and Organic Dairy in Freeport. Wolfe's Neck Organic Farm is situated on over 600 acres of picturesque coastal land in Freeport, Maine. The farm has been in operation since 1959 when it was operated as an organic beef farm, and has evolved into an innovative educational and research center with an organic dairy.

Wolfe's Neck Center (WNC), a public non-profit and community resource since 1997, offers a wide variety of programs including their immersive farmer training programs, farm-based education and research, the Dairy Grazing Apprenticeship program, a community garden, Community Supported Agriculture (CSA) program, Community and Visitor programs, seasonal events and festivals, and a campground.

The NODPA Board is confident that by late September it will be safe to bring people together in a setting that incorporates all of the COVID-19 safety protocols. We will be able to hold the meeting in a setting (large barn) that has excellent ventilation-including the requirement that the main doors be open all the time; plenty of space to allow for everyone to be spread out; access to a large outdoor space (weather permitting) for workshops, dining, and socializing. Another perk of this setting is that the barn is located away from the main campus so that our group will be kept separate from the general public. We even have the capacity to have a robust trade show.

The NODPA Field Days have been held in Maine two times. The first one was in NODPA's early days and Henry Perkins promised every attendee a lobster dinner to lure them to Maine. It was a smashing success! The last time, 10 years ago, NODPA Field Days was held at the MOFGA headquarters. On this 21st anniversary, we are excited to partner with Wolfe's Neck Center for Agriculture and the Environment to bring you a full educational program and two farm tours. We will have more information about the program in the May NODPA News, and online at http://nodpa.com, and will be sending out sponsorship and tradeshow information to our advertisers and industry partners within the next month. If you have questions, call Nora Owens, NODPA Field Days Coordinator, at 413-772-0444. ◆

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Soil Farming

By Tamara Scully, NODPA News Contributing Writer

Mixed species cover crops on field in Skylands region

Photo: Courtesy John Parke, New Jersey Audubon Society

Organic dairy farmers are, by definition, grazers. These days, more grazers are categorizing themselves not only as grass farmers, but as soil farmers. It's that soil - the nutrients, the plant roots, the microbes, the worms, the organic matter - which ultimately grows those healthy forages which, in turn, support healthy cows and quality milk production.

So just how do you farm cows, grass and soil, and pull it all together to create the balance that optimizes the properties of living soils, captures them in the most nutritious forages, and makes those nutrients available to grazing livestock?

Joel Williams, an independent soil health educator, spoke recently at the Western Canada Conference on Soil Health and Grazing. Williams discussed the interaction between soil and plants, and exactly how this intricate system between the two functions. In a healthy system, photosynthesis is maximized, soil microbial populations are enhanced, and carbon sequestration increases.

"It's all about feeding biology. It's plants that do that. Plant nutrition really is an important piece of this puzzle," he said.

Plant Nutrition

Photosynthesis is the crucial plant process which involves the removal of carbon dioxide and water from the air to form glucose for plant growth, and the by-product of oxygen for us to breathe.

"It really is this process of photosynthesis which drives all of plant growth. It's how they build their bodies, grow their shoots and their roots, and how they produce a whole range of other biochemicals and pigments and things inside their bodies as well," Williams said. "The role of plant nutrition - of macro and micro minerals - is absolutely key in this discussion."

Plant essential elements and minerals are the catalysts which drive photosynthesis. If these nutrients aren't available in the correct amounts, or accessible to the plants, photosynthesis - and therefore plant growth - will suffer.

These same elements are also crucial in taking the glucose - formed via photosynthesis - and processing it into an array of other products, including: complex sugars and carbohydrates; proteins and amino acids; fats, lipids and oils; hormones and vitamins; essential oils and other aromatic compounds; phyto-nutrients; plant defense chemical; and root exudates.

"Without these essential minerals...then ultimately plant growth, biomass production, yield...all of these things will be limiting," Williams said.

Nutrient Roles

Here's an overview on the role some essential nutrients play in growing healthy plants:

Nitrogen is needed for creating essential plant cell components, including DNA and chlorophyll, and also for protein

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metabolism. If it is not provided in balanced amounts with other elements, plant growth will suffer.

Magnesium is essential in chlorophyll production, although only 20 percent of the available magnesium is used in this process. Seventy-five percent of a plant's magnesium is used to catalyze protein synthesis. Magnesium is also critical in maintaining the plant's ability to utilize nitrogen. Without magnesium (and manganese), nitrogen can not be optimized and the plant will have unbalanced growth, with excessive foliage and little root development.

Manganese has a primary role in germination, as well as in the plant's primary and secondary disease defense systems, and is required for photosynthesis. The primary disease defense system consists of physical barriers, while the secondary is biochemical in nature.

Iron is essential for the nitrate/nitrite pathway of protein synthesis, as well as in the synthesis of chlorophyll.

Zinc has a minor role in chlorophyll production, and a larger role in determining the size of leaves, which are the "solar panel of the plant," Williams said. More leaf surface area equates with a great capacity to photosynthesize and produce glucose, maximizing plant growth.

Boron is required for cell walls and other structural components in the plant. It also plays a role in the reproductive capacity by influencing flowering, pollen production and pollen tube formation. Along with calcium and silicon, boron provides the plant with defense against diseases.

Calcium works by "improving the uptake of other minerals into the cell walls," which strengthens them, Williams said. It is essential to cell division, and responsible for root and shoot growth.

Silicon, although technically not classified as an essential element, is the "master stress mineral" which helps the plant overcome environmental stressors and abiotic attacks," he said. It protects the plant from drought stress and heavy metal toxicity. It also plays a role in the immune system by influencing the signaling molecules, which cause systemic immune responses to fight off disease.

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Soil Farming

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Potassium plays a role in protein synthesis, translocates sugars into the seeds to grow the fruit, and helps develop fruit flavor.

Sulfur plays an important role in root development, as well as amino acid and protein synthesis. It also has fungicidal effects.

Molybdenum contributes to protein synthesis and pollen formation, and is required for the reducing of nitrate to nitrite. Without molybdenum, nitrogen-fixing bacteria can not access the nitrogen in the air.

Copper has a defense and anti-microbial role, protecting the plant from disease by building primary resistance via the lignin, as well as through secondary biochemical processes. Copper helps to metabolize proteins and carbohydrates.

Phosphorous is a crucial part of "the energy currency of the plant," Williams said, It speeds plant maturity so soft tissues aren't susceptible to disease, and it promotes early root development. It also provides energy for nitrogen fixation.

Soil Connection

All of these elements are needed for plant growth and functioning. In turn, healthy pasture plants are releasing carbon and other elements into the soil via root exudates. The sugars, carbohydrates, proteins and lipids released by the plant as root exudates feed the soil microbes, who then release nutrients back into the soil, making them available to the plant. Higher-level predators, such as nematodes, protozoa and larger insects and earthworms - all part of the soil food web - are supported via this nutrient exchange, too.

While root exudates are primarily amino acids, carbohydrates and organic acids which feed the soil food web, biochemicals which serve as "communication chemicals" between the plants and the soil microbes provide an important secondary function performed by exudates, Williams said. These communication chemicals include fatty acids, sterols, gulcosinates, enzymes, flavanols, lignins and more.

The bulk of root exudates are found in the root tips, including the lateral root tips, and the surrounding root growth zone. Root exudates can permeate the soil via a passive osmosis

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process, driven by concentration gradients, or via an active pathway.

In the active pathway, the communication chemicals are purposefully exuded by the plant to communicate its needs to the soil microbes. When circumstances change, so to do the root exudates. For example, during various stages of growth, plants require different nutrients and exude different signaling chemicals to attract the microbes which can provide them with their specific needs.

"It is a very dynamic and complex interaction," Williams said, with some exudates attracting microbes, while others suppress them. "Different plant species, or plants at different growth stages, release a very specific composite of root exudates. It's a really specific cocktail of exudates."

For example, a plant in the reproductive stage requires boron. It will send signals to attract those microbes which can release boron and make it available to the plant. If attacked by a pest, the plant will send signals - the elements of copper, manganese, and silicon - to indicate stress, and attract beneficial microbes. These microbes in turn release needed metabolites which can then help the plant to trigger a strong secondary immune response.

Microbes can also induce changes in a plant's root exudates. Research trials have shown that when a plant's roots are divided into two separate segments, and one segment is inoculated with a given microbial population while the other is left without, the roots exposed to the microbes will show a change in root exudate patterns. The control side does not.

Plants grown in microbially active soils have their root exudates rapidly consumed, creating a stronger chemical gradient which increases the passive exchange rate of root exudates from the plant to the soil. Other factors also impact the type and amount of root exudates a plant produces.

The presence of other plant species, the nutrient availability, the amount of photosynthesis occurring and the presence of herbivore activity - such as dairy cows grazing - all impact root exudates. Environmental factors such as temperature, light availability, moisture and soil pH have an impact, too.

"It's a dynamic process induced by all sorts of environmental cues, and also pest and pathogen cues," William said.

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Soil Farming

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Capturing Carbon

Plants provide microbes with the carbon they need. Microbes provide plants with nutrients which they scavenge, and which the plants need.

Microbial activity increases when the diversity of root exudates increases. Plants growing in a system which is biodiverse will have more highly diversified root exudates, which in turn attract a greater array of microbes and show enhanced microbial activity.

"It's the carbon that microbes want. Microbes are carbon-limiting. And generally plants are nutrient-limiting," Williams said. "It's not just about the quantity of root exudates. It's also about the composition of them, or the quality of them."

Biodiversity of root exudates helps to fuel more rapid microbial growth. Root exudates are easily digested by soil microbes, and provide the fuel for their growth. The rapid microbial growth that occurs when exudates are plentiful and diverse creates greater amounts of necromass - dead microbes - in the soil. The necromass is filled with carbon, which can become stabilized in the soil. Necromass is stabilized when it is attached to soil mineral surfaces, or bound up in aggregates.

"It's not just about forming necromass. It's about the stabilization processes," he said.

The emphasis has been on sequestering carbon via no-till methods, and by leaving plant litter in the fields. Maintaining a cover of plant litter does contribute to soil organic matter, stop erosion and runoff, and sequester carbon. But the sequestering of carbon by building microbial necromass is actually a more efficient process.

Catabolism, or the breaking down of plant litter into consumable substances, is a very energy-heavy and time-consuming activity for microbes. Lignin, cellulose and other plant materials take time and energy for microbes to break down and assimilate. Anabolism - when the chemical structure of living tissue is synthesized from simple nutritional elements such as sugars, amino acids and fatty acids - provides simple, more available food for microbes.

Increasing the necromass - via increased microbial populations, which grow in response to the quality of root exudates, which in turn are enhanced by plant biodiversity - is a efficient way to build soil organic matter and sequester carbon via anabolism.

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Grazing livestock play a role in decreasing the carbon stored in above-ground litter, as they trample it, both stimulating decay and pushing it below-ground, helping to build soil organic carbon and speed catabolism.

"Livestock are a hugely important tool in that nutrient cycling and recycling. I think that the animal and the management of the animal becomes the primary tool of the farmer."

Pasture Fertility and Forages

Microbial biomass also plays an important role in the nitrogen cycle. Nitrogen fertility obtained from organic sources, such as amino acids and peptides, can be taken up through a plant's root system, as well as released as root exudates, Williams said. When nitrogen uptake occurs via the roots, it creates below ground biomass and increases a plant's rooting response.

If provided with inorganic nitrate, the fertility translocates to the leaves of the plant, and does not create below ground biomass. Nitrate is metabolized differently than ammonium, urea or organic sources of nitrogen. The metabolic pathway is longer, and requires much more energy - as well as the addition of other nutrients - to be converted into usable forms of nitrogen. And increased levels of nitrate in the plant cause increased disease and pest susceptibility.

"If we are feeding the plants more of the ammonium, urea and organic fractions of nitrogen, that actually - by default - encourages a greater rooting response. They encourage more below-ground biomass," Williams said. "That really has some spin-off benefits in the longer term."

Organic nitrogen provides resiliency to pastures, by building that microbial biomass which allows water and nutrients to more readily be scavenged and provide a source of plant fertility later in the season. Using organic forms of nitrogen enhances plant immunity, creating healthier plants and increasing the protein and amino acid profiles, ultimately benefitting the cows who consume the healthier forages to fuel milk production.

Fertility needs will differ depending on whether the pasture is also used to make hay. Taking hay from a pasture removes more nutrients than does grazing. When intensively grazed,

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Soil Farming

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more than 75 percent of a pasture's phosphorous, nitrogen and potassium are recycled back into the soils due to nutrient recycling. When the same amount of dry matter is removed as hay, however, exponentially greater quantities of nutrients are removed, and pasture growth will suffer until that fertility is returned. These nutrients will not be returned to the soil until they are added back, either in the form of manure or other organic fertilizers.

Further studies on alternative forages in grass-based dairy systems are needed. Adding cool or warm season annuals to perennial pastures can enhance dry matter availability and biodiversity. A variety of perennial grasses in a pasture stand could add resiliency against changing weather conditions.

But it isn't only about plant species. Selecting the right cultivar for specific situations can be critical. Forage research trials at the University of Vermont's Borderview Farm are ongoing, with the goal of enhancing pasture forage yields. Legumes are notoriously short-lived, so finding which species and varieties remain established year-after-year, as well as determining which grasses can withstand a variety of weather - from dry and hot to wet and cool- should help grazers make more informed decisions on seed selection and pasture biodiversity.

"There clearly are differences in variety. And we all know this about corn, but it's the same with grasses and legumes," University of Vermont Extension Agronomist Heather Darby said. "It will clearly help you get more yields and quality," if you are mindful in your variety selections.

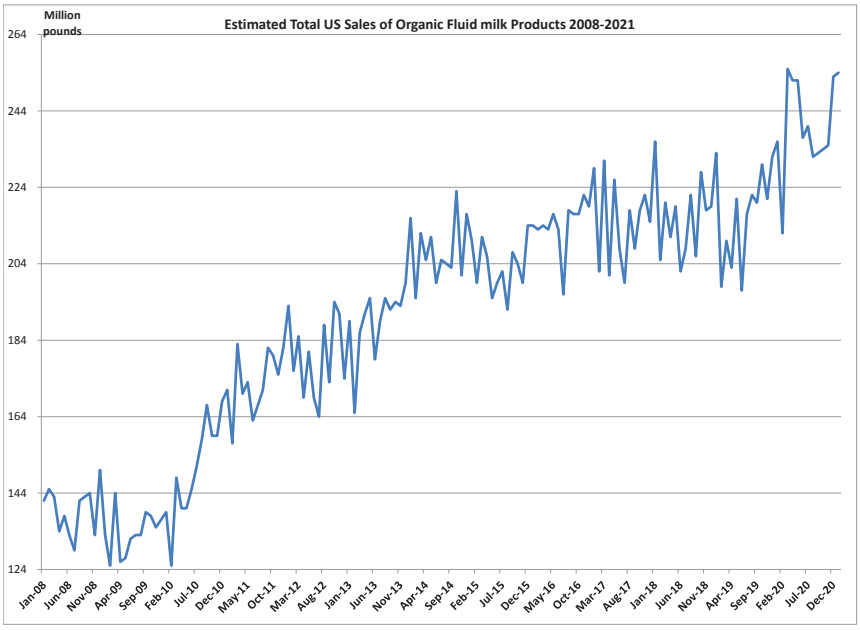
Functional diversity for an organic dairy means building a healthy biodiverse pasture system which can: balance water; cycle nutrients; provide pest control; help manage risk; decrease inputs; increase soil formation; and sequester carbon; and do so as a part of a productive agricultural system. For organic dairy grazers, the goal lies in capturing the nutrition in the optimized forages - the ones adapted to your environment that can take advantage of your healthy soils - through managed grazing, returning needed fertility to the soils, and continually building soil organic matter. ◆

ORGANIC INDUSTRY NEWS

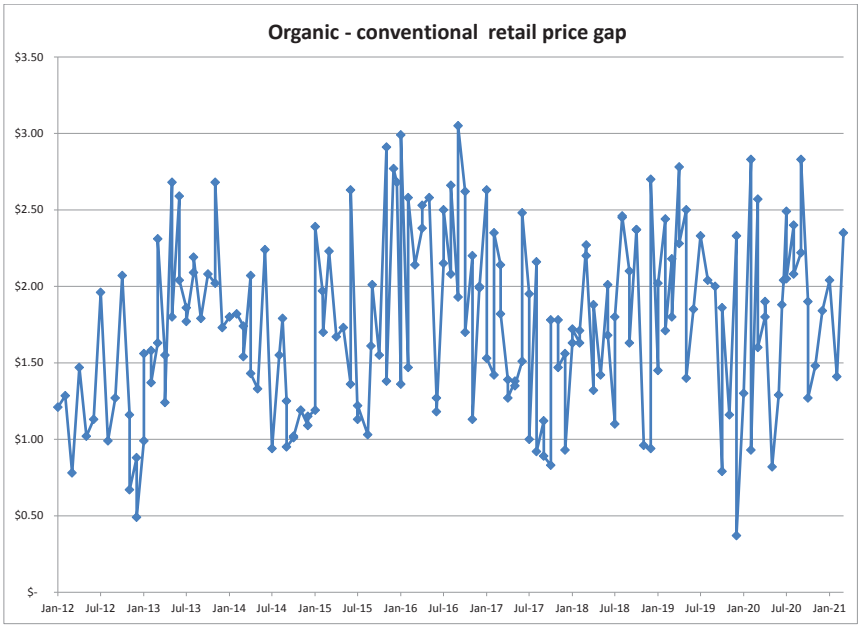
Pay And Feed Prices March/April 2021

By Ed Maltby, NODPA Executive Director

Jerry McGeorge, a 20-year employee of CROPP Cooperative holding numerous positions during his tenure, demonstrated his commitment to provide services to his community and many producers by initiating a vaccine clinic at CROPP's offices for the local community. Seeing the need and having the capacity to provide the service for producers, this action by CROPP will, hopefully, be an example for other milk buyers to provide services to their producers whether they view them as partners, owners or merely suppliers of a high quality product on a daily basis, especially as the Pay Price languishes in unprofitability.



The revised 2020 data published by USDA AMS in February 2021 showed a healthy increase in overall retail sales of organic milk for the year 2020. Boosted somewhat by the COVID surge during the lockdown period earlier in the year, there was a 10.4 % increase in retail sales over 2019 sales with whole milk increasing by 11.5 % and the combined organic Fat Reduced milk products by 9.7%. The revised estimated US sales of total organic milk products for December 2020 were 253 million pounds, up 8.9 percent from December 2019. Organic Whole Milk sales for December 2020, totaled 114 million pounds and Reduced Fat Milk (2%) sales were 85 million pounds, up 10.6 percent from the previous year and up 14.9 percent year-to-date.



This trend continues into January 2021, as detailed by the organic fluid product sales published by USDA AMS on March 15, 2021. Sales of total organic milk products totaled 255 million pounds, an increase of 8.1% over January 2020. Organic Whole Milk shows a modest increase over January 2020 of 6% with 113 million pounds, but organic Reduced Fat milk (2%) sales had an increase of 16% over 2020, with sales of 90 million pounds of organic milk.

There is no separate independent data on grass fed but there are some reports that sales are stable at a higher retail price although there is no longer a significant pay price differential.

Interestingly, utilization of Class 1 organic milk has increased year-over-year for January and February 2021 in one of the biggest markets, the Federal Milk Marketing Order 1 (FMMO 1), the Northeast. These increases follow the trend started in August 2020 but not reflected in the 2020 whole year data and reflects the national retail sales data which shows an increase of Reduced Fat 2% milk product sales. Utilization of Class 1 organic Whole Milk in January 2021 was 14.5 million pounds with an increase of 27% over January 2020 and an increase of

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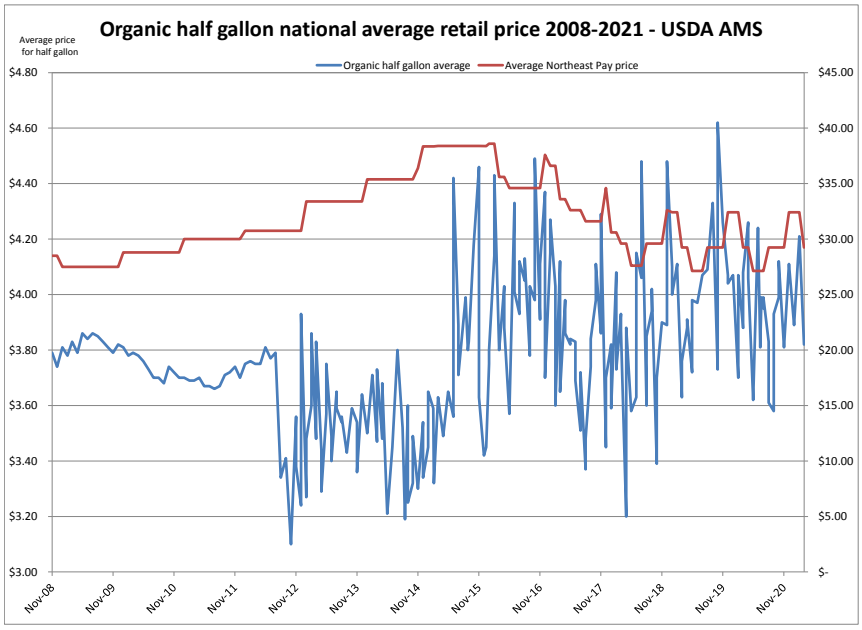

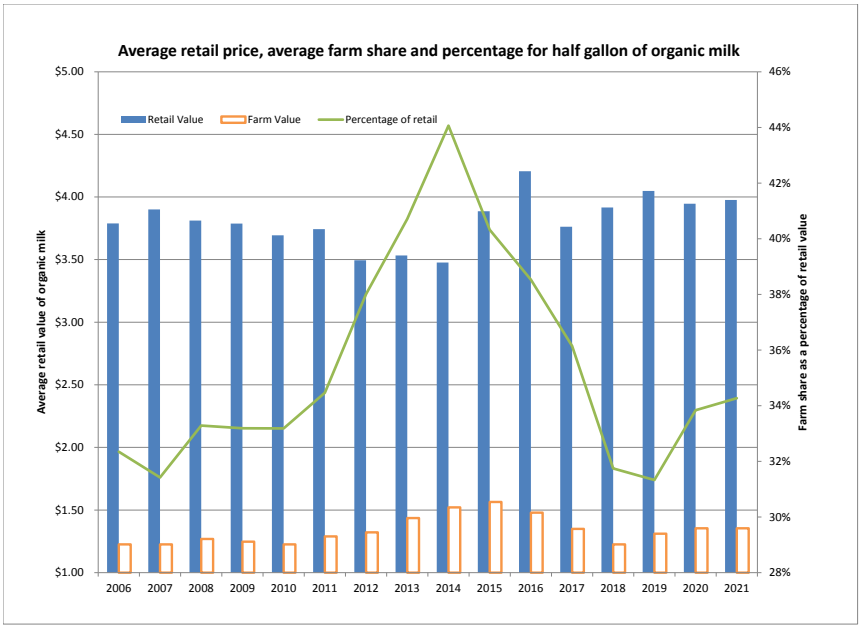

35% for total combined Non Fat Organic products over January 2020, with 16.8 million pounds. Utilization of Class 1 organic Whole Milk in February 2021 was 13.62 million pounds with an increase of only 0.33% over February 2020 but an increase of 37% for total combined Non Fat Organic products over February 2020, with 17.94 million pounds.

These changes occurred with no change in the retail price for organic milk, both Whole Milk and Non Fat milk products.

Utilization of Organic Milk in the Federal Milk Marketing Order 1 in million pounds

	Jan-21	Feb-21
Whole Milk	14.5	13.62
Increase over 2020	27%	0.33%
Combined Non Fat Organic products	16.81	17.94
Increase over 2020	35%	37%
Total organic products	31.32	31.56
Increase over 2020	31%	18%

Anecdotal reports are that selected organic dairy producers are being allowed to increase production, although Danone and Lactalis are investing more in plant-based 'milk'. There is more activity with buying and selling of certified cows and some milk coming into the northeast from the Midwest, but no reports of any shortages. With so much milk going into private label, it's difficult to know whether the bigger dairies are absorbing the increase in retail sales at the lower pay price that these larger dairies achieve with economies of scale and less expensive trucking of raw milk for processors.

The February 2021 US simple average retail price was $4.05, down 5 cents from the last month. At this level, the producer captures approximately 35% of the retail price. February 2021 in-store surveys of supermarkets in selected US cities show that averages prices for organic whole milk in the half gallon container ranges from $3.00 in Indianapolis, IN to $5.84 in Pittsburg, PA. Surveyed cities that experienced noteworthy changes in average prices from January 2021, include Atlanta, GA, down $1.01; New Orleans, LA, down 60 cents; Portland, OR, decreased 15 cents. The Cincinnati, OH, half gallon, organic Whole Milk average price increased 14 cents, while Denver, CO and Oklahoma City, OK both grew 10 cents.

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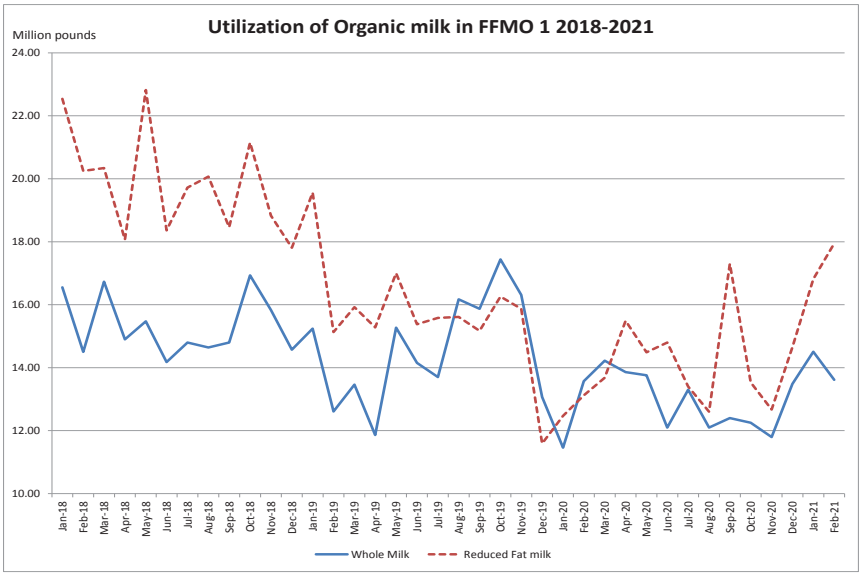

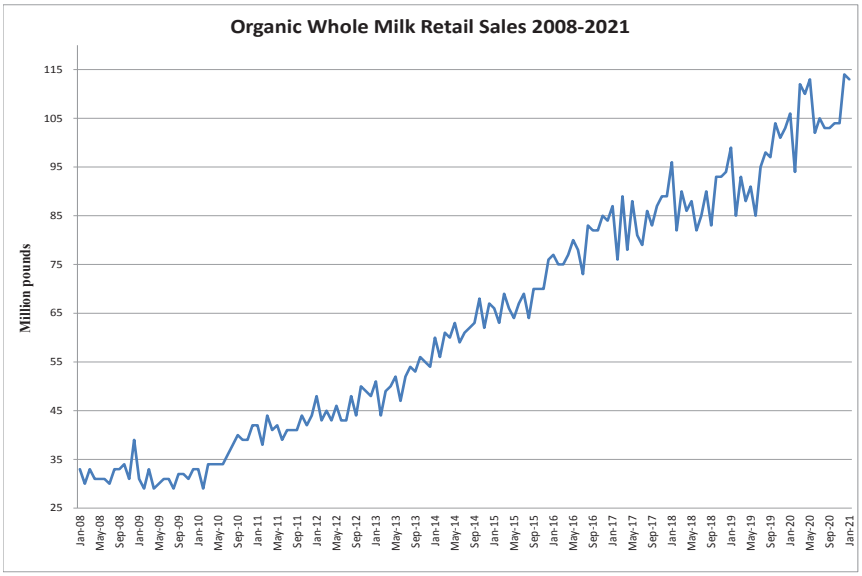

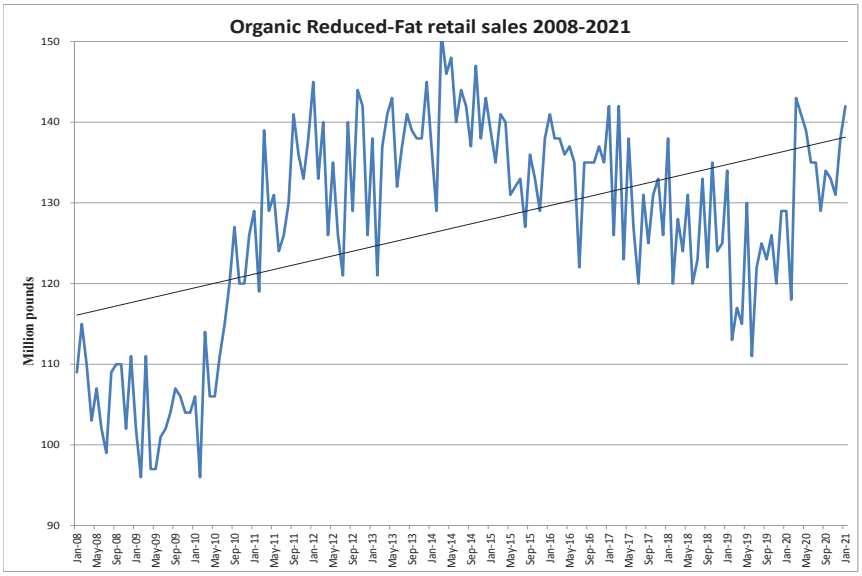

Pay And Feed Prices

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Organic producers are eligible for the Dairy Margin Coverage program which is based on conventional pricing, not organic. With the uncertainty around demand and supply of conventional milk during the pandemic, complicated by government programs and high feed prices, those organic producers who signed up for the insurance program are projected to see an average return equaling 2020, which saw an average return of $16,000 per operation (USDA FSA). There was an increase in sign-ups for the Dairy Margin Coverage enrollment ahead of an uncertain 2021, with 68% of the country's dairy farms signed up for the program for 2021 before the December 11 2020 deadline, compared to just over 50% enrollment in 2020. The USDA released its latest Ag Prices report on Feb. 26th, including factors used to calculate monthly DMC margins and payments. The January DMC milk income over feed cost margin is $7.14 per hundredweight (cwt), triggering indemnity payments on Tier I and Tier II milk insured at all levels above $7 per cwt. Based on current market conditions, DMC will pay monthly indemnity payments well into 2021. With no floor price or insurance for organic production, organic producers who are interested in managing risk should be following the progress of the DMC to inform decisions for the sign-up for 2022 and possible inclusion of an insurance program for organic milk in the 2023 Farm Bill.

Horizon Organic expanded its Growing Years line with the introduction of low-fat yogurt pouches, cultured dairy smoothies, reduced-fat milk half gallons and single-serve whole-milk boxes. According to Horizon Organic, the transition from infant formula or breast milk to dairy milk can

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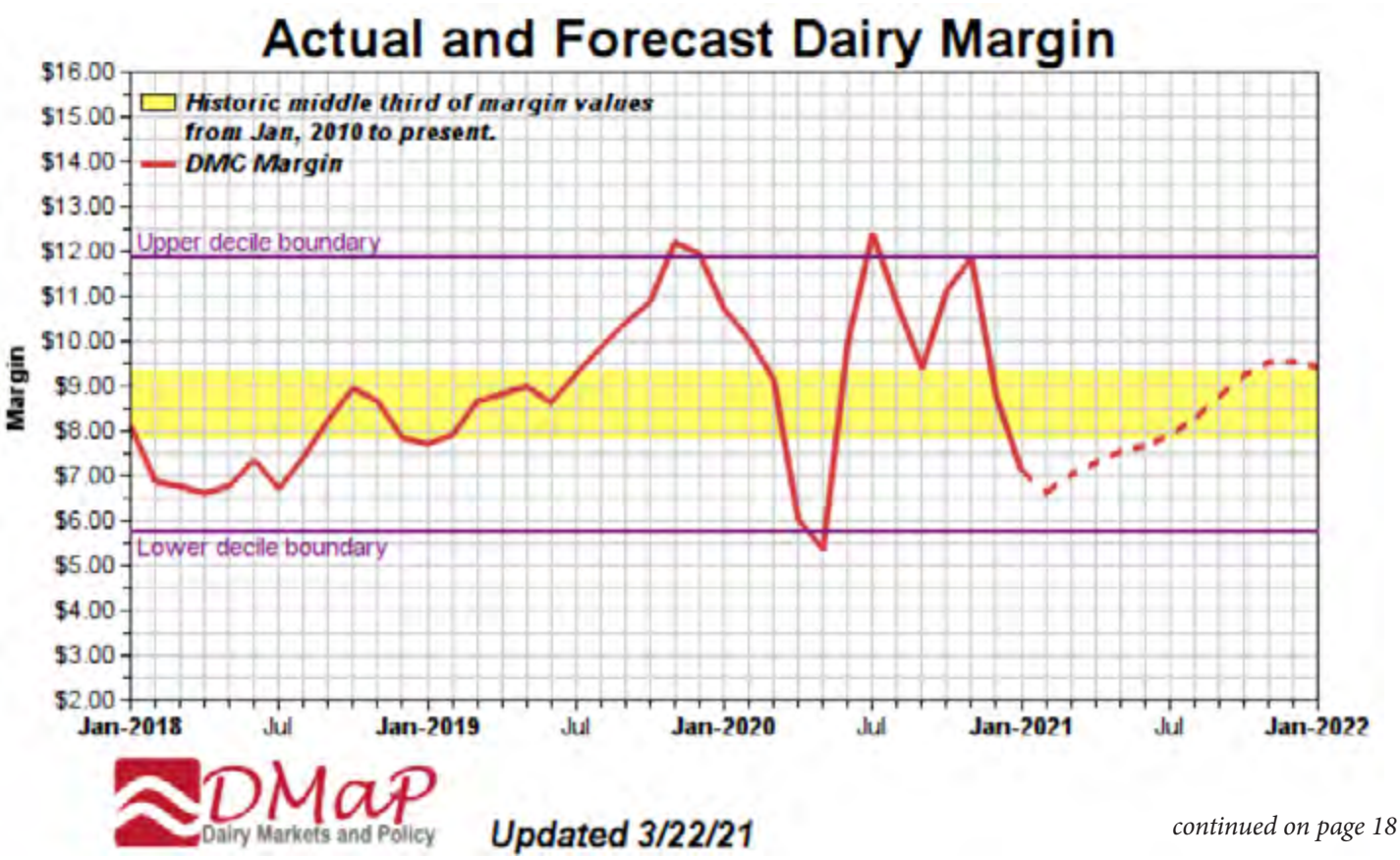

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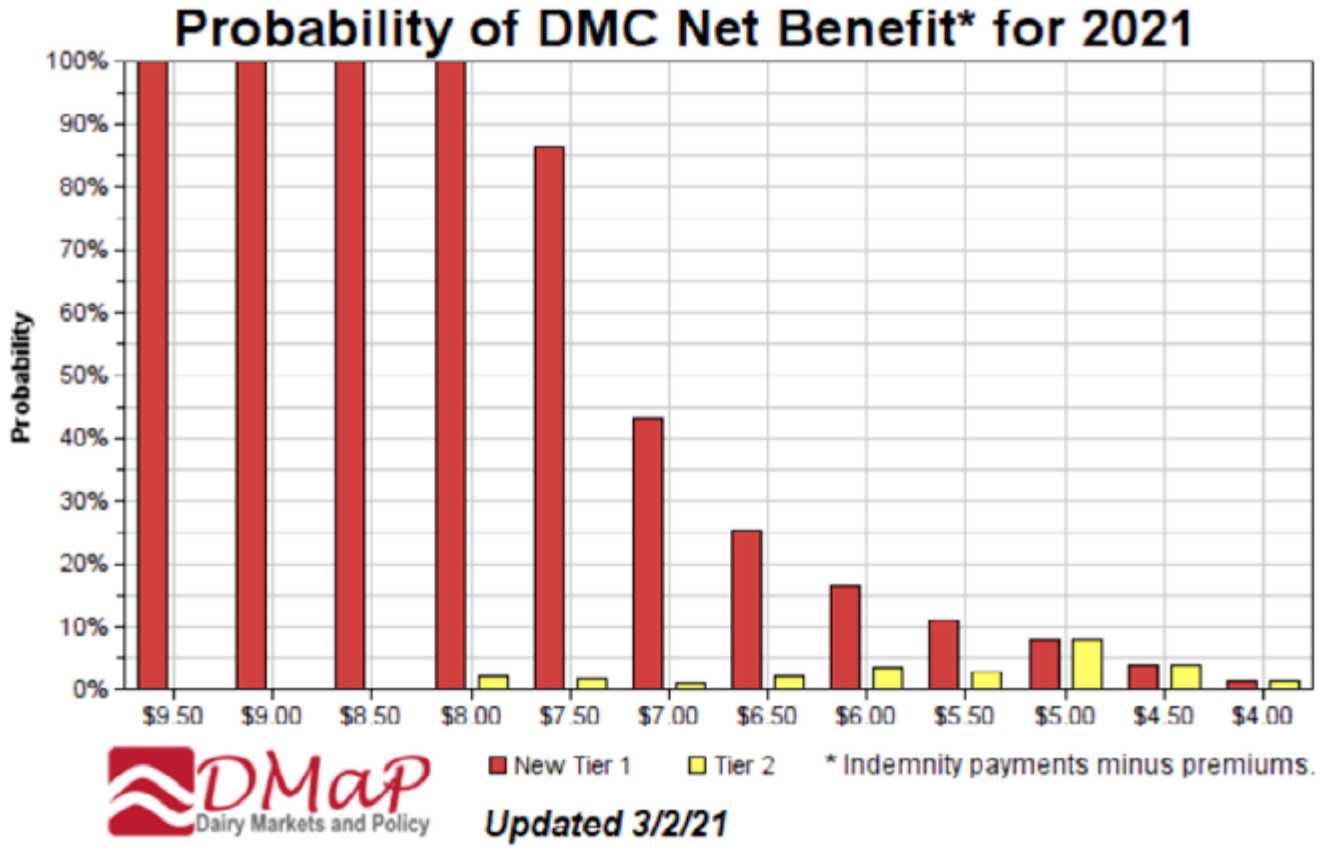

ORGANIC INDUSTRY NEWS

Pay And Feed Prices

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be a challenge for parents, as many worry their children won't get the nutrition they need. To help bridge the gap, Horizon Organic originally introduced Growing Years whole milk, the first line of organic dairy products developed with pediatricians in 2019, to help usher parents through this new phase and help them provide their children with the nutrients they need. Every serving of Growing Years organic dairy provides 50 milligrams of DHA omega-3 to help support brain health, a good source of choline to help transport DHA in the body and prebiotics to help feed good bacteria in the gut, Horizon Organic said.

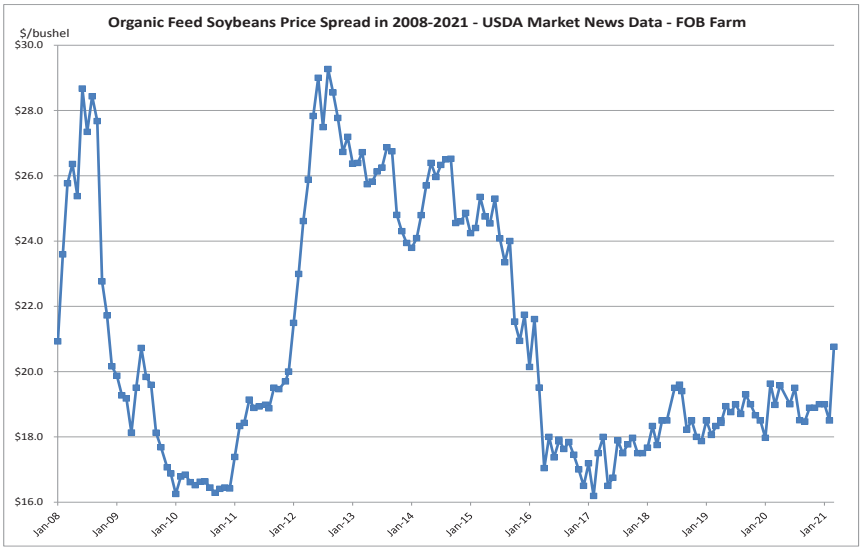
CROPP Cooperative will introduce Organic Valley American cheese slices this May. "The cheese slices deliver all the melt and flavor consumers want, with ingredients that include organic butter and organic cheddar," said Kelly Slentz, cheese brand manager for Organic Valley. The organic American cheese slices are made with just seven ingredients, including butter produced from milk from pasture-raised cows. The American cheese slices will have a suggested retail price of $6.49-$6.99 for a 6-ounce package of eight slices.

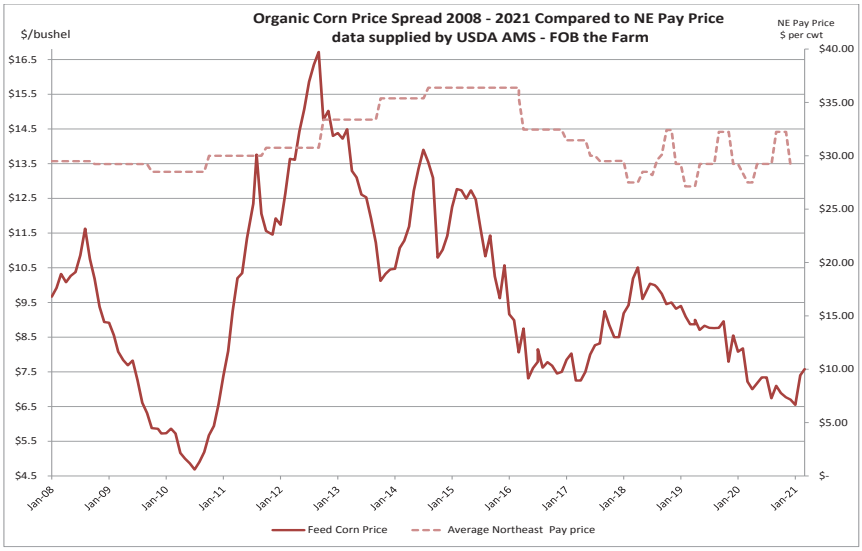
CROPP Cooperative is partnering with Clean Energy Credit Union to launch the "Powering the Good Loan Fund" to provide the best loan terms for farmers seeking to reduce their reliance on fossil fuels with renewable energy. The loans will allow farmers to add solar systems, become more energy efficient, and add geothermal systems for heating and cooling. "We've got a lot of farmers that are interested in advancing renewable energy on their farms. What the fund is designed to do is give our membership access to money at low interest with favorable terms to do these things," said Bob Kirchoff, CEO of Organic Valley. This is comparable to what other electricity suppliers like National Grid and some states are doing across the country. I don't know many organic producers who are able to take on additional loans at this time; grants would have been more helpful and practical. I'm sure that the repayment of the loans will come directly as a deduction out of the bi-monthly milk check.

ORGANIC INDUSTRY NEWS

ORGANIC GRAIN FEEDSTUFF OVERVIEW

In looking at what to write about organic feed grains I was struck by this headline on Agri-web, "A recent survey of Corn Belt farmers conducted by Pioneer shows the greatest concerns going into planting season are too much moisture, too little moisture, and crop nutrition." In other words anything could happen. One of the concerns that organic producers have is weed control so too wet has its problems as does too dry on growth of the crop. The organic soybean price has increased by $5 a bushel in the last month as has soybean meal with price in the $1200 to $1400 range. With high prices for conventional corn and soybeans, and the US supplying only approximately 30% of organic corn and soybeans, the price going forward will be greatly reliant on enforcement of standards and a proactive approach by the National Organic Program. High conventional prices are the perfect time for a transition to organic production if the NOP can show they can provide consistent and timely enforcement of the standards nationally and internationally for a secure future at a price differential that reflects the true costs of organic production. ◆





FEATURED FARM

Land used for Alexandre Family Farm, Crescent City, CA

ALEXANDRE FAMILY FARM
CRESCENT CITY, CA

continued from page 1

the multi-generational family operation - all while providing customers with a wholesome product- is the right thing, and it's been their mission for decades. They have been grazing their milking herd since September of 2001 following a large facility fire and have been certified organic for 22 years.

"We're full-blown regenerative farmers," Blake stated. "Soil is, really, what we ultimately farm."

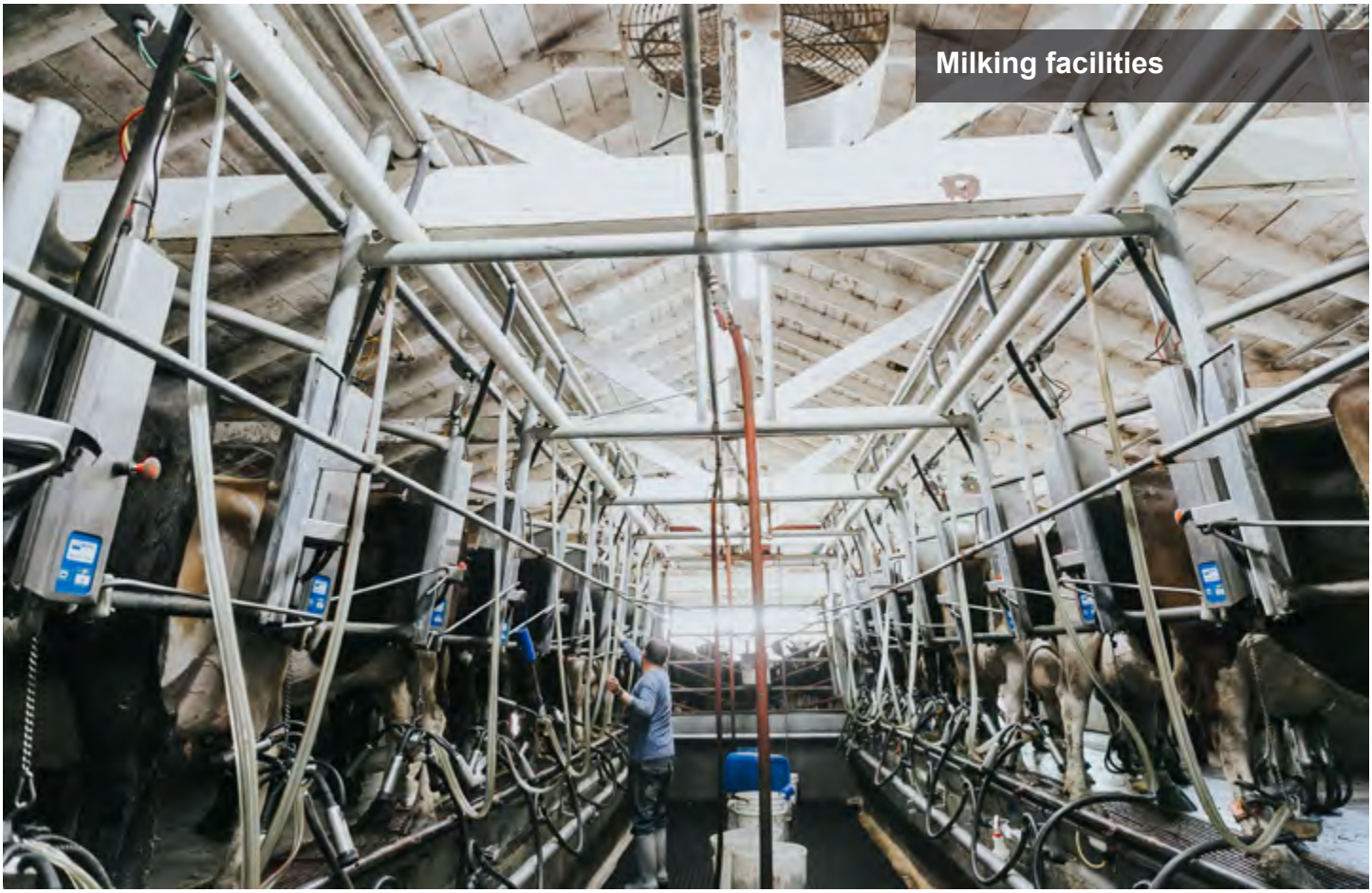
The family's dairy farming roots began with Blake's great-grandfather, and expanded through the years to encompass the 4,000 acres of irrigated pasture across four dairy farm parcels. Today the family's herd consists of 4500 lactating cows, 3700 heifers, and about 2000 calves which are born each year.

They calve year-round, raise all their own replacement heifers, and have begun raising bull calves for grass-fed beef. Over the past half-dozen years, the farm has also bred their extra heifers to black Angus and raised those calves for beef. The beef is a challenge, as this dairy farming family is more accustomed to raising females, but there is a customer desire for grass-fed beef.

The milking herd is spread across the four certified organic dairy farms. There are also two maternity barns, two dry cow and heifer programs and a separate parcel of land 350 miles away where they grow their alfalfa hay. These operations are all under the same management and function as one business entity, along with their own creamery.

The home farm herd is milked in a flat barn, built by Blake's father in the 1950s, which is basically a tie-stall barn with an overhead pipeline. The other three dairies have herringbone

FEATURED FARM


Milking facilities

milking parlors. All of the facilities are due for upgrades, and should be receiving those within the next five to 10 years, as the newest parlor is 44 years old. While the milking facilities may not be modernized, the family has certainly kept up with the milk market, including 100 percent grass-fed production in one of their herds, and transitioning all of their herds to A2/A2 genetics.


40,000 hens are pastured across 300 acres

There is also the egg operation, with over 40,000 laying hens pastured across 300 acres. The hens don't graze with the cows - they tried that and it was not functional for their system - but instead graze the pastures prior to the heifers and dry cows rotating onto them.

The farm's milk is sent to seven different processing facilities, including one of which is owned by the farm, and two others which process under the farm's own label. They also have their milk processed into yogurt under private labels for national chains, sell powder to a international A2 powder brand, and sell to a cheese maker.

While this is extensive, it stems from two necessities: to keep A2/A2 milk from being co-mingled and losing its value, and to prevent the farm from ever again experiencing a single buyer

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FEATURED FARM

ALEXANDRE FAMILY FARM
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going bankrupt, leaving them with no milk market. In 2009, the creamery that purchased the farm's milk for four generations went bankrupt.

"We had to come up with other options. We chose niche markets and unique marketing opportunities," Blake said. "We're trying to make our high quality milk available to as many people as possible."

Large-Scale Dairy Grazing

The family farm became the first 100 percent grass-fed producer for Organic Valley soon after they lost that long term milk market. That 700 cow grass-fed herd is now a 500 cow herd, and they are no longer with Organic Valley.

Their other milking herds do receive some grain - primarily corn and barley - which they purchase. High production cows receive 15 lbs. of grain per day, while the low production groups receive 10 lbs. per day. The fed ration is a partial mixed ration, and includes haylage and alfalfa hay, both of which are grown on the farm, and also purchased.

The four dairies are all producing A2/A2 milk. Three of them - including the 100 percent grass-fed dairy - are 100 percent A2/A2, while the fourth is rapidly approaching that goal. All of the dairy herds graze for most of the year. The 100 percent grass-fed herd receives 47 percent of its annual dry matter intake from grazing, while the other herds receive at minimum of 32-42 percent DMI from grazing.

During the first years of the all-grass herd, components were extremely low, and premium dollars were lost. Producing forages with a high sugar content, and not just protein, took a lot of experimenting. Adding a molasses supplement was also important.

The grass-fed herd has now been reduced to 300-400 head, as they've learned to make more milk from grass, and are not seeking to expand further into 100 percent grass-fed production. Currently, the herd is producing about 41 lbs. of milk/per cow/per day during the non-grazing season. A loss of reproductive capacity, as well as lower milk production per cow, was not captured in the typical premium they received for 100 percent grass production.

The family farm became the first 100 percent grass-fed producer for Organic Valley

FEATURED FARM

"As an early adapter of grass-fed dairy, we learned a lot in terms of the cost of that production," Blake said. "We cherish the quality of the milk that the grass-fed producer brings to the table," although the premium "is not enough to justify the holding back of our cows."

Although they continue with one grass-fed herd, and feed the other three milking herds some supplemental grains, there is no doubt that Alexandre Family Farm is invested in grazing management. They've adopted all of their genetics, selecting for cows that can make milk from grass and readily thrive on a forage-based diet.

"The biggest difference is getting that genetic mix right," Blake said of operating a grazing dairy.


Old or damaged pastures are not taken out, they are rejuvenated

The farm's genetics have not only been selected for A2/A2 milk production, but for grazing ability. They've begun adding Fleckvieh semen to their genetic pool over the past seven years. They combine New Zealand genetics -KiwiCross and Ayshire - with German Fleckvieh, Friesian Holstein, and Jerseys in their crossbred herd.

The Fleckviegh genes help the cows "to do better on our all-forage diet," Blake said, adding that the breed is dual-purpose for beef and dairy, and adds value to their cull cows and gives bull calves "more of a future."

Building Pasture

Along with the genetics, producing nutritious forages and grazing management are crucial to making milk from pasture.

The land has been in permanent pasture through the generations, and they will not take out old or damaged pastures, but instead work to rejuvenate them. To accomplish this, they use an AerWay machine to aerate the soils, and then spread compost using a drag harrow.

Their compost consists of manure solids, plus bedding and shavings from the maternity and calve housing, and is further enhanced with truckloads of fishery waste from the nearby coastal fisheries. The compost piles are turned with a front loader to keep them active and aerated, and they are actively working to improve their composting abilities. Each year, 30 percent of the pastures are treated with compost.

Pasture seed mixes include a primary component of annual and perennial ryegrass, plus New Zealand white clover, and some chicory, plantain, red clover, and Italian ryegrass. The new seeds are incorporated into the old pastures via broadcasting, which is done using a four-wheeler, to reduce the amount of inputs needed and to protect the soils from further compaction.

"These are permanent pastures and we just keep adding to it," Blake said. "We grow the grasses that grow well here."

The farm's land is very wet, and enhancing the land's water-holding capacity was key to being able to graze without damaging soil. The farm has a six month rainy season, and a six month dry season, during which the land is irrigated, using "nutrient water" filtered from the manure management system.

The water is taken from three aerated ponds, which hold the liquid after the barns are scraped or flushed, and put through a solids separator. Solids are composted, and the liquid goes through a screening process, and flows into a three lagoon system at each dairy. The oxygenated water is a net benefit to the soil, Blake said.

Because the soils are wet, with 40 to 90 inches of rain annually during the six month wet season, they do exercise caution with how much trampling and compaction the herd gives the soils. They practice intense rotational grazing, allowing the cows to consume the top two-thirds of the forage height in a 12 hour period, and then moving them to fresh pasture.

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They generally graze when plants are 14 to 20 inches tall, leaving enough plant base to stimulate new growth, and providing the milking herd with the optimal nutrition from forage. If the pastures get ahead of the milking herd, they will be used for heifer and dry cows, or will be used to make haylage.

Weed problems -particularly thistle - are managed via hand weeding. They hand-hoe weeds with the goal of having tackled them by the 4th of July, to control the seed bank. They occasionally clip pastures, to prevent weed seed formation as well as to maintain grass quality. Clipping does means losing some forage, which means lost milk.

The grazing season here begins by the end of February for the dry cows and bred spring heifers, which graze in two groups. The milking herds begin grazing around the third week of March. Grazing season ends sometime in November or December, depending on weather conditions. Pasture here grows throughout the year. In the winter, the growth slows down, with about four percent of the growth occurring each month from December through February.

About seven tons of dry matter are produced by the farm's pastures annually. When they began managed intensive grazing, the soil organic matter was three or four percent. Today, it has increased to eight, 12 and 15 percent through grazing management and low-input farming.

Each field is grazed an average of eight to ten times per year. Each grazing group of cows numbers between 350 and 450 head.

"We have phenomenal grazing conditions," Blake said. "We're just blessed in our environment that we can do that and harvest the feed at a more productive, nutritional state."

Each dairy has two to five grazing groups in their milking herd, divided into a low and high production group, and may also have a fresh group or a high somatic cell count group. One of the dairies hosts two separate milking herds, one of which is the 100 percent grass-fed herd, which is divided into low and high production cows only. The second herd has some remaining A1 cows, which are separated from the A2 group.

The milking herds are given the fields closest to the dairy barns. The herds are all milked every 12 hours. During the grazing season, the cows are only off pasture long enough to eat a partial mixed ration, be bred via AI, and get milked. Live bulls are used in latter lactation milk groups.

Most of the herd is housed in freestall barns when not on pasture. Early and late in the season, the milking herds are only rotated onto pasture after one milking, but during peak season they are rotated onto fresh pasture after every milking.

The furthest the milking herds walk to access pasture is 6,000 feet. Those furthest pastures are primarily utilized for the low production cows, which will access them only once per day, and be kept closer in for the other rotation. The high production groups are kept closest to the parlors.

Each dairy has two to five grazing groups in their milking herd

The pastures are divided into paddocks ranging in size from five to ten acres. Each paddock has a permanent concrete watering trough. Polywire is used to strip graze the herd within the paddocks. The cows are in each paddock for one to three days depending on the season and pasture conditions.

Laneways, which are 20 feet wide and crowned with gravel, lead the cows to the gate at the point in the pasture furthest from the barn. The gates are one-way only, and the cows graze, moving down towards the barn, which they then enter at milking time.

Heifers and dry cows are managed in their own individual groups. Dry cows at each location graze in one large group, and are moved to the close-up group two weeks prior to calving and then to the maternity barn for calving. Every Tuesday, dry cows are moved to the maternity programs, and fresh cows are returned to their herds. The grass-fed herd recently has had its own maternity and dry cow program implemented.

Raising Calves

The calf-raising program in similar for all calves, although the calves in the 100 percent grass-fed herd are maintained separately, as the entire herd is now managed separately from the rest of the dairy herds.

As a cow is about to calve, they monitor her and her calf in the maternity barn. If she needs assistance, they help pull the calf. After calving, the dam licks the calf dry. Within one hour her colostrum is harvested using an individual bucket milker, and is then tested for quality and hand-fed to the calf. Within the first 24 hours, each calf is fed a gallon and a half of colostrum and moved to an Agri-Plastics EXL calf hutch. Calves are vaccinated with Inforce3 and Calf-Guard. Navels are dipped.

They don't raise the calves on the dam because they have not seen that the cows are negatively impacted by the separation.

"Dairy cattle are herd animals," Blake said, and often do not look back for the calf when separated.

Calves are raised in individual hutches which measure 5.5 by 8.5 feet. They are bottle fed, and some grain is fed to all but the grass-fed calves, beginning immediately. All calves have access to hay. Calves are weaned and moved out of the hutches at three months. They are then moved into a transition barn with group housing, which progressively increase in size as the calves age, from about 30 head to 100 head, before being turned out onto pasture.

Calves are out on pasture by five to eight months of age depending on the season. Calves are bottle-fed pasteurized milk from high SCC cows. These cows are milked separately, and the milk is all diverted into the calf programs. The wet soils are one reason why they haven't attempted to graze the calves at a younger age, Blake said.

Culling

The crossbred herd, the desired phenotype, is composed of small, athletic cows which are extremely wide on each end. Blake views each cow from behind, and closely examines the rear legs, looking for a cow which can walk straight, without a wobble in the hocks. The udders must also not be squeezed when walking.

They initially culled all of the taller cows from the herd, which was not an easy to do, he said. Any cow that was four inches taller than the others was sold to a friend who was starting an organic dairy. Cows which are too tall are culled, as are any cows with breeding issues, udder issues, or foot and leg problems.

If cows are limping, they'll hoof trim them once, but not a second time. The don't generally treat any other health problems. Instead, they believe in keeping cows' stress levels low, providing them with healthy forages and fresh water, and investing in preventative tinctures. They primarily utilize a CEG tincture - cayenne, Echinacea and garlic - liberally, believing that it offers the cows a sound basis for health.

"Our cows have to fit into our system," Blake said. "We have to sell the right cows and cull our herd appropriately. It's a painful decision for me on every individual cow, but we have to be very careful about the girls in our herd."

The biggest herd health concern is mastitis. They are working towards lowering the somatic cell count in all of the herds, culling cows with higher counts. At this time, one herd's SCC runs about 150,000, while the rest are typically around 250,000. The goal is to be below 200,000 across herds at all times.

The Milk

The milk produced at Alexandre Family Farm has a very high solids content of 13.9 percent. Butterfat runs about 4.6 percent, while protein is at 4.0 percent. Production averages 55 lbs milk/cow/day.

About one-quarter of the milk produced is processed in the farm's own creamery, although processing was never a part of their original plan for the dairy. But after finding a processor for their A2/A2 milk, the deal fell through, leaving the farm with no choice but to process it themselves.

The family already had experience commercially marketing their pasture-raised eggs, modeling their Alexandre Kids label on Roman Stoltzfoos' pastured egg production, which they adopted after visiting his Pennsylvania farm, Springwood Organic Farm, years ago.

"We really set out to be dairy farmers and sell our milk to others to process and market," Blake said. But things didn't go as

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planned, and they realized that "we were going to have to do it ourselves. We weren't afraid of the concept of building our own milk brand."

So they did.

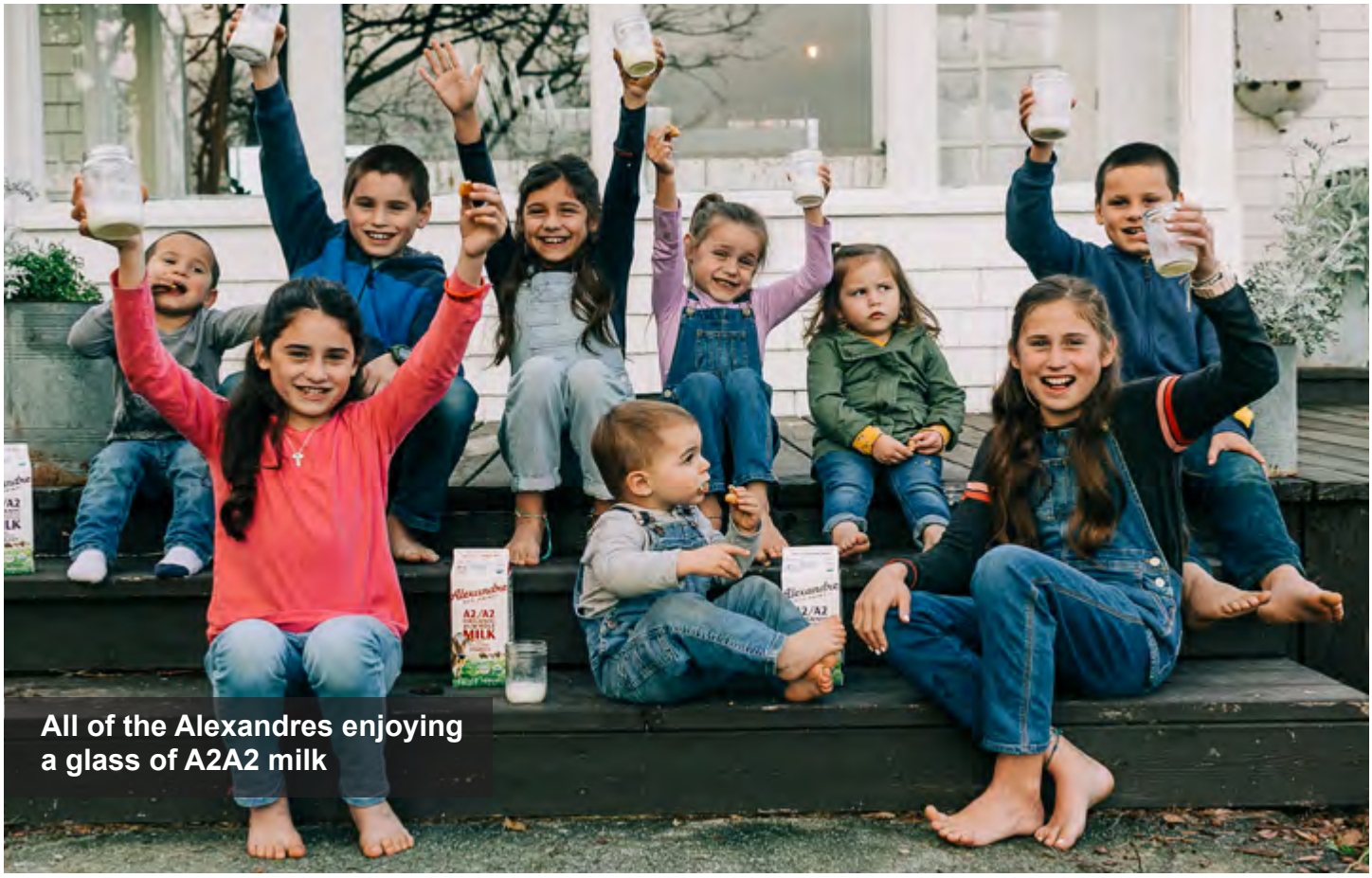
Alexandre Family Farms dairy products are made in the small San Leandro, California processing plant which they now own. Their plant has been producing yogurt and vat-pasteurized fluid milk products for four years. Their high fat, premium dairy products are in demand with customers. This January, they added ultra-high temperature pasteurization, so their products can be distributed across the country, reaching more people demanding A2/A2 milk. They also sell milk to two other processors who make products under the Alexandre Family Farm label as well.

Their target market is the customer who is seeking the premium qualities which their A2/A2 milk provides. Blake believes that many people who have difficulty digesting milk are not actually lactose intolerant, but are reacting to the mutate gene (A1) which is prevalent in dairy herds today.

"We can make the world better and give customers a more pleasant experience when they put our dairy products in their mouths," he said. "This is what matters to us. We need to bring the consumer back to dairy."

When producers upgrade to the right genetics for grass-fed milk, they are already on the path to A2/A2 genetics, Blake said, and might be better served financially if they pursue that niche. He believes that grass-fed milk labels are missing a more extensive segment of the market, and that producing A2/A2 milk meets the demands of more people. While the grass-fed label meets the needs of those seeking milk from humanely-raised animals, the A2/A2 milk reaches those who want a high-quality, digestible product, too.

Alexandre Family Farms sells milk by the truckload. Having A2/A2 milk co-mingled with A1 milk is not something they like to see, so have developed numerous market chains both to decrease risk, and to differentiate their A2/A2 milk.



All of the Alexandres enjoying a glass of A2A2 milk

"It's painful for me to see a truckload of A2 milk go to a processor who then blends it with A1 milk and then makes generic organic products," Blake said.

They've just begun working with an A2 powdered milk processor, and are excited about the product's quality. The Alexandre milk powder has a higher ration of protein to butterfat compared to other powders, he said. The difference in quality lies in the breed of cow, along with the ratio of components in their A2 milk.

Customers seeking premium, value-added dairy are the target market for Alexandre Family Farms. That marketing approach continues to serve them well as they approach 100 percent A2/A2 milk in the entirety of their herds.

"Customers have the right to pay more and get extra," he said. "It's about the consumer."

Alexandre Family Farms employees 120 full-time employees - excluding the family - across all of their operations, from the dairies to the processing plant, to those hauling feed and the trucking and distribution staff for their milk and dairy products.

Despite the size of the dairy operation, community matters. Alexandre Family Farms is built on family, and that includes their neighbors. A small on-farm store allows locals to stop by the farm and pick up milk, eggs, and meat. Although less than two percent of the milk produced by the farm is sold through the on-farm store, the local sales keep the family rooted in their community. They also sell their products at a handful of farmers' markets in the local region.

The family also hosts farm tours for all ages, including tours of the maternity barn, calf barn, milking barn and the manure management, feed barn and egg layer operation.

Another unique program was begun by Stephanie and Blake when the Alexandre kids were young, as a way of integrating their friends - most of whom were not familiar with farming - into the family's way of life. They concocted a Bucket Calf Program, where calves born that spring season are adopted - complete with "official" papers, by a child who then participates in an eight week on-farm program feeding and working with the calf.

The program, which begins each June, also includes a dairy farm educational component, where the children and their parents tour the dairy and learn about dairy farming. The children, aged five - 15 years-old, finish the program at the Del Norte Country Fair, where they show their calves in competition, with audiences of more than 300 people watching.

The Bucket Calf Program is run in conjunction with the local 4-H Junior Leaders program, and 120 -180 children now participate each year. Younger siblings of enrolled children aren't left out either, as there is a play area where they can watch their siblings work with the calves, and are allowed to pair up with their older siblings to learn calf care.

This successful program began more than twenty years ago, "as a way to teach our kids' friends about the farm," Stephanie said. "People really get to know our operation" and learn about dairy farming.

Generations of Regeneration

This family farm is a fifth-generation grazing dairy. When Alexandre Family Farm became certified organic in the 1990s, Blake felt that he was returning to the sustainable practices his grandparents relied upon and which benefitted the land, the plants, the cows and the humans.

The wildlife on the farm is symbolic of the health of the land. Bald eagles, an elk herd, over 200 species of birds, and Aleutian Goose, recently removed from the Federal Endangered Species List, are found here in abundance. The geese compete with the cows for forage, so providing them some ungrazed acres set aside for their survival - in conjunction with other neighbors and the government - allows both livestock and geese to co-exist.

Blake believes that all farms should be working to sequester carbon, regenerate soils and grow foods through soil-enhancing practices. Alexandre Family Farm was the first organic dairy in the United States, certified by both the Savory Institute and the Regenerative Organic Alliance. These certifications are indicative of their dedication to farming practices which enhance the soil biology and sequester carbon, positively impacting climate change, Blake said. The farm has also been Certified Humane, and is certified under other third-party labels.

Their own EcoDairy Pasture Promise Seal insures customers that they are grazing animals year-round, managing the pastures for biodiversity and soil health, practicing carbon sequestering, using beneficial manure and land management techniques, and breeding for A2/A2 genetics.

While all of these certifications are an attempt to distinguish their farming methods and verify their authenticity, Blake sums up their mission and practices succinctly:

"It really helps to build and improve yields when you work with God's system as opposed to working against it." ◆

The Alexandre family can be reached at; Alexandre Family Farm, 8371 Lower Lake Road, Crescent City, California 95531. Phone: (707) 487-1000, farmlife@alexandrefamilyfarm.com

ORGANIC INDUSTRY NEWS

Value-Added Cow Genetics: Taking a Look at A2/A2

By Tamara Scully, NODPA News Contributing Writer

Value-added products are those which generate an additional or increased profit from the farm's production, achieved by altering the raw product in some way, so that a higher profit can be made. In dairy circles, adding value to milk doesn't necessarily require a change from its fluid milk stage, however. Producers can add value by processing and bottling their own milk, whether in its raw or pasteurized - but maybe not homogenized - form. For many consumers, cream-on-top milk is a welcomed throw-back to simpler times. For others, non-homogenized milk represents milk in its pure form, as fat globules are not altered. Although claims of enhanced digestibility of non-homogenized milk don't appear to have any scientific relevance, some consumers do claim to have less digestive upset from cream-line milk.

Certified organic milk has commanded a price differential on the commodity market, as organic standards disallow many conventional practices which consumers may not approve. But the differential is also tied to health benefits, as practices such as managed grazing can add desirable nutritional properties to the fluid milk.

Certified organic milk isn't the only option for capturing a retail premium. By creating a functional food - one which has added health value beyond its basic nutritional content - dairy producers can make fluid milk into a value-added product.

Milk produced by cows on forage-only diets is now a widely available niche market, and consumers are willing to pay a higher retail shelf price for milk made without grain. Milk brands wasted no time adding omega 3 fatty acids into their milk and marketing it as a nutritional benefit, despite the fact that the amount of omega 3 fatty acids is less when compared to other dietary sources such as fish. Food Science and Nutrition research found that milk from grass-fed cows had 147 percent more omega-3s than conventional milk and 52 percent more than organic milk. Horizon sells their milk with 32mg of DHA Omega-3 per 8 fluid ounces (224grms) serving. Brad Heins, UMN extension, reports that a seven fluid ounce serving of grassmilk has 100 mg of omega 3; USDA reports that a 3-ounce serving of farmed tilapia delivers about 100 mg of omega-3 and a 3.5 ounce of farmed salmon has 2,260 mg of omega 3.

Amounts of conjugated linoleic acid (CLA) present in milk from grass-fed cows can be twice as high as is found in milk from non-grazing herds, with seasonal variability. Stable throughout processing, and thought to have anti-carcinogenic properties in humans, CLA can have a positive impact on cardiovascular disease, diabetes, inflammation and pancreatic function. Although it is a trans fatty acid, those derived from ruminant animals do not seem to be detrimental to human health.

The fatty acids profile of milk - and the enhanced CLA content of milk from grazing herds - is one reason why milk is considered a functional food. Another up-and-coming quality with the potential to capture a premium, and which may also contribute to milk's designation as a functional food, is A2 milk.

A2 Milk

More than 80 percent of the milk protein in ruminants comes from casein, while only half of the protein in human milk does. There are four categories of casein in cow's milk, alpha - which has two subtypes, as well as beta and kappa-casein. Whey makes up most of the rest of bovine milk protein.

All proteins in cow's milk have genetic variations. Beta-casein has a dozen genetic variants, including the A1/A2 mutations which have been making news over the past several years. These mutations are not anything new: They happened more than 5,000 years ago.

Heritability of the A2 mutation is not complex. If a bull is A2/A2 and a cow is A2/A2, the calf will be A2/A2, inheriting one gene from each parent. But if either parent has even one A1 variant, that A1 gene could be passed along to the calf. A cow can be typed as A1A1, A1A2, or A2A2.

There is no dominance or recessiveness, and therefore both genes are expressed in the cow and in the milk. A2/A2 milk only comes from cows with two A2 genes.

Health claims involving the superior digestibility of A2 milk are making news today, and gaining the attention of dairy farmers seeking to find additional premium pricing differentials, and capture more of their milk's value in their milk checks.

Producing milk that can be digested by more people without discomfort was the goal when Alexandre Family Farm, in Crescent City, California, began to breed for A2/A2 genetics. Today, they are almost at their goal of raising only A2/A2 cows in all of their four herds.

"We jumped into it ahead of the market," Blake Alexandre said of the farm's commitment to A2 milk. "We took a leap of faith."

That leap - made twelve years ago - has paid off, as they've found that milk from their A2/A2 cows is in demand. The milk

is processed into their own and private label A2/A2 fluid milk and yogurt, too. They've recently entered the powdered A2 milk market as well.

Breeding for A2/A2

Blake transitioned the herd by breeding to A2/A2 sires, and did so at a time when finding those bulls was not an easy task, as the genetics were not yet valued highly. They opted to use only A2/A2 bulls and then further select within that population for other traits important to their herd.

"There's a pretty good selection now," across all of the breeds they use in their crossbred herd, Blake said.

Different breeds of dairy cows are more or less likely to carry the A2 gene, and the demand for the gene has increased the sire availability across breeds, according to Chad Debow, associate professor of dairy cow genetics at Penn State University.

Using A2/A2 sires and breeding only A1/A2 cows is the fastest way to convert the herd to fully A2/A2 genetics, he said. You can use A1/A1 cows, but the process of transitioning the herd will take longer, as there is no chance of a calf obtaining an A2 gene from an A1/A1 mother cow. You will always get an A2/A1 calf from this pairing, rather than having a 50-50 chance of an A2/A2 calf from the initial breeding.

Blake Alexandre and his wife, Stephanie

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ORGANIC INDUSTRY NEWS

Value-Added Cow Genetics: Taking a look at A2/A2

continued from page 29

Approximately 80 percent of Guernsey cows have A2A2 genetics and it is reported that all Guernsey bulls sold by AI companies are A2A2. Debow estimates that Jerseys are now at 85 percent A2A2 genetics, while Norwegian Reds and Brown Swiss breeds are both well above 50 percent. And a majority of Holstein's sires are now A2A2, with less than 10 percent A1A1 sires being used by AI companies.

But does selecting for A2/A2 genetics come with any other genetic pitfalls? So far, none of those have been found.

"We do not believe A2A2 is genetically linked to other traits," Debow stated. "In our data, the A2A2 cows perform as well as their A1 counterparts." Cows can be tested directly for A2 genotypes, Debow said, with genotyping companies such as Zoetis providing this service. Genomically testing cows is also an option, which allows traits such as production and fertility to also be ascertained. A simple test for milk proteins - including beta-casein - may cost about $25.00 per animal. "In most instances, genomically testing will cost a bit more than A2 only, but you get a lot more information from the genomic test and that is what I recommend," he said.

Milk can be tested for A2 genes, as methods available for testing milk for the beta-casein protein variant have been available since the 1960s, Dr. Peggy Tomasula, research leader of the Dairy and Functional Food Research Unit of the USDA's Agricultural Research Service, confirms. These tests are now much easier for the laboratories to run, so DNA testing of the cow is not needed if you want to test for A2A2 genetics.

Premium Product?

Just a few years ago, Tomasula addressed the functional properties of A2 milk at the 2019 Northeast Pasture Consortium conference. At that time, A2 milk was in the news thanks to The a2milk Company, of New Zealand, which had recently begun selling their milk in the United States.

The A1 variant of milk produces histidine, an amino acid which has immunomodulating properties, at position 67 in the chain of 209 amino acids which make up the beta-casein protein. A2 milk has the amino acid proline in place of the histidine. This is the only difference between the two genes.

The A1 histidine mutation causes the protein to break differently during the digestion process, and allows the formation of the BCM7, which is related to the opiate family, to break free during the digestive process.

Tomasula explained that the release of $CM-7 during digestion of cow's milk is thought to be the cause of gastrointestinal upset and inflammation which occurs in some of the human population. Lactose intolerance has been blamed, perhaps incorrectly, for many milk digestibility issues, although no conclusive studies on A2 digestibility have been widely accepted and the FDA has not approved any claims about the benefit of A2 milk. Several long term studies are being conducted in the United States on digestibility differences between A2 and A1 milk, and both are expected to conclude in 2023.

The Alexandre's believe that the demand for their A2 milk is evidence that consumers are receiving benefits by drinking their milk, and have heard from many customers who state they can now enjoy milk without digestive upset.

The rising demand for healthier food products should enhance the market for A2 milk, and recent global dairy market reports expect the A2 market to expand in the United States and internationally over the next several years. Just how much of an opportunity A2 milk might provide remains to be seen and its potential is not yet evident based on retail shelf prices.

In the Northeast region, the supermarket shelf price of A2 milk appears to be less than that of Organic Valley's Grassmilk™, Horizon Organic DHA Omega 3 milk, and also less than some brand's certified organic milk price. It is more expensive than conventional milk.

A2 genetics may provide opportunities to differentiate fluid milk and dairy products, and many - such as Alexandre Family Farm - have already opted for A2/A2 cow genetics. Research continues into the A2 gene, its possible role in enhancing milk digestibility, and the role it may play in dairy herds - and dairy premiums - moving forward. ◆

NET UPDATE

Recent ODairy Discussions

By Liz Bawden,
Organic Dairy Farmer, NODPA President

A farmer and his vet saw a pattern of cows developing uterine infections after calving, and they thought that low selenium levels might be the cause. The farmer began to add MuSe shots to his dry cow protocol, but two animals went into anaphylactic shock. He asked the group if there was another product that worked to boost selenium levels without the risk. Several farmers and veterinarians added their thoughts: Several producers highly recommended MultiMin 90. A vet said that Jersey cattle seemed to be much more prone to shock after MuSe injections than other breeds; it would be essential to keep a bottle of epinephrine on hand. Good injection technique is important; MuSe, Vitamin ADE, and MultiMin should be injected under the skin (subcutaneously), not in the muscle. Another producer mixes additional selenium, zinc and copper into her mineral mix to achieve the correct mineralization. Another vet suggested that leaving calves on cows encourages them to drop their placenta, and another producer helps cows to "clean" by offering 5 gallons of warm water immediately after calving.

A producer shared an article from Dairy Herd Management on a method known as the "Madigan Squeeze Technique" for calves. "You've probably seen it more than once – a beautiful, perfectly formed and apparently healthy calf that just has no interest in engaging in life. These weak or "dummy" calves are indifferent to stimulus, clumsy, lethargic and have weak or no suckle reflex." The technique mimics the newborn's tight quarters descending down the birth canal; the pressure applied here is thought to cause huge hormonal changes in the calf, preparing the calf for an active life in the outside world. It is a rare occurrence, but if you have a calf that exhibits no interest in life and has no sucking reflex, this might help. "Wrap a long, soft rope in three concentric loops around the calf's chest. Gently pull the rope to create pressure around the ribs. The calf should lie down and will enter a sleep-like state with eyes closed, slowed breathing and lowered heart rate. Maintain this position for 20 minutes. Remove the rope and assist the calf in standing." Some calves may need the procedure repeated a few times during the first few days of life.

A Pennsylvania producer shared a photo of a cow that had developed a burned look over her teats and a leathery feel over the skin on her udder. The condition progressed to the skin hardening and falling off, revealing new skin underneath. All of this was uncomfortable for the cow and a worry for the farmer. Although it was never really determined what caused this, two suggestions seemed the most likely – a herpes infection or a liver disorder. It was suggested that blood tests be done to check liver function.

Frustrated with poor quality farm gates, this producer asked for suggestions for well-made, sturdy gates. The following companies were recommended: CK Manufacturing in Lancaster, PA, Sturdy Built in Denver, PA, Seneca Dairy Systems in Seneca Falls, NY, and Williams Fence in Deansboro, NY. ◆

Subscribing to ODairy:

ODairy is a FREE, vibrant listserv for organic dairy farmers, educators and industry representatives who actively participate with questions, advice, shared stories, and discussions of issues critical to the organic dairy industry.

To sign up for the ODairy listserv, go to:

www.nodpa.com/list_serv.shtml

Calendar

Tuesday, April 13, 2021 - 6:30 p.m. TO 7:45 pm

THE SOIL FOODWEB AND THE PROMISE OF REGENERATIVE AG: ONLINE

Regenerative agriculture and the Soil Foodweb are a wide set of practices and philosophies about using natural systems to build productive and healthy farms and ecosystems. Topics covered will include:

- The promise of Regenerative Ag: building soil, growing disease and pest resistant plants, hydrating land, growing nutrient dense food.
- Increasing carbon cycling for soil health: building the soil sponge, dealing with compacted ground.
- Plants and succession: the Soil Foodweb theory of where plants like to live and why.
- Plants + Microbes = happiness: why and how to bring microbes back to the soil.

About the Speaker: Greg Newton is a Soil Foodweb consultant and lab technician in training with Dr. Elaine Ingham, as well as a food system researcher and long time gardener from New Brunswick, Canada. We hope to host Greg later this summer for some hands-on workshops once the border re-opens. COST: $15. WEBSITE to register and pay: https://www.eventbrite.com/e/soil-foodweb-and-regenerative-ag-for-gardeners-tickets-146640179725?aff=erelexpmlt

CONTACT NAME: Rebecca G Lindenmeyr
EMAIL: farmcraftvermont@gmail.com

Wednesday, April 21, 2021 at 12:00 p.m.

SPOTLIGHT ON ORGANICS: BENEFITS OF ORGANIC FARMING IN TERMS OF SOIL AND WATER QUALITY

Join Iowa Organic Association and Iowa Learning Farms on Wednesday April 21st at noon to hear from Dr. Kathleen Delate. Dr. Delate is a Professor of Organic Agriculture in the Departments of Agronomy and Horticulture at Iowa State University where she is responsible for research, extension and teaching in organic agriculture.

Returns have been negative in conventional row crop farming in recent years—alternatives that consist of longer crop rotations with lower inputs and greater soil/water quality need to be explored.

Research at Iowa State University has shown greater soil and water quality in organic systems with longer crop rotations than conventional corn-soybean rotations. Small grains and perennial legume species, like alfalfa, are integral to supporting greater soil microbial populations and aggregate stability. Slower-release forms of nitrogen, required in certified organic production, are associated with less nitrate loading and greater water quality. RSVP at https://www.iowaorganic.org/spotlight_on_organics_benefits_of_organic_farming

Thursday, April 22, 2021 at 11:00 a.m.

NATIONAL ORGANIC STANDARDS BOARD SPRING MEETING LOGISTICS

The National Organic Standards Board (NOSB) Spring 2021 Meeting will be held live online, instead of in-person. This allows the Board to safely deliberate in an open and public setting.

Online Meeting Details
Thursday, April 22, Noon - 5:00 pm Eastern
Wednesday, April 28, Noon - 5:00 pm Eastern
Thursday, April 29, Noon - 5:00 pm Eastern
Friday, April 30, Noon - 5:00 pm Eastern

Meeting materials including the agenda, public comment registration links, and other resources will be added to the NOSB Spring 2021 Meeting webpage as they become available https://www.ams.usda.gov/event/national-organic-standards-board-nosb-meeting-crystal-city-va-0

All speakers making public comments must sign up in advance, and will be called on when it is their turn. Members of the public will be able to hear the live comments, Board deliberations, and see all slides used. Only Board members may ask questions.

All public comment and Board deliberations will be recorded. A transcript of all the meeting days will be posted to the NOP website afterwards. Check the Spring 2021 Meeting page link (above) for more details and updates.

Saturday, May 22, 2021 - 10:00 a.m. To 4:00 p.m.

GRAZING CLASS - MANAGEMENT INTENSIVE GRAZING
Earthwise Farm & Forest, 341 Macintosh Hill Rd, Randolph, VT

With Covid-19, we will offer this class outside and will adhere to the latest Vermont State Social Distancing guidelines.

Interested in improving your grazing skills or new to Management Intensive Grazing? This class will employ the teachings of Holistic Management along with the techniques of Management Intensive Grazing (MIG) to assist you in improving pasture productivity and raising healthy livestock.

Livestock and pasture set-ups at Earthwise Farm & Forest include: pastured pigs, grassfed dairy cows & young stock, draft horses, oxen, meat birds, layers and heritage turkeys.

Class content will include:

- Tour of Pastured Livestock Systems at Earthwise Farm & Forest
- The How & Why of Management Intensive Grazing

- Pasture system design for you and your livestock
- Calculating livestock feed needs
- Planning for the whole growing season
- Multi Species Grazing
- Plant identification
- Electric fencing (temporary and permanent) for your various livestock groups
- Organic Certification - what do you need to do to certify your farm - it may be easier than you think

Participants will come away with the information needed to build a grazing plan for their farm, along with handouts and resources to continue on their journey with confidence.

About the Instructor: Lisa McCrory is a Grazing and Whole Farm Planning consultant with 30 years of grazing experience and training in Holistic Management (c). She and owns and operates Earthwise Farm & Forest with her husband, Carl Russell. Their farm is draft-animal powered & certified organic, incorporating biodynamic and ecological practices & principles. They produce and market organic grass fed raw milk; organic pasture raised chicken, heritage turkey, beef & Muscovy duck; (non-organic) pastured pork & eggs, ecologically managed forest products, and an acre of organic vegetables, herbs and flowers.

Cost: $70 per person. Groups of 2 or more will receive a 10% discount on registration (to be refunded later if you pay online). Payment for the class is on-line (credit card or PayPal) or by sending a check to: 341 Macintosh Hill Rd, Randolph VT 05060. Class includes handout, digital material, and product catalogs. Website: https://www.earthwisefarmandforest.com.

CONTACT NAME: Lisa McCrory
EMAIL: Lmccrory560@gmail.com

Just Published: Farmers' Guide to the 2021 Paycheck Protection Program (PPP)

Farmers' Legal Action Group, Inc. (FLAG) has released a new publication, Farmers' Guide to the 2021 Paycheck Protection Program (PPP). The deadline to sign up for PPP is now May 31, 2021. The new Guide explains the important recent changes to PPP that affect farmers. For example, PPP rules now allow farmers to receive two different PPP loans, what the program calls "first draw PPP loans" and "second draw PPP loans." In addition, farmers can use gross income, not net profit, as the basis of a loan. The Guide describes these and other rules, such as farmer eligibility for PPP loans, in detail. The Guide explains how farmers go forward if a loan is denied or if loan forgiveness is denied.

Farmers' Guide to the 2021 Paycheck Protection Program (PPP) 1st Edition – March 31, 2021

This Guide, and any of its updated successors, can be found at http://www.flaginc.org/covid-19-guide/.

Classified Ads

ANIMALS

FOR SALE: 10 Certified Grass Fed/Organic heifers. All due between end of August-beginning of October. 7-Jersey/Holstein crosses, 1 Red Holstein, 1 Jersey, 1 Holstein. All Enforce 3 vaccinated. $1500/each. Call or text Tami-802-779-8558 for pictures/more info.

Location: Rutland County, VT (Tinmouth)

WANTED: Family cow, ideally zero-grain, fresh any time from April-early June. Does not need to be certified organic. Shorthorns and Shorthorn crosses are our favorite, but will consider any good-tempered animal. We have twenty acres of pasture/hayland and ten-plus years' experience milking here in Northern Vermont. Contact Jen Linck, lathefarm@gmail.com, 802-586-2401.

Location: Craftsbury, VT

FOR SALE: Dutch Belted dairy herd available. 22 registered bred cows; 23 registerable open 1-2yo heifers; Registered 3yo breeding bull. The foundation herd is older and although I milk them, all of them would not be suitable for a high production operation. They are 100% grass fed year round, maintain well and breed back. Smaller framed with a focus on thrifty hardy cows. Bred cows, cow calf pairs, heifers, bulls available. Will sell 1 or all. $1500. Discounts available for multiple. Travis Hurt, grassfedvirginia@gmail.com, 434-249-1420.

Location: Charlottesville, VA

WANTED: Organic Jersey Cows or Springers with A2/A2 breeding. Call Daniel at 814-349-5675, Ext. 0.

Location: Centre County, PA

FOR SALE: Certified Organic Dairy Herd. Eleven Holstein Cows. 5 are strictly fresh. 1 due in March. Balance in various stages. 3 are bred with sexed semen. 4 bred heifers. 1 due in March. 1 due in May. 2 due in June. All bred with sexed semen. $2000 each 23 Registered Jersey Cows. 7 confirmed with sexed semen. 10 bred heifers. 2 due in February. 4 due in March. 2 due in May. 2 due in June. 7 confirmed with sexed semen. $1500 each. Call or email: Bernard Chambers, Bernard.annchambers@yahoo.com, 315-250-1740.

Location: Winthrop, NY

FOR SALE: Certified organic, no grain herd, mostly jersey crosses: 10 cows in milk at various stages of lactation, all bred or recently fresh; 1 bred heifer; 1 breeding age heifer- from an OAD herd. $1500 each. Call or email for more information. Aubrey Schatz, 408-666-9120, familycows@gmail.com

Location: Hinesburg, VT

FOR SALE: 12 organic Holstein heifers. Good breeding, very well fed, last of my herd. $2,000 per heifer. Due in May and June. Please call Gary Dewitt at 607-287-0198.

Location: Delhi, NY

EMPLOYMENT OPPORTUNITIES

SEEKING ASSISTANT EXTENSION PROFESSOR AND ASSISTANT PROFESSOR OF ANIMAL SCIENCE

The University of Maine Cooperative Extension invites applications for a full-time, fiscal-year, continuing contract eligible faculty appointment as Assistant Extension Professor and Assistant Professor of Animal Science. This position is an 85% appointment with UMaine Extension and a 15% teaching appointment through the University of Maine School of Food and Agriculture. The successful candidate will be located on the campus of the University of Maine in Orono, Maine. The faculty member in this position will develop and lead educational outreach and applied research with an emphasis on dairy science; work with other UMaine faculty and professionals, advisory boards, and volunteers to offer off-campus programs addressing the educational needs of the Maine dairy industry and other agricultural industries; teach undergraduate courses in the School of Food and Agriculture (SFA). For a complete job description and to apply: https://umaine.hiretouch.com/job-details?jobid=66728

SEEKING DAIRY MANAGER

Dairy Manager position available immediately on organic family dairy farm in western Vermont. Will be responsible for 400 head of dairy cattle, plus replacements, artificial insemination, herd records, herd health, the supervision of 5 employees, and organic

pasture management. Potential for ownership at this large organic dairy for an ambitious manager. Must be self-motivated with strong people skills and a positive attitude. Experience in dairy/farm operation required. Job Type: Full-time, good school system, paid vacation time. Please apply to lydiavorsteveld@hotmail.com

Location: Western VT

EQUIPMENT FOR SALE

FOR SALE: JD 494A and JD 1240 (plateless) Corn Planters, JD 30' and NI 36' Hay/Grain Elevators, Dual Wheels 18.4 - 38 Clamp On, Gehl HiThrow Blower. Contact Jeff @ Mitchell Farm (Avoca, NY -- Stueben County) 607-566-8477 or Mitchellorganics@hotmail.com

Location: Avoca, NY

FOR SALE: 250 gallon milk bulk tank for sale; Sunset Milk Cooler. Has worked well for us for 9 years- bought used in 2012. Currently hooked up and operational with working compressor (new when we bought the tank), and will have professionally uninstalled when sold. $4000 OBO. Contact Phil Brand, 603-828-2402, brandmoorefarm@gmail.com.

Location: Rollinsford, NH

USDA Seeks Four Nominees for National Organic Standards Board • Deadline for Nominations: June 1, 2021

The National Organic Standards Board (NOSB), a 15-member volunteer advisory board appointed by the Secretary of Agriculture, considers public comments and makes recommendations on the National List of Allowed and Prohibited Substances; and other topics involved in organic agriculture. Congress designed the Board to make sure that a broad range of industry perspectives are represented. USDA seeks nominations of qualified individuals for four open seats on the NOSB. Each member serves a five-year term and represents specific sectors of the organic community. Current openings for positions beginning January 2022 include:

- One individual who owns or operates an organic farming operation or an employee of such individual.
- One individual with expertise in areas of environmental protection and resource conservation.
- One individual who represents public interest or consumer interest groups.
- One individual with expertise in the fields of toxicology, ecology, or biochemistry.

We encourage applications from traditionally underrepresented individuals, organizations, and businesses to reflect the diversity of this industry. This includes qualified individuals regardless of race, color, age, sex, sexual orientation, gender identity, national origin, religion, disability status, protected veteran status or any other characteristic protected by law. Qualified candidates may also apply to be considered for future unexpected vacancies in any of the seven categories representing the scope of the organic community.

How to Apply: Written applications must include: Resume; AD-755 application form; Name of the position to which you are applying. Applications may also include: Cover letter (optional); Letters of reference (optional). Electronic submissions are preferred and should be emailed to Michelle.Arsenault@usda.gov.

Northeast Organic Dairy Producers Alliance (NODPA)
c/o Ed Maltby
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Deerfield, MA 01342

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