PROGRESSIVE DAIRY



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Karen Lee

Managing Editor
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Connecting the dots

Last month, I followed the news story of a mystery illness that was later identified as highly pathogenic avian influenza (HPAI) detected for the first time ever in dairy cattle. While the news itself can be read on page 8, I wanted to take this opportunity to highlight the collaboration that took place from the farm level to a national scale in addressing this animal health issue.

To start, we wouldn't know what we know today if it weren't for the milkers and herdsmen on the Texas farms that identified and flagged cows showing symptoms of a sudden loss of appetite, drop in milk production and having odd-discolored milk, to name a few. Their watchful eyes, concern for cattle under their care and encouragement to say something when they see something sparked a reaction our industry hasn't seen in some time.

They involved their local veterinarians, who were the first to connect the dots as they could see these same symptoms developing on more than one farm. These veterinarians sought additional diagnostic resources at the state level and were communicating with the American Association of Bovine Practitioners (AABP), which began sharing information with its member veterinary practitioners.

Once alerted, the Texas Animal Health Commission started an epidemiological study to develop a case definition. This included the affected cows as well as the seemingly healthy cows in the same herd and known activities on the farms. Samples were collected and analyzed by local laboratories and the Texas A&M Veterinary Medical Diagnostic Laboratories in both Canyon and College Station. The USDA Animal and Plant Health Inspection Service (APHIS) was also notified and began working on the case.

The farms and animals were monitored and evaluated. Whatever was willing to be shared from herd records and on-farm interviews was collected and analyzed. Information that could have seemed irrelevant was still gathered, as it could be the piece that unlocked it all. It happens that reports of deceased birds found on some of the farms were the key to prompt the samples to be tested for avian influenza.

While these tests were being conducted in Texas, as well as nearby in New Mexico and Kansas where symptoms were also identified, news and information was being shared nationwide. State veterinarians were informed and, in turn, shared it with local veterinarians in their own states to encourage everyone to watch out for similar symptoms and enhance biosecurity measures on the farm.

The National Milk Producers Federation (NMPF), a trade association that represents dairy cooperatives and dairy farmers in the federal arena, was coordinating with the USDA on animal health and the FDA on milk safety. Ensuring that abnormal milk was discarded at the farm and consumers in the U.S. and abroad could maintain confidence in our milk supply was as important for the affected farms as it is for farms across the country. They also shared animal care and biosecurity resources developed with the National Dairy FARM Program.

It may have started with one cow, one milker, one milk production or rumination report, one herd, one veterinarian, but it was in the connecting of the dots and the collaboration of an industry that led to answers, a diagnosis and the protection of herd health and a safe milk supply for all.

The list of individuals and organizations involved is extensive, and I'm sure I've missed some. These are people you don't see every day on the dairy and some you may not even think of being involved in farming, but this experience shows how they are all an integral part of our industry's animal care team.







APRIL 19, 2024

PROGRESSIVE DAIRY



Photo provided by James Wilson.

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A cow-sensitive approach

Dr. James Wilson, a consultant for Herd Health Consultancy, evaluates a hoof. Improved hygiene on the dairy through proper footbath protocols is a key way producers can manage the presence of digital dermatitis in their herds.

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ON THE COVER

The Windemuller family from Coopersville, Michigan, started their dairy in 2014. (Pictured left to right) Back row: Abby Kiaunis; Brittany, Huis, Paul and Paxton Windemuller. Front row: Prudence, Irelyn, Maverick and Judah Windemuller.

Photo by Kimmi Devaney.

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Photo provided by Greg Bethard.

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Having a futuristic perspective on everyday decisions fuels reproductive success. High Plains Ponderosa Dairy in Kansas milks Holstein-Jersey crossbreds and strives for efficiency at every level.

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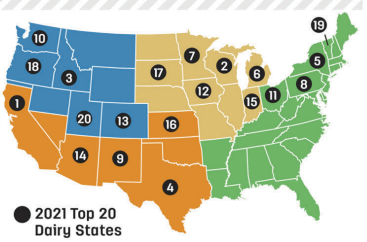

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392

FARM Animal Care Program evaluators were certified or re-certified in 2023.

— *National Milk Producers Federation annual report, 2023*

"Genetic potential affects all parts of the wheel of production."

— *Stated Holly Neibergs, Assistant Director, CAHNRS Office of Research, Professor Genetics, Department of Animal Science at Washington State University, during a Dairy Genomic Selection Workshop in Jerome, Idaho.*

"With the launch of this new office, we are ensuring agricultural and rural stakeholders will continue to have a seat at the table for many years to come."

— *EPA Administrator Michael S. Regan regarding the agency's new Office of Agriculture and Rural Affairs. The first-ever office will serve as the primary liaison between rural and agricultural stakeholders and the EPA to forge practical, science-based solutions that protect the environment while ensuring productive agricultural systems.*

All farm income in America this year is projected to be 1/5 of what Amazon makes in a year.

— *Data from the USDA as stated in the blog "America's Farms are Getting Wiped Out" by Peter St Onge.*



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— *An FDA-approved qualified health claim regarding the relationship between yogurt and reduced risk of type 2 diabetes. The claim was announced March 1.*

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FEED



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Feed expense is the largest outlay of cash for a dairy, making up 50% to 65% of total operating costs. Since feed is a significant cost contributor, we need methods to identify feedstuffs that will meet the nutrient requirement of the dairy cow more economically than the feedstuffs currently in the ration. Several technologies exist to rate or rank the economic value of feedstuffs in addition to the one this column uses.

Nutrient values are derived using the composition and weekly market prices for a basket of 20 feeds available in the region. Market prices are gathered from several published and unpublished sources. Values are determined for rumen-degradable protein (RDP), rumen-undegradable protein (RUP), digestible neutral detergent fiber (dNDF), non-fiber carbohydrates (NFC) and fat. For RUP, NFC and fat, only the fraction digestible in the small intestine is valued. For NDF, only the fraction that is fermentable in the rumen is valued.

When nutrient values are combined with the composition of a feed, we arrive at a relative economic value of the ingredient. This gives us a global perspective of the feed's value. However, many times we may need a specific nutrient, so we have derived nutrient-specific values for the categories of carbohydrates, proteins and fiber carbohydrates.

Overall, nutrient costs are unchanged versus the previous month but 23% lower compared to a year ago. Although nutrient costs are flat over the previous month, not all nutrients have changed similarly. For example, dNDF and dRUP are down, while NFC is up and other nutrients are unchanged. The market cost for 1 pound of dry matter is 14.7 cents, which is equivalent to feed costs in the range of $7.40 to $7.90 per cow per day or $9.30 to $9.85 per hundredweight of milk. These costs are running below the short-term and long-term averages of 15.9 cents and 16.8 cents per pound of dry matter, respectively.

The table lists several feeds, their price and their value based on whether all nutrients (comprehensive) or specific sets of nutrients (carbohydrates, proteins or fiber) were used in their valuation. Blue shading and intensity of shading indicates undervalued feeds, and yellow shading indicates overvalued feeds. Feeds without shading indicate the market price and derived value are similar.

Overall, canola meal, bypass soybean meal and soybean meal are undervalued, whereas blood meal, molasses and several other ingredients are overvalued. Undervalued feedstuffs when observing specific nutrient sets are rolled corn (carbohydrates), bypass soybean meal (protein) and soyhulls (fiber).

Use of undervalued feedstuffs may reduce ration cost, but value is only one of several factors that should be considered when evaluating the inclusion of a new ingredient.



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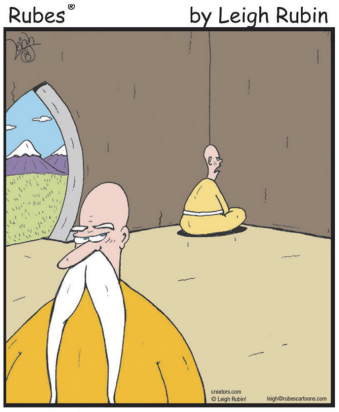

"It's not fair, Master, why am I the only one to be punished? ... *Everybody* was kung fu fighting!"

FEED PRICES

Regionally available feeds and their recent prices

Feed name	Market Price $/T As-Fed	Comprehensive Value, $/T As-Fed	Carbohydrate Value, $/T As-Fed	Protein Value $/T As-Fed	Fiber Value $/T As-Fed
Alfalfa, Supreme	230	246	243		142
Alfalfa, Premium	200	206	219		160
Alfalfa, Good	170	168	192		170
Canola Meal	357	521		451	
Corn Gluten Feed	275	352	219	297	194
Corn Silage, 35% DM	70	50	63		91
Cottonseed	458	533		277	152
Distillers Dried Grains (DDG)	400	466		367	161
Hominy	297	333	281		
Molasses	350	159	291		
Porcine Blood Meal	1493	1185		1324	
Rolled Barley	275	242	290		
Rolled Corn	265	276	298		
Soybean Hulls	155	172			362
Soybean Meal, 48%	467	568		545	
Soybean Meal, expeller	502	792		767	
Straw	100	14			261
Tallow	1097	1013			
Urea	629	598		616	
Wheat Millrun	203	313	169		132

Extremely undervalued feed
Undervalued feed
Extremely overvalued feed
Overvalued feed







Avian influenza identified as illness affecting dairy cows across the country

Progressive Dairy Managing Editor **Karen Lee**

In this column, Progressive Dairy *summarizes issues in the news and attempts to describe how they might affect dairy farmers. Look for more extensive background, details and updates online (www.progressivedairy.com). Items in this column are compiled from* Progressive Dairy *staff news sources.*

AVIAN INFLUENZA

What happened?

Earlier in the year, milkers, herdsmen, dairy owners and local veterinarians in the Texas Panhandle noticed symptoms of an illness affecting certain cows in the herd.

Primarily second-lactation and older animals at more than 150 days in milk were experiencing a sudden loss of appetite; decreased milk production; thicker, concentrated, colostrum-like milk; a drop in rumen motility; abnormal tacky or loose feces; and, in some instances, fever.

Farmers and veterinarians began to notice similar symptoms in dairy cows in other states too.

Younger cows, fresh cows or heifers, dry cows, steers and heifers did not appear to be affected.

According to the American Association of Bovine Practitioners (AABP), practitioners working with these herds estimated that 5% to 10% of the herd is affected.

State and federal animal health officials were called in to help identify what might be causing this.

In Texas, the Texas Animal Health Commission (TAHC) worked closely with the USDA, Texas A&M Veterinary Diagnostic Laboratory (TVMDL) and dairy veterinarians to monitor and evaluate affected dairy cattle, develop a case definition and conduct additional diagnostics.

When it was revealed the farms also reported finding deceased wild birds on their properties, additional testing was initiated.

On March 25, the USDA released that unpasteurized, clinical samples of milk from sick cattle collected from two dairy farms in Kansas and one in Texas, as well as an oropharyngeal swab from another dairy in Texas, tested positive for highly pathogenic avian influenza (HPAI).

"Based on findings from Texas, the detections appear to have been introduced by wild birds," reads the announcement from the USDA Animal and Plant Health Inspection Service (APHIS).

Detections of avian influenza in birds, including chickens, are common in the U.S. in the spring and fall due to wild birds spreading the virus as they migrate to and from their seasonal homes.

While common in birds, avian influenza has had limited detection in mammals in the U.S., including skunks, mountain lions, raccoons and harbor seals.

Only five days earlier, avian influenza was detected for the first time in livestock, in a baby goat on a Minnesota farm where an outbreak had recently been detected in poultry.

At *Progressive Dairy*'s deadline, the USDA also confirmed the presence of HPAI in a Michigan dairy herd that had recently received cows from Texas. Presumptive positive test results have also been received for herds in New Mexico and Idaho.

What's next?

While additional testing is ongoing, enhanced biosecurity measures are vital for dairy facilities nationwide to mitigate further spread.

Dairies are strongly advised



to use all standard biosecurity measures including restricting access to essential personnel only and disinfecting all vehicles entering and leaving premises.

Additionally, it is important to clean and disinfect all livestock watering devices and isolate drinking water where it might be contaminated by wild birds.

While unconfirmed at deadline, the spread of the symptoms among the Michigan herd indicates that avian influenza transmission between cattle cannot be ruled out.

"We need to be vigilant and making sure that at the individual farm level, we're doing the best we can do to increase biosecurity and keep the health of the herd as safe as possible," says Jamie Jonker, NMPF chief science officer.

"We're advising farmers if they see things that are out of the ordinary on their farm, something that's different and presenting itself like what we see being reported out of the affected herds for this animal health issue, to contact their veterinarians," Jonker adds.

Veterinarians who observe these clinical signs and have ruled out other diagnoses on a client's farm should contact their state veterinarian and follow the guidelines provided, including submitting a complete set of samples to be tested at a diagnostic laboratory.

Bottom line

The USDA confirmed the current risk to the public remains low. There is no threat to human health, and commercial milk, dairy products and meat remain safe to consume.

In a joint statement from the National Milk Producers Federation (NMPF), the International Dairy Foods Association (IDFA), the U.S. Dairy Export Council (USDEC) and Dairy Management Inc. (DMI), it was noted that pasteurization kills harmful microbes and pathogens in milk, including the influenza virus.

The statement continues, "Routine testing and well-established protocols for U.S. dairy will continue to ensure that only safe milk enters the food supply. In keeping with the federal Grade 'A' Pasteurized Milk Ordinance (PMO), milk from sick cows must be collected separately and is not allowed to enter the food supply chain."

The Meat Institute reports dairy cows comprise 6.8% of total beef production in the U.S.

"According to the Centers for Disease Control and Prevention (CDC) and USDA food safety experts, properly prepared beef is safe to eat," says Meat Institute President and CEO Julie Anna Potts. "HPAI cannot be transmitted to humans by eating meat or poultry products."

"There is no threat to the public and there will be no supply shortages," assures Texas Agriculture Commissioner Sid Miller.

Cattle impacted experience a sharp reduction in milk production averaging between 10 and 30 pounds per cow throughout the herd.

On average about 10% of each affected herd appears to be impacted, with little to no associated mortality reported among the animals.

"Unlike affected poultry, I foresee there will be no need to depopulate dairy herds," Miller says.

According to dairy farmers and veterinarians reporting on affected herds, most affected cows recover within two to three weeks.

In a market analysis by Ever.Ag, it says "If we are looking at, say 15 percent of the nation's cows getting sick for three weeks with a medium bounce-back factor, the overall impact on milk production isn't that big. Of course, things could get tight for a time in any discrete region with a major outbreak."

In terms of demand, Ever.Ag predicts a modest negative impact in the domestic milk market, if consumers react to the news.

They add, "We can imagine a potentially larger issue around exports. Is there a chance that importing nations issue restrictions slowing the flow of U.S. product into their markets? That would be potentially damaging to prices."

DAIRY FARM BIOSECURITY RESOURCES

- USDA APHIS biosecurity measures for avian influenza
www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/avian/avian-influenza/ai-wild-birds

- National Dairy FARM Program biosecurity resources for dairy producers
https://nationaldairyfarm.com/dairy-farm-standards/farm-biosecurity/

- Secure Milk Supply biosecurity practices guidance
https://securemilksupply.org/

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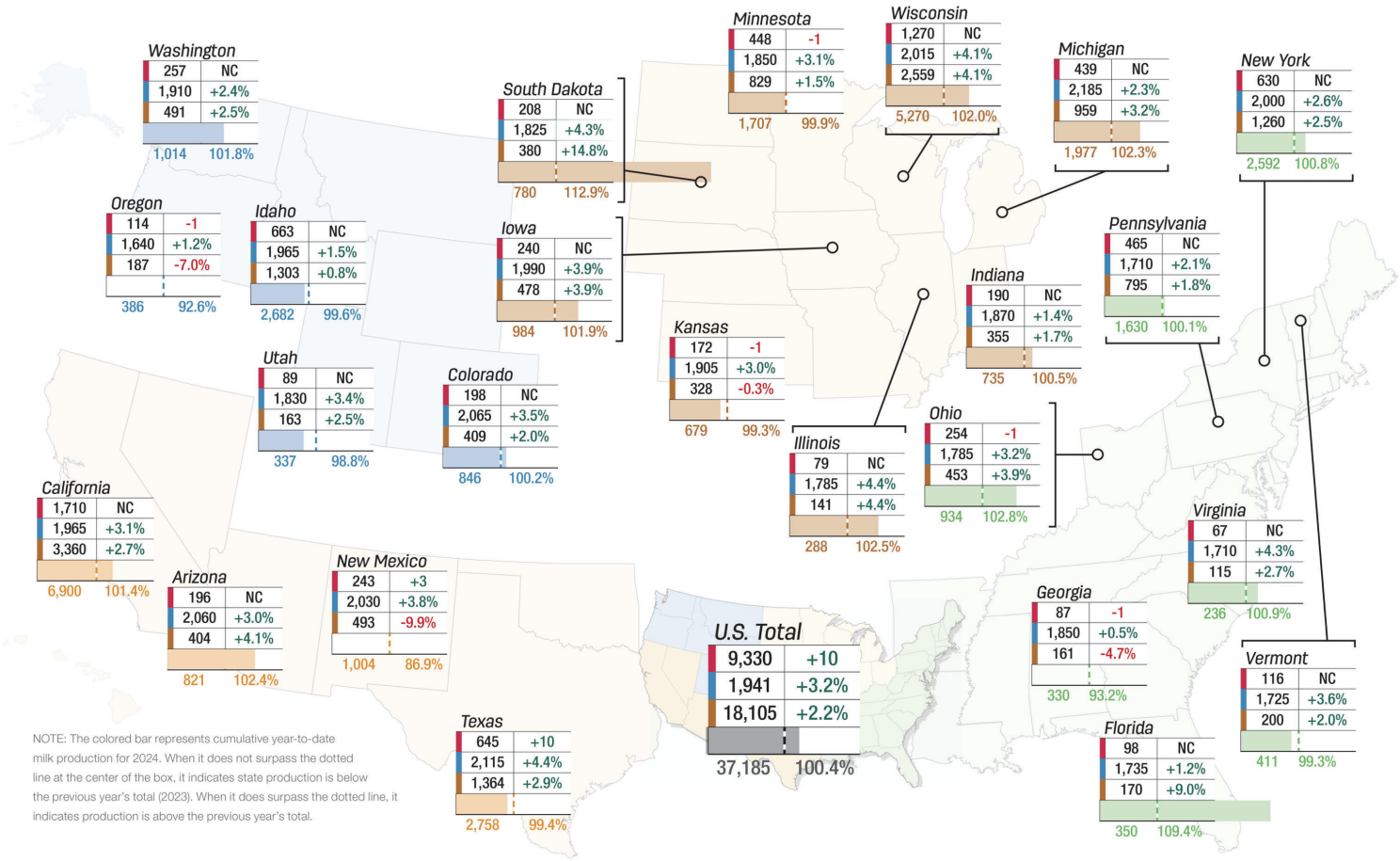
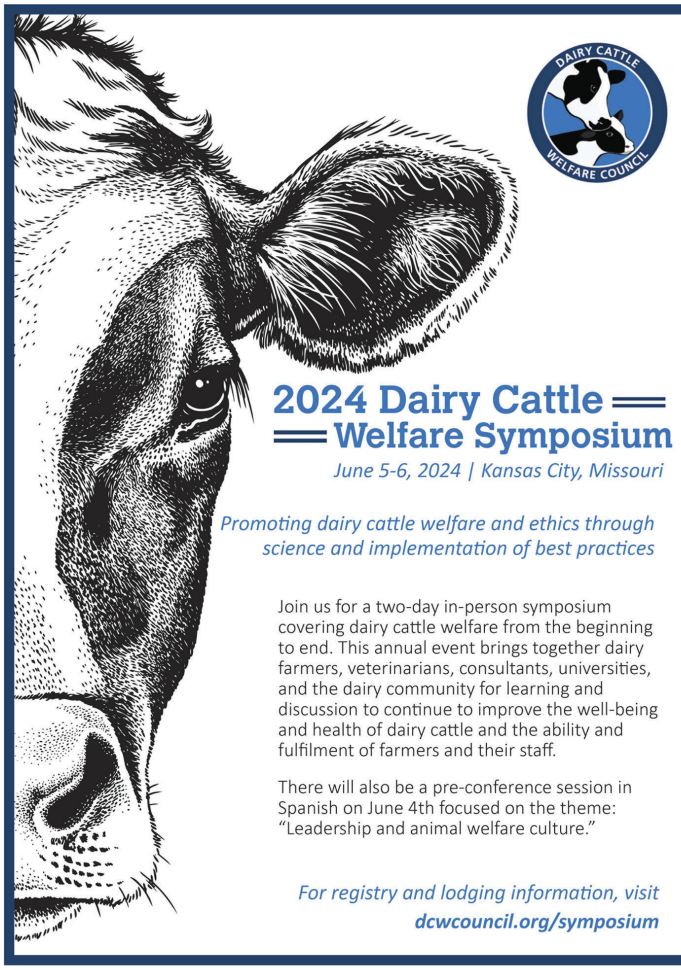


NOTE: The colored bar represents cumulative year-to-date milk production for 2024. When it does not surpass the dotted line at the center of the box, it indicates state production is below the previous year's total (2023). When it does surpass the dotted line, it indicates production is above the previous year's total.



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Join us for a two-day in-person symposium covering dairy cattle welfare from the beginning to end. This annual event brings together dairy farmers, veterinarians, consultants, universities, and the dairy community for learning and discussion to continue to improve the well-being and health of dairy cattle and the ability and fulfilment of farmers and their staff.

There will also be a pre-conference session in Spanish on June 4th focused on the theme: "Leadership and animal welfare culture."

For registry and lodging information, visit
dcwcouncil.org/symposium



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On the surface, February 2024 U.S. milk production jumped more than 2.2% compared to the same month last year, according to the USDA's February Milk Production report, released March 20. However, with February 2024 containing an extra day due to "leap year," the adjusted number is closer to -1.1% on a daily basis.

Cow numbers lower

Based on preliminary February 2024 cow estimates, the U.S. dairy herd is now the smallest dating back to August 2019. February 2024 U.S. cow numbers were estimated at 9.330 million head, down 89,000 from a year earlier.

Among the 24 major dairy states, February 2024 cow numbers were estimated at 8.878 million, down 61,000 from February 2023 and up 5,000 from the revised estimate for January 2024. Cow numbers in those states are now the lowest since January 2022.

Six states had more cows than the year before; 13 states had fewer cows. South Dakota and Florida led all states in year-over-year growth, up a combined 26,000 head in February. That was more than offset by a 47,000-head reduction in Texas and New Mexico.

Milk output per cow higher



Audrey Schmitz
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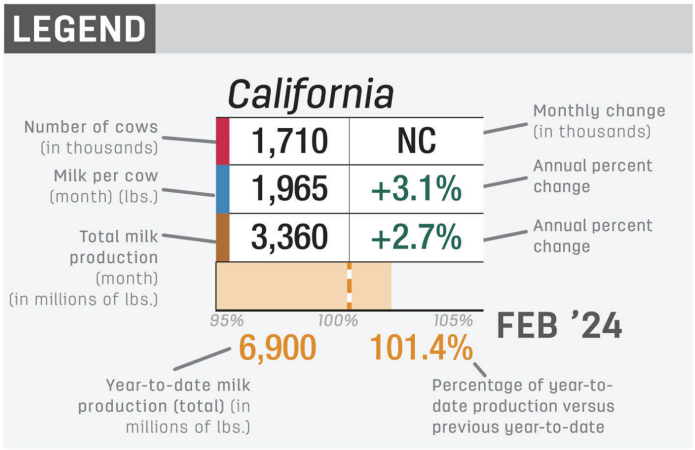
As noted previously, leap day impacted monthly milk output per cow. February production was up more than 60 pounds (2.2%) per cow from a year earlier, with output up 70 pounds or more per cow per month in eight states.

On a daily basis, however, the U.S. and major states actually decreased a quarter-pound per day, a 1.1% decrease. Sixteen states saw daily production go down from a year earlier, while only eight states saw an increase.

Milk production higher

Without adjustments for leap day, the preliminary estimate of overall February 2024 milk production was higher than the same month a year earlier for the first time in eight months.

Twenty states boosted production while four states reduced production. Year-over-year growth leaders were Wisconsin, California, South Dakota and Texas. The states posting largest volume declines were New Mexico, Oregon and Georgia.



February 2023-24 dairy recap at a glance

Reviewing the USDA preliminary estimates for February 2024 compared to February 2023 (without adjustments for leap day):

- U.S. milk production: 18.10 billion pounds, up 2.2%
- U.S. cow numbers: 9.330 million, down 89,000 head
- U.S. average milk per cow: 1,941 pounds, up 60 pounds
- 24-state milk production: 17.3 billion pounds, up 2.4%
- 24-state cow numbers: 8.87 million, down 61,000 head
- 24-state average milk per cow: 1,955 pounds, up 58 pounds

Source: USDA Milk Production report, March 20, 2024





AUCTION PRICES March 27, 2024	Top Springer	Top Average	Medium Holstein Springer	Short-breds	Open Heifers Light	Open Heifers Heavy	Heifer Calves	Bull Calves	Breeding Bulls
Mammoth Cave Dairy Auction, Inc. Smiths Grove, KY (800) 563-2131 *(sale 3/26/24)*	$1,300 $875 ▼	N/T	$1,050 $250 ▼	$900	$660 $300 ▼	$1,125 $50 ▲	$530 $280 ▲	$680 $140 ▲	N/T
New Holland Sales Stables New Holland, PA (717) 354-4341 *(sale 1/10/24)*	$2,050 $50 ▼	$1,825 $125 ▲	$1,375 $325 ▲	$1,850 $250 ▼	$785 $335 ▲	$925 $425 ▼	N/T	N/T	N/T
Equity Co-op Livestock Reedsville, WI (920) 754-4361 *(sale 3/7/24)*	$1,800 NC	$1,200 NC	$1,150 NC	$1,300 NC	$90/cwt NC	$120/cwt NC	$200 $20 ▲	$670 $175 ▲	N/T
Lake Odessa Livestock / Ravenna Auction LLC Lake Odessa, MI (616) 374-8213 *(sale 3/18/24)*	$2,175 NC	$1,000 NC	N/T	N/T	N/T	N/T	N/T	N/T	N/T
Rosebush Sale Barn, Inc Rosebush, MI (989) 433-5348 *(sale 3/6/24)*	$2,375 $100 ▲	$2,000 $75 ▲	$1,750 $50 ▼	$1,550	$250/cwt $79/cwt ▲	$196/cwt $10/cwt ▲	N/T	$475	$1,600 $400 ▼
Equity Co-op Livestock Lomira, WI (920) 269-4351 *(sale 3/26/24)*	$1,800 NC	$1,300 NC	$1,200 NC	$1,400 NC	$650 NC	$950 NC	$450 $100 ▲	$735 $35 ▲	N/T
Pipestone Livestock Auction Market Pipestone, MN (507) 825-3306 *(sale 3/21/24)*	$3,000 $250 ▲	$2,850 $300 ▲	$2,500 $200 ▲	N/T	$197/cwt $17/cwt ▲	$152/cwt $4/cwt ▼	N/T	N/T	N/T
Oberholzer Dairy Cattle & Auction Loyal, WI (715) 773-2240 *(sale 3/21/24)*	$2,450 $275 ▼	$2,000 NC	N/T	$2,573 $673 ▲	$140/cwt $20/cwt ▼	$160/cwt $49/cwt ▼	$400 $25 ▼	$660 $5 ▲	$2,300
Springfield Livestock Marketing Center Springfield, MO (417) 869-9500 Doug Thomas (417) 840-9316 *(sale 3/12/24)*	$2,200 $400 ▲	$1,200 NC	N/T	N/T	$300 NC	$800 NC	$200 $100 ▲	$250 $100 ▲	N/T
Premier Livestock & Auctions Rocky Olsen Withee, WI (715) 721-0079 *(sale 3/20/24)*	$2,675 $225 ▼	$1,900 $200 ▲	$1,875 $200 ▲	$2,150 NC	$975 NC	$1,650 NC	$400 $80 ▼	$715 $55 ▲	$2,275
Kreeger and Associates Chad Kreeger Cass City, MI (517) 294-3484 *(sale 3/11/24)*	$2,500	$2,400	N/T	N/T	$1,200	N/T	N/T	N/T	N/T
Turlock Livestock Auction Yard Turlock, CA (209) 634-4326 *(sale 3/20/24)*	$2,225 $125 ▲	$1,700 $50 ▼	$1,450 NC	N/T	N/T	N/T	N/T	N/T	N/T
Escalon Livestock Market Escalon, CA (209) 838-7011 *(sale 3/20/24)*	$2,010 NC	$1,975 NC	$1,600 NC	N/T	$140/cwt NC	$174/cwt NC	N/T	N/T	$1,250 NC
Winnsboro Livestock & Dairy Auction Winnsboro, TX (903) 365-2201 *(sale 3/13/24)*	$1,775 $50 ▲	$1,350 $50 ▲	$1,200 $100 ▼	$800 $50 ▼	$450 $25 ▼	$575 $25 ▼	$425 $50 ▲	N/T	$900 NC
Farmers Livestock Market Oakdale, CA (209) 847-1033 *(sale 3/21/24)*	$2,200 $225 ▲	$1,900 $100 ▲	$1,700 $50 ▲	N/T	$150/cwt $10/cwt ▲	$150/cwt $10/cwt ▲	$275 $25 ▼	$300	N/T

N/T = No test NC = No change Decrease (since last sale) ▼ Increase (since last sale) ▲

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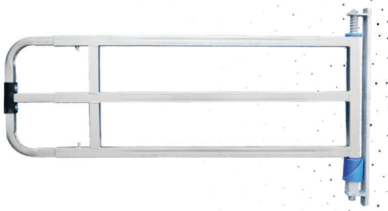

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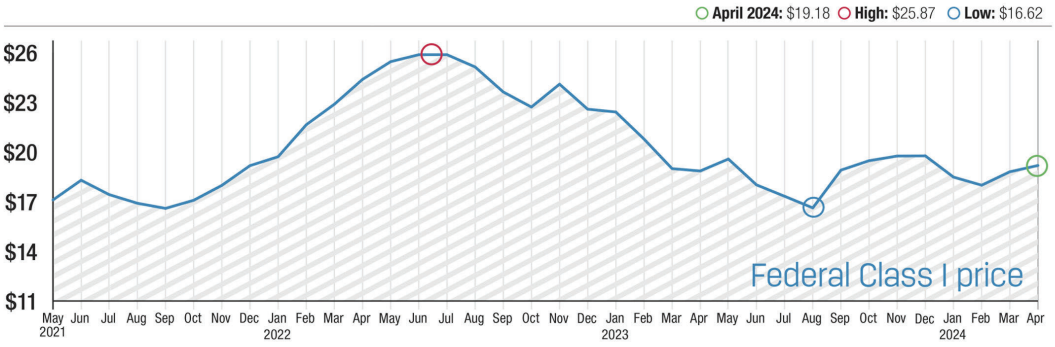
Fluid milk prices
(in dollars)





Lucas Fuess
Senior Dairy Analyst
RaboResearch
Rabobank

Warm weather at winter's end ushered in an early spring, along with the fieldwork and accompanying tasks that signal a new crop year. Milk output is climbing to its seasonal peak, even as production remains lower versus the prior year. However, prices, especially in the cheese market, struggled throughout the first quarter, keeping the Class III price muted and delaying any substantial margin recovery, much to the frustration of farmers hoping for renewed profitability after a challenging 2023. In the remainder of this year, signs are emerging that milk revenues will improve, but it will likely be a slow recovery taking place over months, not weeks.

Globally, milk supply growth continues to struggle, with the second half of 2023 seeing weaker year-over-year production from the key exporting regions. A return to production expansion will take time. Rabobank forecasts lower year-over-year output for the first two quarters of this year before volume turns positive into the second half of 2024, partially helped by easier-to-overcome comparable data points.

After two consecutive quarters of weaker supply, typically, a firmly bullish price response would have materialized, similar to the output pullback in 2021 followed by, in some measures, record-high prices into 2022. However, the supply and demand balance is different this time, with lower milk production in the Big 7 export regions offset by milk production gains in China and sluggish global demand in recent months. Less milk has been shrugged off by global buyers sitting on adequate inventories and persisting macroeconomic worries.

There is increasing evidence that demand is on the upswing. The worst recessionary fears have passed in some countries, and while global economic growth will likely be subdued, the overall outlook is modestly improved. The Global Dairy Trade auction has noted several positive price movements throughout trading events this year. As a precautionary note, given the global low level of dairy product stocks, any supply shock or demand event presents an upside price risk for dairy product end users – primarily milk powders and butterfat.

As always, all eyes remain focused on China. Retail and food service sales showed strength through the Lunar New Year. While this is a positive development, we believe it is too early to call it a trend. Slowing milk production growth in China means we expect imports to improve in 2024, even if they remain lower than the long-term average.

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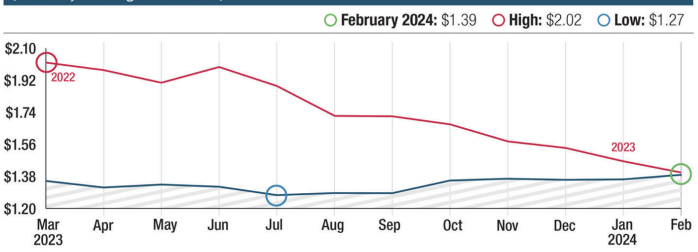
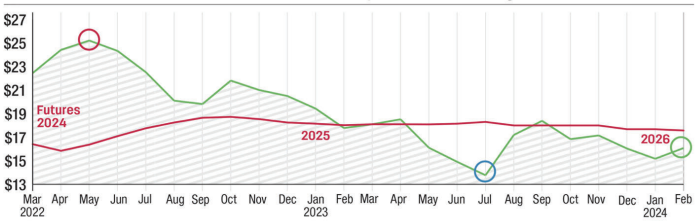
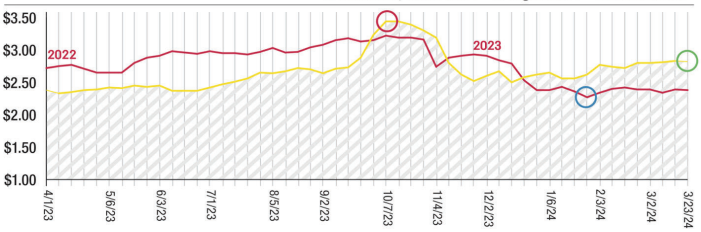
Non-fat dry milk
(monthly average in dollars)



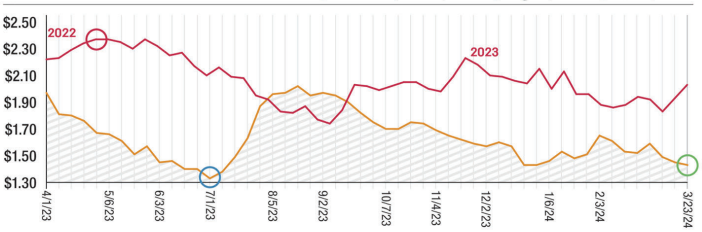
Class III milk prices
(in dollars)



Butter
(weekly average in dollars)



Cheese
(weekly average in dollars)



In the U.S., cheese prices have been the key drag on the market this year. Starting the year in the $1.40s, both block and barrel cheddar prices climbed to the upper $1.60s at the CME spot market in February but retreated close to calendar year lows by mid-March. Adequate supply coupled with weaker demand has simultaneously prevented any substantial cheese price gains from materializing, with the upside limited in the near term as spring flush milk flows to cheese vats. The dry whey market has also encountered headwinds in March following a firm February, providing an additional drag on the Class III price. The story was similar in nonfat dry milk, with February's highs retreating in March as the market remains rangebound. Still, the Class IV price is supported by an especially firm butter price this year, driven by an early Easter and persistent concerns regarding supply availability into the second half of 2024 following two consecutive years where the CME spot price set a new record high.

We believe slow but steady dairy commodity price gains will materialize this year. Coupled with lower expected feed costs, an improved margin outlook will eventually drive milk production growth in the U.S. and other key exporting regions by the second half of this year. It will likely not be a record price year by any measure, but farmers will likely welcome the return to profitability.

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PROGRESSIVE DAIRY PODCAST

Season 6, episode 14

Joe Shockey: Rebuilding West Virginia's dairy industry

In this episode of the *Progressive Dairy Podcast*, host Kimmi Devaney visits with West Virginia dairy producer Joe Shockey about opportunities to revitalize the dairy industry in Appalachia. West Virginia was one of the visible bright spots during our 2024 State of Dairy interviews with producers and industry leaders. Hear from Shockey about new dairy processing and other efforts to rebuild the state's dairy industry.

Topics covered:

- About the dairy landscape and dairy infrastructure in West Virginia
- How new dairy processing capacity has impacted the Appalachia region
- Opportunities for further growth in the area

"This is going to be a great dairy comeback story, but it was never going to be all about West Virginia. It's about West Virginia and the bordering states, like Ohio, Pennsylvania, Maryland and Virginia."
– Joe Shockey



Courtesy photo.

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The *Progressive Dairy Podcast* is available in most streaming services, including Apple Podcasts and Spotify.

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Your Dairy Checkoff in Action – The following update is provided by Dairy Management Inc. (DMI), which manages the national dairy checkoff program on behalf of America's dairy farmers and dairy importers. DMI is the domestic and international planning and management organization responsible for increasing sales of and demand for dairy products and ingredients.

Checkoff strategies building consumer trust in dairy

Most people are exposed to about 4,000 advertising messages a day.

Complicating matters is: Their average attention span is around six seconds. This, sadly, is about two seconds lower than that of a goldfish or about the same period of a calf waiting for milk.

Dairy – or any industry or company looking to break through and build trust with consumers – certainly has its work cut out. Think of trust as the North Star for what the dairy community is ultimately hoping to achieve. Trust is earned over time, and each day U.S. dairy farmers and companies make deposits into the trust bank with our sustainable and responsible production of nutritious dairy foods.

Fortunately, we're starting from a good place. According to the 2024 Edelman Trust Barometer, trust in farmers ranks high with consumers, as do most food and beverage sectors.

The dairy checkoff's opportunity is to build on this solid foundation and ensure consumers view dairy foods as relevant to their lifestyle and overall health and wellness. This requires new approaches to dairy marketing. Mass marketing is no longer possible; it is now mass personalization. Trust is personal to everyone based on who they are, where they live, what their experiences have been, etc. An industry such as dairy cannot simply say, "Trust us."

We're using consumer research and artificial intelligence-powered social listening platforms to understand what people want to know about dairy. This includes their current beliefs and the questions they may have so we can tailor our content in the right channels with the right voices that resonate.

I'd like to share some ways the checkoff continues to build upon the strong trust consumers have in us.

NextGen Scientist program

It isn't just the average consumer who is disconnected from the true source of food and farming. Many people in the scientific arena also lack a connection to America's farm families.

This is why the checkoff created the NextGen Scientist program in 2022 to identify and form relationships with emerging leaders in the nutrition, public health, social and animal sciences spaces. Our research shows Gen Z consumers consider physicians, nutritionists and dietitians, scientists and university professors highly trustworthy when it comes to sources of dairy and health and wellness information.

We recruited 11 members, including some from historically black colleges and universities, to participate in the three-year program. These are the thought leaders of tomorrow, and they have high visibility and touch points with their peers, students and the public through their social channels and professional networks.

Through the program, we seek to:

• Address dairy misperceptions

• Amplify dairy science in health, wellness and sustainable food systems

• Support experiences that advance their professional development and build trust in dairy



Photos courtesy of Dairy Management Inc.

The NexGen Scientist team visit a dairy farm.

• Establish National Dairy Council as a go-to science-based resource

• Increase diversity of nutrition scientists interested in doing dairy-related research

Feedback shows these members have improved knowledge, understanding and perceptions on dairy's role in health, wellness and sustainable food systems, and about 90% say their skills to communicate on dairy has been enhanced.

Engaging consumers and thought leaders

The checkoff is partnering with reputable media outlets, such as *USA Today*, *The Washington Post*, *Wired* and *TIME* to drive engagement with thought leader and consumer audiences through insightful and credible storytelling focused on dairy.

A recent partnership with *TIME* created an in-depth story and video that showcase how farmers care about water – a hot topic of interest. The content details farmers' innovative ways to reduce water use and increase recycling to ensure a more sustainable future.

The *TIME* partnership and others in 2023 generated nearly 6 million impressions. Building from this success, the checkoff will pursue similar opportunities with media partners this year.

Social media strategy

We know trust can be gone in a second in today's social media world. This is why the checkoff is engaging with third-party voices who are credible to consumers, particularly young parents and Gen Z.

This is happening through the Dairy Dream Team the checkoff assembled to help promote dairy. The team of chefs, recipe developers, foodies, gamers and lifestyle influencers has a combined 25 million social media followers. They are sharing surprising and refreshing new ways about dairy's essential role in everyday life

Influencers play a big role in driving food trends, such as the butter board craze. An influencer posted about a butter board (think charcuterie board, but with butter), which sparked a viral sensation, inspiring boards for other foods, including ice cream and cream cheese.



A print advertisement depicting the dairy industry's sustainable practices.

The ways in which we reach and engage people with dairy's story certainly have evolved over the years and will continue to do so.

Data-backed consumer insights, content and experiences grounded in what people want to know about dairy and relevant third-party media and influencer voices. These are the ingredients the checkoff will use to continue engaging today's consumer and build upon our strong legacy of trust.

To learn more about your national dairy checkoff, visit the website (www.usdairy.com/for-farmers) or to reach us directly, send an email (talktothecheckoff@dairy.org).

This article was written by Marilyn Hershey, who is the chair of Dairy Management Inc.

The National Dairy Farmers Assuring Responsible Management (FARM) Program was created by the National Milk Producers Federation in partnership with Dairy Management Inc. The FARM Program works with dairy producers, cooperatives, processors and industry partners through five program areas – animal care, antibiotic stewardship, biosecurity, environmental stewardship and workforce development – to show customers and consumers that the dairy industry holds itself to the highest standards and best management practices. Visit nationaldairyfarm.com to learn more.

Follow the latest euthanasia guidelines to ensure proper animal care

Dave Sjeklocha for *Progressive Dairy*

"Geesh, Doc, isn't that a little overkill?" That question was posed to me by a feedlot owner and client about 20 years ago. The question was stimulated by my loading a No. 6 shot, 2 3/4-inch, 12-gauge shot shell into my shotgun to euthanize a feedlot steer that had broken its leg. Being a bit of a smart aleck, I quickly shot back, "Well, I sure don't want underkill here!" (For context, both of those quotes may have included a little more colorful language than is presented here.)

Euthanasia of cattle is never a pleasant task. Literally translated, "euthanasia" means "good death." Please keep in mind that, if we have an animal that has given their life for food production and that animal is suffering, the least we can do is give them a good death.

The American Association of Bovine Practitioners (AABP) recently updated its guidelines for the Humane Euthanasia of Cattle (www.aabp.org/resources/aabp_guidelines/euthanasia-2023.pdf). It is a well-researched document, and for me to summarize it here would not do it justice. However, I will point out a few changes to the guidelines. I encourage all animal caregivers who are tasked with performing euthanasia to visit online and read the text.

Captive bolts

Captive bolts are commonly used on farms and in harvest plants. Whenever a captive bolt is used, it must be followed up with a secondary step, of which there are several (see pages 7-10 of AABP's Humane Euthanasia of Cattle). AABP saw fit to include an additional secondary step, commonly referred to as a "poll shot." The captive bolt is properly applied to the front of the animal's skull and fired and then is applied again directly behind the animal's poll and aimed for the base of the tongue for the secondary step. A properly applied initial captive bolt shot will render the animal insensible and the secondary poll shot will terminate the animal. The secondary poll shot could also be performed with a firearm instead of a captive bolt, if so desired.

Firearms

Surprisingly, the changes to firearm euthanasia have generated the most commentary (see pages 4-6 of AABP's Humane Euthanasia of Cattle). In the previous edition of these guidelines, it was stated that use of a .22 LR (long rifle) should be "discouraged." To its credit, AABP decided that this language needed to be far more unambiguous. The current guidelines now say that a .22 LR can be used in calves less than 4 months old, and once they are over 4 months old, a .22 magnum or higher caliber must be used.

I'll expand on the firearms guidelines a little more. The word "discouraged" in the previous guidelines was seen by AABP as being similar to language that was formerly used in some animal welfare guidelines regarding electric prods, i.e., "… prod use should be kept to a minimum …." It simply did not provide valuable guidance. In personal conversations I have had with farmworkers, I would ask how often, when using a .22 LR on a mature critter, they were successful on the first shot. There wasn't a single worker who stated a 100% successful





euthanasia rate. In fact, the most common success rates were "4 out of 5" or "9 out of 10." Harvest plant workers are required to successfully knock cattle with a 95% to 100% success rate on the first knock to be considered "acceptable" to "excellent," respectively. The workers I spoke to were experiencing only 80% to 90% success. I think we can do better, and I hope you think so, as well.

Use of hollow-point bullets

For those not familiar with hollow points, they are designed with a small hole in the tip of the bullet, allowing for the projectile to expand more aggressively (referred to as "mushrooming") when it hits its target, thus damaging more tissue as it passes through. While this may seem like a positive when attempting to euthanize an animal, the mushroom action also compromises the projectile's ability to penetrate. In fact, in multiple studies, the hollow-point projectile never penetrated the skull of the animal being euthanized. Hollow points should not be used for euthanasia in cattle.

Handguns can successfully be used in euthanasia as well, but keep in mind that short barrels result in lesser muzzle energies than long barrels. The longer barrels of rifles provide more time for the gases in the barrel to expand when the projectile is fired, resulting in higher muzzle energy, which will help the projectile to penetrate deeper and cause more tissue damage.

As stated earlier, I prefer a shotgun (page 5 of AABP's Humane Euthanasia of Cattle). I have used a shotgun for euthanasia for my entire career and can say with no qualifications that I have a 100% success rate in nearly 30 years of practice. It has never failed. The drawbacks to a shotgun include a substantial "kick" or recoil, and also it requires the worker to get within a few feet of the animal.

I would be remiss if I didn't point out that once an animal is euthanized, it is very important to assure euthanasia success. If one touches the eye and the animal doesn't blink, it indicates insensibility – so the animal is not feeling any pain. But that doesn't mean it has died. We need to make sure that the animal is dead by watching for several minutes for rhythmic breathing or listen for a heartbeat with a stethoscope. Remember, even with a properly euthanized animal it may take several minutes for the heart to stop.

This brings us back to the original quote that started this article: "Geesh, Doc, isn't that a little overkill?" Overkill is OK when it comes to ending an animal's suffering. We certainly don't want "underkill" – or "barely good enough." Please review the euthanasia procedures on your farm and make sure that proper equipment and procedures are being utilized.

Overkill is OK when it comes to ending an animal's suffering. We certainly don't want 'underkill' – or 'barely good enough.' Please review the euthanasia procedures on your farm and make sure that proper equipment and procedures are being utilized.

Dave Sjeklocha
Technical Services Veterinarian
Merck Animal Health
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Dave Sjeklocha is the president-elect for AABP.

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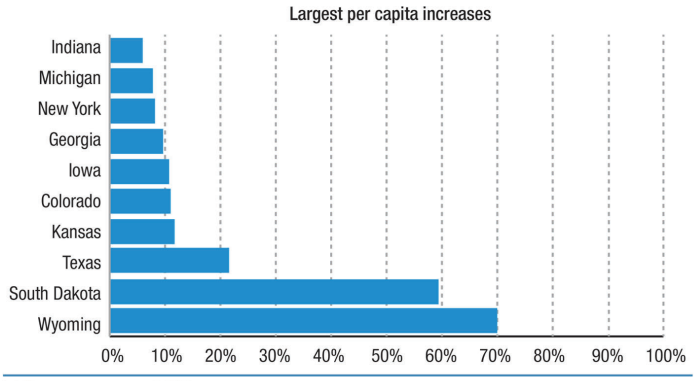
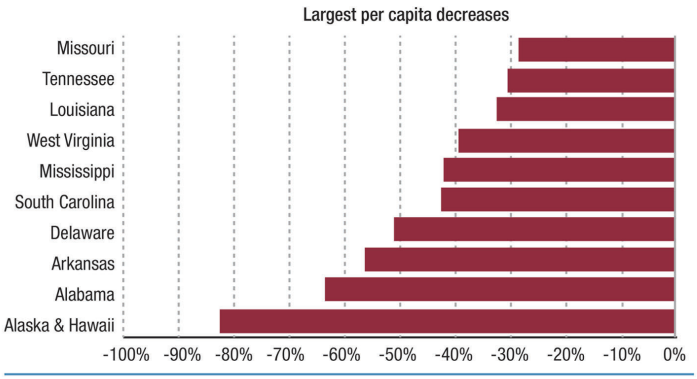
FIGURE 1 Per capita milk production: 2023 vs 2018



U.S. average = +1.6%

FIGURE 2 Per capita milk production: 2023 vs 2018



U.S. average = +1.6%

2023 Per capita milk production

Progressive Dairy Editor **Audrey Schmitz**

The U.S. milk production per capita for 2023 was 677.3 pounds, down 3.5 pounds (-0.5%) compared with 2022. **Table 1** lists the top 25 states in descending order based on 2023 per capita production.

The top five states with the highest milk production per capita were Idaho, Wisconsin, South Dakota, Vermont and New Mexico, respectively, and all five were above 3,000 pounds. The lowest five states were New Jersey, Rhode Island, Alabama, Alaska and Hawaii, and each were below 10 pounds.

Twelve states reported annual per capita increases during 2023, with Alaska and Hawaii's 30.3% increase as the largest gain. South Dakota posted the second largest increase, with a production-per-capita gain of 6.7%. Arkansas's per capita production decreased by 27.2%, which was the largest decline. Four other states recorded decreases over 10%: Mississippi (-17.8%), North Dakota (-15.9%), Alabama (-13.1%) and West Virginia (-11.7%).

The 300- and 600-pound levels of per capita production are arbitrary divisions selected for this map. The 600-pound level roughly approximates annual per capita consumption of all dairy products on a milk equivalent basis, while the 300-pound level reflects average annual consumption of Class I and Class II products (fluid and soft manufactured products), plus reserve requirements. A cursory analysis of regional milk supply conditions can be performed by examining the shading patterns prevalent in the individual regions.

Per capita production for the U.S. increased by 10.8 pounds (+1.6%) in the last five years between 2018 and 2023. Fourteen states recorded increases in per capita milk production, led by Wyoming's 69.7% gain (**Figure 1**). Five additional states increased per capita production by 10% or more comparing 2023 with 2018. Alaska and Hawaii's combined total recorded the largest decrease, with per capita production falling by 82.4% (**Figure 2**). Fifteen additional states posted declines of more than 20%, while eight states reported decreases between 10% and 20%.

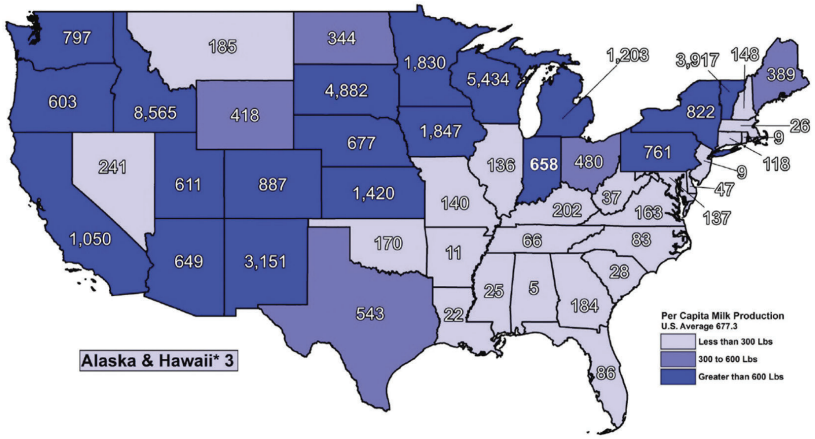
References omitted but are available upon request.

TABLE 1 Per capita milk production: 2023 vs 2022 and 2018 – by state

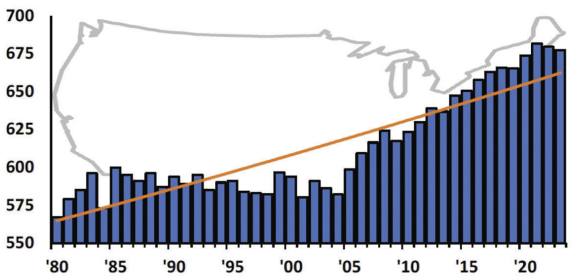
States	Per capita milk production			Change in per capita milk production			
				2023 vs. 2022		2023 vs. 2018	
	2018	2022	2018	Pounds	Percent	Pounds	Percent
1 Idaho	8,564.6	8,575.4	8,635.8	-10.9	-0.1%	-71.3	-0.8%
2 Wisconsin	5,434.5	5,410.6	5,259.9	23.9	0.4%	174.5	3.3%
3 South Dakota	4,881.9	4,573.4	3,066.1	308.5	6.7%	1,815.8	59.2%
4 Vermont	3,916.8	3,947.1	4,279.1	-30.2	-0.8%	-362.3	-8.5%
5 New Mexico	3,151.3	3,380.9	3,953.8	-229.6	-6.8%	-802.6	-20.3%
6 Iowa	1,846.9	1,802.8	1,669.1	44.1	2.4%	177.8	10.7%
7 Minnesota	1,829.9	1,831.7	1,758.6	-1.7	-0.1%	71.3	4.1%
8 Kansas	1,420.5	1,410.2	1,273.6	10.3	0.7%	146.9	11.5%
9 Michigan	1,202.8	1,169.7	1,117.3	33.1	2.8%	85.6	7.7%
10 California	1,049.7	1,071.0	1,021.6	-21.3	-2.0%	28.1	2.7%
11 Colorado	886.8	909.9	800.1	-23.2	-2.5%	86.7	10.8%
12 New York	821.6	795.1	761.5	26.4	3.3%	60.0	7.9%
13 Washington	796.5	801.3	893.9	-4.8	-0.6%	-97.4	-10.9%
14 Pennsylvania	760.6	767.0	832.7	-6.3	-0.8%	-72.1	-8.7%
15 Nebraska	677.3	719.5	746.4	-42.2	-5.9%	-69.1	-9.3%
16 Indiana	657.7	639.7	621.8	18.0	2.8%	35.9	5.8%
17 Arizona	649.1	648.4	694.1	0.7	0.1%	-45.0	-6.5%
18 Utah	611.2	641.9	734.6	-30.6	-4.8%	-123.3	-16.8%
19 Oregon	6.3.3	621.4	604.0	-18.1	-2.9%	-0.7	-0.1%
20 Texas	543.1	550.5	447.8	-7.4	-1.4%	95.3	21.3%
21 Ohio	480.1	470.1	473.2	10.0	2.1%	6.8	1.4%
22 Wyoming	417.6	412.1	246.1	5.5	1.3%	171.5	69.7%
23 Maine	389.0	399.9	461.7	-10.9	-2.7%	-72.7	-15.7%
24 North Dakota	344.4	409.4	439.4	-64.9	-15.9%	-95.0	-21.6%
25 Nevada	241.1	249.9	241.9	-8.8	-3.5%	-0.8	-0.3%
U.S. Total	**677.3**	**680.7**	**666.5**	**-3.5**	**-0.5%**	**10.8**	**1.6%**

Sources: Milk production: Milk production, National Agricultural Statistics Service, Agriculture Statistics Board, USDA
Population: U.S. Census Bureau, Department of Commerce. (July 1st population estimates for each year.)

2023 Per Capita Milk Production



U.S. Milk Production Per Capita



Trimmers meet at Hoof Health Conference

Edwin (Skip) Blake for *Progressive Dairy*

AT A GLANCE

Hoof trimmers gathered at the Hoof Trimmers Association's Hoof Health Conference Feb. 22-24 in Orlando, Florida.



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The Hoof Trimmers Association (HTA) holds a Hoof Health Conference every 18 months. To ensure distinct parts of North America are represented, they hold these meetings at various locations. This year's conference was Feb. 22-24 in Orlando, Florida. The conference was two days of presentations on assorted topics relating to hoof trimming and public relations as well as meetings. There was an additional day spent on a farm where trimmers could see cows being trimmed with new equipment as well as a cadaver lab which allowed trimmers the opportunity to trim and be evaluated by others.

With the advent of the FARM Program, lameness is being evaluated on all dairies. Although there is no standardization for trimming, nor is there any licensing for trimmers, there may come a time when dairy co-ops require benchmarks for trimmers, some of which may be attending a trimming school and continuing education event. Even if there is no requirement from the FARM Program, farm managers and owners will increasingly encourage their trimmers to pursue continuing education. The HTA allows members to network with other trimmers, see the latest equipment and new products as well as learn some up-to-date research.

This year's conference included many presentations.

Graeme Parker (known as The Hoof GP) spoke about his presence in social media. His YouTube channel has over 2 million followers, making his channel one of the most watched in all of agriculture. Social media is here to stay, and we can use it to our benefit. There are several Facebook pages dedicated to hoof trimming. We can all watch as well as post on positive hoof-trimming experiences.

Neil Barrett is a hoof trimmer from England and chair of the National Association of Cattle Foot Trimmers (their equivalent of HTA). He spoke about how their association has developed a certification for their trimmers. There are currently no government regulations, but their association has set up a criterion that certifies trimmers. It can give farmers assurance that the trimmer has completed formal training and has a level of competence. There is a lot of discussion as to whether this is an idea the HTA needs to address.

William Davy, DVM, is a vet who does hoof research at Ghent University in Belgium. He presented data from his research detailing hoof pressures and where actual weight bearing takes place. More weight bearing occurs in the claw wall and less on the sole than most people would predict.

Dan Shearer, DVM, Iowa State University, had two presentations: one on consumer trust and another on digital dermatitis (DD). His main point on trust was that we all need to put animal welfare above profit and production. On DD, he stressed the importance that regular hoof trimming and footbaths have in keeping it under control. There is enough anecdotal evidence to conclude footbaths work when keeping in mind proper placement, depth and concentration of product used. He also advocates using a wrap without cotton cloth when applying a topical treatment.

Jennifer Wilson-Wilder, Ph.D., presented her research studies and findings on DD. She and others in her team working for the Iowa Department of Agriculture in Ames, Iowa, have made strides in identifying the various treponeme bacteria associated with DD. Some of her special studies include how DD can cross into other species, specifically elk.

The trim day was held at Sutton Milk. This farm is located near Okeechobee, Florida. Trimmers could watch different trimmers trim on different equipment, a right layover squeeze chute, a left layover tilt chute and a hydraulic lift upright chute. There was also a cadaver station with four stands. Trimmers could try out their skills using one of six different trimming wheels. There were great discussions on trimming styles and techniques.







Photos provided by Edwin (Skip) Blake.

TOP: Cadaver feet were evaluated as part of the on-farm workshop which took place during the Hoof Trimmers Association's Hoof Health Conference Feb. 22-24 in Orlando, Florida. **MIDDLE:** An attendee trims a cadaver foot at the on-farm workshop during the Hoof Health Conference. The on-farm workshop allowed attendees to experiment with different trimming styles and equipment. **BOTTOM:** Attendees of the Hoof Health Conference took part in an on-farm workshop at Sutton Milk where they could view different trimming chutes and equipment.



Creating an infinite operation: High Plains Ponderosa Dairy

Progressive Dairy Editor **Matti McBride**

AT A GLANCE

Having a futuristic perspective on everyday decisions fuels reproductive success. This Kansas dairy milks Holstein-Jersey crossbreds and strives for efficiency at every level.

When asked for his take on a sustainable dairy, Greg Bethard uses one word to describe his mentality regarding the future of his operation: infinite.

The CEO and managing partner of High Plains Ponderosa Dairy in Plains, Kansas, makes many decisions with an "infinite" perspective in mind.

Landing the 'best job'

Bethard didn't grow up in the dairy industry but got his introduction to agriculture through his family's hobby farm in New Jersey. With a passion for the industry and interest in dairy, Bethard pursued a dairy science degree at Virginia Tech University that landed him in the nutrition field. He spent some time in the academic world before becoming a full-time consultant for the better part of his career. When opportunity to become a dairy producer himself came knocking, Bethard jumped.

"I always wanted to be a dairy producer," Bethard says. "That was a goal I had written down for myself when I graduated graduate school, but never had the right opportunity. That opportunity came along in 2017; I was able to become involved in this dairy and live a lifelong dream. The dairy industry is something I chose. Being a dairy producer is something I wanted to do, and it's been extremely rewarding for me."

Bethard joins a number of families – who are invested in various agricultural enterprises – in ownership of High Plains Ponderosa Dairy and serves as a board member for the operation in addition to his responsibilities as managing partner and CEO.

"We have an awesome staff of people," Bethard says. "Our management style is a little bit unique in the sense that we let all of our people grow, make mistakes, make their own decisions. We have a high-caliber group of people who we let do their own thing and pursue their interests that bring value to us."

Bethard is appreciative of his time working with other dairy producers and various positions he's held throughout the years, as he says it has aided him in seeing his cows and employees in a different light.

"Being a dairy producer is the best job I've ever had," Bethard says. "I enjoy it more than anything else I've ever done and it's what I want to do the rest of my career. I was right 20 years ago wanting to be a dairy producer. I'm happy where I'm at and looking forward to what's coming ahead."

Letting a cow be a cow

High Plains Ponderosa Dairy milks twice a day in rotary parlors, and lactating cattle are housed in cross-ventilated freestall barns. Bethard admits that drylots are more common in the High Plains region but enjoys the benefits of his lactating herd being housed inside and being able to control the environment. Calves are raised on a calf ranch and return to the site around 150 days old. Heifers are raised on-site and housed in drylot facilities. Animal monitoring collars assist with herd management, and most treatments, preg checks and breedings are done at milking time.

"The mindset I've always wanted from the very beginning was when a cow leaves the parlor and goes back to her pen, she's got 11 hours to be a cow," Bethard says. "We don't have anybody in pens between milkings; we just don't touch cows unless we need to."

In doing so, Bethard and his team have found that the simplest reproduction protocol works the best – averaging a 75% service rate.

Forty-eight to 54 days in milk, cows are given a shot of prostaglandin to induce estrus, followed by a breeding from activity shown. Bethard says his herd shows heats well and his animal monitoring system does a great job of finding cows in heat. Cows are bred on a palpation rail after walking off the rotary and through a sort gate.

The dairy sees a slight dip in production in the summer months due to heat stress but works to alleviate that problem with negative pressure in the cross-vent barns coupled with a fine mist. Because of the dry climate, this can cool barns down much faster.

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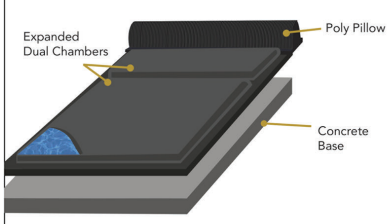

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Photo provided by Greg Bethard.

High Plains Ponderosa Dairy strives to create an "athletic" cow through Holstein-Jersey crosses.

Bethard says he's seen changes in the temperature of the barn by 10 to 15 degrees.

Creating an 'athletic' cow

One way to create an infinite dairy is to create a herd that will stand the test of time while maximizing production. Bethard analyzed income over feed costs in both Jersey and Holstein cows and wanted the best of both breeds – the aggressive appetite of a Jersey cow with the production of a Holstein. He also wanted a cow that could move "efficiently and effectively" around the dairy. Dairying in southwest Kansas means milk must be shipped quite a way to find a home, and the more water sent in the tanker equals less of a paycheck. Component production was a high priority in creating the ideal cow, and Bethard found it in a Holstein-Jersey cross.

"I don't look at it as a 50-50 cross," Bethard says. "I look at it as if we're trying to create our own breed. There are some great genes in the Holstein breed and great genes in the Jersey breed, and we want to put those together in a package of a 1,250-pound cow to maximize components, production, efficiency and have that athletic cow that can move around our facility."

High Plains Ponderosa Dairy started using F1 Holstein-Jersey bulls several years ago and has been happy with the calf crop thus far. Bethard says the F1-sired animals are just coming into milk and he is impressed with what he's seen.

"We learned over time that when we'd breed these F1 heifers back to Holstein, they were a little too large for our facility," Bethard says. "When we bred them back to Jerseys, they were too small and output wasn't high enough. These F1 bulls have created that consistent size that we want."

An infinite operation

When it comes to creating a sustainable operation, High Plains Ponderosa Dairy is well on its way. An anaerobic digester in partnership with Shell, bedding cattle with fiber created from the digester, selling carbon credits and more are all decisions that were made with a long-term mentality in mind.

"The word I use rather than sustainability is infinite," Bethard says. "We want our dairy to be here in 20, 30, 40 years. All the decisions we make are around being here that long. That means we've got to take care of our people, our cows, our community and our environment."

Bethard says that profitability is at the forefront of creating an infinite dairy – an efficient cow is the most sustainable.

"Everything we do is to ensure we can create that infinite operation," he says.

The dairy is in the middle of an expansion, growing its herd to supply a new processing plant that is 60 miles from the main site.

"One great thing about the dairy industry is that there are so many opportunities," Bethard says. "There are so many things that we can try. I'm not sure what's next, but I'm excited to see what that looks like."

Listen to the Progressive Dairy Podcast *with Greg Bethard at www.agproud.com/articles/59317*







Photo by Kimmi Devaney.

Dream Winds Dairy: Building their dreams from the ground up

Progressive Dairy Editor **Kimmi Devaney**

The first six years after starting Dream Winds Dairy in Coopersville, Michigan, were action-packed for the Windemuller family as they purchased their property, economically grew their herd and converted existing buildings – including a turkey coop and a tiestall barn – into functional dairy facilities. They later built two freestall barns, and they currently milk their cows with an automated milking system.

"The biggest part of why we wanted to start dairying was to be able to raise our children on the farm," says owner Paul Windemuller.

As a first-generation dairy farmer, Windemuller's entrance into the dairy industry was the farm equipment business his family operated in Michigan while he was growing up.

"After school, I'd go hang out there and talk with a lot of local farmers," he says. "We lived on 50 acres out in the country but never had any of our own livestock."

While studying agribusiness at Michigan State University (MSU), Windemuller participated in a study abroad experience through Lincoln University in New Zealand, where he studied dairy production.

"I met a great family that became my New Zealand family. They are very successful dairy farmers there and have several farms. I learned a lot from them, and they became some of my mentors," he says.

After he graduated from MSU and married his wife, Brittany, they moved back to New Zealand to work for his New Zealand family for a year.

"In 2011, we spent a year learning the dairy business from them and sat in on all their business meetings," Windemuller says. "Aside from everything I learned at MSU, that's where I gained a lot of my dairy knowledge and real-life experience."

The Windemullers returned to Michigan in 2012 with the goal of starting their own dairy farm. In June 2013, they purchased their current property on 13 acres with a house, a turkey coop that was built in the 1940s or 1950s, a shop and a tiestall barn. However, they did not immediately become dairy farmers. Instead, they focused on generating revenue as soon as possible.

"Within the first 30 days, we had the old turkey coop rented to a neighbor for bred heifers, pasture rented to another neighbor for their beef cows, a shed rented out to another neighbor for equipment and hay storage, and we raised feeder calves in the old tiestall barn to help pay for our down payment," Windemuller says. "All this helped pay the mortgage, property tax and insurance, as well as pay for the skid loader that we bought six months after purchasing the property. We refer to [our way of creating immediate revenue streams] as 'farm hacking,' and it helped us economically get into the dairy business."



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The Windemuller family and their herd manager, Abby Kiaunis, stand in front of their close-up and maternity area. (Pictured from left to right) Back row: Paxton Windemuller; Abby Kiaunis; Huis, Brittany and Paul Windemuller. Front row: Irelyn, Judah, Prudence and Maverick Windemuller.

The evolution of their dairy facilities

May 2014 marked their official entrance into the dairy business when they started milking 30 leased cows in a New Zealand-style parlor that Windemuller created in the front half of the tiestall barn. The back half of the barn became the holding pen and return lane.

In the turkey coop, Windemuller added 60 freestalls with an alley down the middle, and cows were fed outside with H-style bunks. The herd grew to 80 cows in that barn before the current freestall barn was built in 2015. The new barn originally had 160 stalls before they added on to it a year later, bringing the total number of stalls up to 220.

Protecting cows from the elements was top of mind.

"We built the barn with an overshot ridge, which has worked well since it allows us to keep the weather out, unless we get a strong south wind," he says.

Additionally, moisture sensors on the automated curtain system will close the curtains if rain is coming into the barn, which keeps the stalls dry on one side and the feed lane dry on the other. The curtains will also open and close based on temperature.

Direct-drive fans on variable frequency drives help keep air moving and cows comfortable in the warmer months while conserving energy.

"During energy audits, I learned that you get charged on the power spike, so if all your fans kick on at once and go from 0 to 100 percent, you get hammered on your electric use," Windemuller says. "Our fans start up individually at 25% and then slowly ramp up from there so we don't see that power surge."

With a new freestall barn and a larger herd, they began to consider new milking system options, including building a new parlor or installing an automated milking system.

"Our homemade parlor wasn't meant to milk 220 cows, so we needed to make a change," Windemuller says.

In February 2017, they installed the first three robots.

"It worked out to be about the same amount, if not a little cheaper, to put in robots instead of a new parlor since we didn't have to build a new milk house, a holding pen, travel lanes, a parlor building or the parlor itself," Windemuller says.

It also gave him the data collection systems and labor efficiencies he was looking for.

"My favorite part of the robots is the data collection because it helps me better manage the cows and is really valuable," he says. "Between that and other technology and monitoring systems, we can catch cows that are getting sick a lot quicker. We also were able to cut back on our antibiotic use by about 70 percent."

Dry cows were housed on a bedded pack in the turkey coop until it collapsed during a 2018 ice storm. A second freestall barn with 60 stalls, a straw bedded pack for close-up cows, a calf room and a maternity supply room was built on the same footprint for fresh cows, close-up cows and the special needs pen. Far-off dry cows are now housed offsite at a neighboring facility. This barn marked the end of their expansion in the summer of 2018. While they have added cow numbers since then, they have not built anything new.

They currently have four robots and milk 250 to 270 cows.

Instead of raising their calves and heifers, they purchase fresh heifers from other dairies. All cows are bred to beef, and calves are sold soon after birth.

"The biggest financial mistakes that I've made were when I started veering away from our business model focused on asset turnover by raising our own heifers," he says. "I didn't have the right facilities, and I didn't have a good enough feed source for that to do it right. I also didn't have good genetics to start with. We had some really mediocre heifers that came in, and it costs a lot of money to have cows that aren't performing. We lost a lot of ground just because I didn't have the right things in place to be successful in that area."

Maintaining low equipment inventories helps with economics and efficiency.

"There was a short time when I started buying more equipment to do our own manure hauling and that really strained our cash flow because I wasn't putting it over enough cows," Windemuller says. "Luckily, we caught the upswing of equipment costs when selling it. Really sticking to our business model unless I have a good justifiable reason to start changing it is the key thing that I would tell my younger self."

Automation helps with keeping equipment inventories low, including the feed pusher, milking robots and ventilation automation for the curtains and fans. They also have a skidsteer, and they outsource feeding.

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"The biggest part of why we wanted to start dairying was to be able to raise our children on the farm."
—Paul Windemuller, Dream Winds Dairy

Dream Winds Dairy: Building their dreams from the ground up, cont'd from page 25

More importantly, Windemuller considers his collaboration with his neighbors on things like utilizing equipment and purchasing to be very important.

"One of our neighbors is a former dairy farmer and has mixed almost every load of feed we've ever fed since we started. He uses his own equipment, which eliminates the need for us to own a mixing wagon and other equipment," he says.

Their community has been a vital part of their success throughout their journey, he adds. The dairy support network and overall dairy infrastructure – including feed companies, the robot dealership, a viable market, several processing plants and milk trucks passing by the farm often – were key reasons they chose to locate their farm in Coopersville.

Simplicity and efficiency are key components of their business philosophy.

"Another thing I learned from my mentors in New Zealand was the importance of trying to make all jobs one-person jobs because if you need to have two people, you're going to have time shrink," Windemuller says. "It simplifies systems and protocols, so we tried to integrate that into our facility design. We don't have manure pumps since we scrape the barns and don't need them. We also have two longer alleys instead of four shorter ones. It also takes us less time to scrape the barn with a folding scraper than with a tire scraper. All those things played into our facility design."

If he could change anything about his new facilities, he says he would have everything in one barn instead of two.

"That would definitely help with labor efficiency not having to walk back and forth and not having to open up two barns in the winter," he says.

Investing in the next generation

On the farm, Windemuller handles the business side while their herd manager, Abby Kiaunis, oversees much of the day-to-day operations. They also have three high school students that work part-time.

"Since neither my wife nor I grew up on a dairy farm, we are both very passionate about giving young people the opportunity to get involved and experience the dairy industry," he says.

Community involvement through the local FFA program has helped connect the Windemullers with students interested in working on the farm.

"It's a great learning experience for them," he says. "We cross-train them to teach them about animal health, hoof trimming and other things around the farm. We've had several young people who have worked for us and have gone on to roles in the dairy industry or agriculture. It's been pretty cool to watch."

As Windemuller looks back over the last decade, he describes the journey as "extremely challenging but worth it."

"If I would have done the same thing in residential real estate, I'd have a lot of money, but I have gotten a lot out of this entire experience, and it's been worth it. It's been great to see our kids grow up in this environment, and that's worth a lot. Money is a tool, but it's not what we are chasing, and it's not why we built this business and this farm. Our goal with our farm is to glorify God in everything we do by being great community members, whether by helping kids start their careers in dairy, showing a young mom and her kids where milk comes from or helping out a neighbor when they are in need. To me, that's what we are called to do with what we've been blessed with," Windemuller says.

Follow Windemuller on social media @dreamwindsdairy or tune into his new podcast, AgCulture, *which is focused on unique stories from entrepreneurs and innovators in agriculture across the globe.*



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Control digital dermatitis with a cow-sensitive approach

Progressive Dairy Editor **Jenn Coyne**

AT A GLANCE

Improved hygiene on the dairy through proper footbath protocols is a key way producers can manage the presence of digital dermatitis in their herds.



Photo provided by James Wilson.

Dr. James Wilson evaluates a hoof. Wilson said farms should work with their teams to identify and address lameness early.

Severely lame cows are easily distinguishable in the herd, even to the untrained eye. The cows may walk with a clear limp in their gait, a lesion may be noticeable, and the cows may exhibit poorer reproductive and production performance compared to their healthy herdmates. By the time lameness is this noticeable, it is too late.

The key is to work with the farm team in identifying and addressing lameness early. This may be before the lesion is visible until you pick the foot up in the hoof-trimming chute.

"Get the vets, hoof trimmer, feed manager all working around the chute together," Dr. James Wilson said. "We need to hone in on the subtle signs of lameness in order to achieve real success."

He described, for instance, a cow that showed subtle mobility challenges, but when the feet are picked up, a substantial interdigital growth is noticed. On top of that is digital dermatitis (DD), indicating a severe lesion even though the cow failed to show obvious signs of it in her gait.

Wilson is a hoof health consultant for Herd Health Consultancy and presented "Digital Dermatitis Control: A farm/cow sensitive approach" during a Knowledge Nook session at World Dairy Expo in 2023.

The development of an infectious lesion, such as DD, is a costly one to the global dairy industry with its prevalence in developed dairy systems at 40% to 50%, Wilson stated; yet, with proper hygiene, this disease is incredibly manageable.

"DD typically happens because of poor hygiene and a compromise to skin integrity," Wilson said. "Then, the family of bacteria that cause DD spiral and burrow into the skin. They live in the skin, developing further and shedding."

Wilson noted that before the bacteria become present, there must be a compromise of the skin.

"For example, slurry sticks to the skin and breaks down the skin's capacity to act as a barrier," he said. "With that, skin loses its ability to defend from the outside world. Following this, the bacteria causing DD infect the foot and a lesion develops."

On average, it takes 130 days from an initial infection until a visible lesion has formed.

"We can see flare-ups of DD when footbath solution is changed. It is important to remember the footbath doesn't treat the lesion, it just prevents the spread of it," Wilson said. "A lot of the time we accept failure by managing cows with chronic dormant lesions. These will still be uncomfortable for the cow and are described as the super-spreader lesions."

Tools to screen for the early detection of DD in the herd

- *Parlor scoring:* Hose off feet and use an under-car inspection mirror to screen the herd; build this into a regular routine (e.g., quarterly).
- *Mobility scoring:* Have a veterinarian or veterinarian technician speak with employees about what to look for in lame cows, and find an easy way of reporting them. Make use of a fortnightly session where every two weeks a member of the team is purely watching the cows pass down the return lane, noting any that would benefit from a foot check.
- *Technology screening:* Various artificial intelligence tools are

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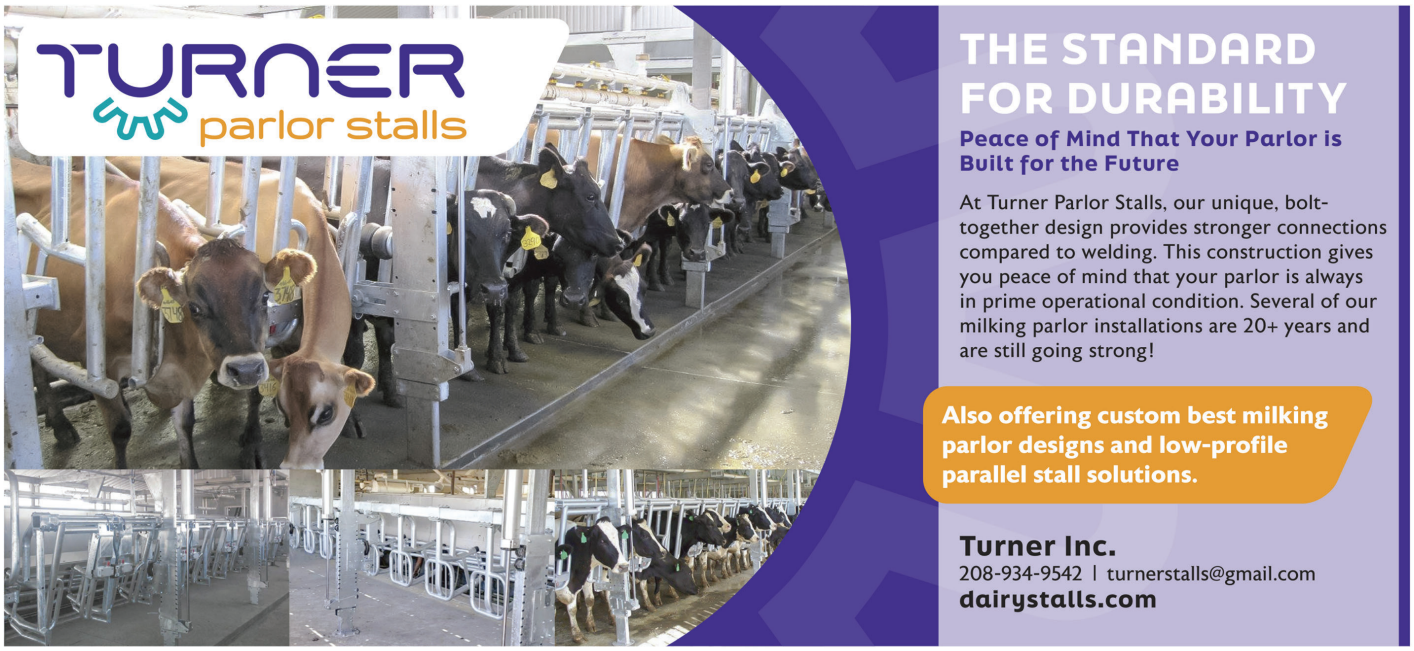

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Photos provided by James Wilson.

Using reversible pliers when treating digital dermatitis allows for topical treatments to be applied thoroughly. The approach should be to clean and dry the lesion, apply treatment and then reapply if it is a spray application.

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Control digital dermatitis with a cow-sensitive approach,

cont'd from page 27

in development now and have a promising future, including in the parlor and in footbath cameras.

"The reason for picking up DD early is because our treatments are so much more effective when we do this," Wilson said. "EDPET, early detection, prompt effective treatment, is a critical part of managing DD on-farm."

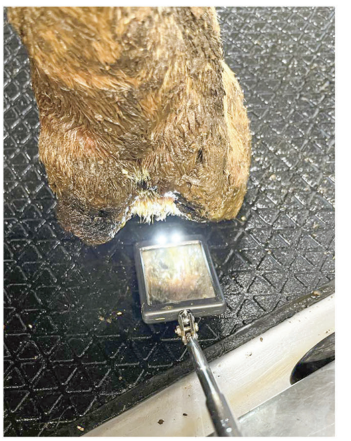
On farms that Wilson works with, they follow a farm-sensitive approach to managing DD and lameness as a whole. This includes creating low-infection environments through improved hygiene in the herd and biosecurity on the farm, primarily with proper footbath protocols for milking cows, dry cows and youngstock.

"Improving DD is improving hygiene in the most straightforward way," Wilson said. "It's all about keeping the foot clean and keeping the environment clean."

The key to a proper footbath is design. Sloped walls along the side encourage good cow flow, and the appropriate length ensures each cow gets an adequate number of immersions through the solution.

"I love putting curbs or steps that cows need to step over to get into the footbaths to get immersions beginning with that first step," Wilson said. "It's also an easy means to get more immersions in shorter footbaths."

Wilson recommended footbaths be 12 feet long with sloped sides and a minimum of a 5-inch depth for the solution. A translucent drum to hold the solution allows producers to know how much water and chemical are in the footbath. Automation is also a great tool for making sure that footbathing is delivered consistently across the herd and reduces associated labor costs.



An under-car inspection mirror with a light can be used in the parlor to identify cows that have digital dermatitis. The foot needs to be cleaned before this can accurately take place.

The solution should be changed at regular intervals. This will depend upon the footbath, but a good rule of thumb is that a [50-gallon] footbath should be changed every 200 cows as long as depth is maintained, Wilson advised.

"Footbathing is a disinfection protocol," Wilson said. "It won't treat DD, so you really have to focus on adequate disinfection."

Wilson also noted blitz treatments to treat DD in individual cases. This is done by applying a topical antibacterial treatment to the lesion in the hoof-trimming chute once it is cleaned and dried. This foot is then marked and sprayed again for two consecutive days in the parlor. This needs to be followed up with a footbath schedule that reduces infection pressure.

"Large herds have a 1 percent to 2 percent prevalence of DD because they are treating effectively and managing the footbath correctly," Wilson said. "We can manage it out of the herd."



Photo courtesy of Genex.

Preventing calf scours is one method to improve overall profitability. In 2012, it was estimated that a case of calf scours costs $56 for increased labor and medications. Besides inflation, this estimate does not account for the mortality of the calf, negative impacts on daily gains and milk production, or the increased likelihood of extended time on feed to the first freshening.

Calf scours prevention begins before birth

Kim Egan for *Progressive Dairy*

AT A GLANCE

Twelve years ago, researchers estimated that a case of scours cost $56 per head, but that number is likely significantly lower than it should be. To minimize this, farms should focus on genetics, dry cow management, colostrum and transition milk.

"Do you have good luck when it comes to raising calves?" That's a question you have likely been asked, but when it comes to preventing scours and ensuring calf health, it takes more than luck.

Preventing calf scours is one method to improve overall profitability. In 2012, it was estimated that a case of calf scours costs $56 for increased labor and medications. Besides inflation, this estimate does not account for the mortality of the calf, negative impacts on daily gains and milk production, or the increased likelihood of extended time on feed to the first freshening.

In recent years, a lot of research has focused on calves and calf health. Let's explore four proactive, research-backed steps that you can take to mitigate the risks of scours in your calves.

1 Choose genetics for health and longevity

The first two steps you can take to prevent scours happen before the

Continued on page 2

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Calf scours prevention begins before birth, cont'd from page 1

calf even hits the ground. Step one is to choose genetics that increase the likelihood of a calf to remain in your herd.

Prior to 2020, the only data available regarding an animal's longevity or ability to remain in the herd was on adult cows; this data was and is known as the Productive Life (PL) trait. Now, Heifer Livability (HLIV) is part of the Merit indexes published by the Council on Dairy Cattle Breeding. HLIV represents improved resistance to disease and the expected percentage of females remaining in the herd from 2 days old through 18 months old.

When choosing a team of sires for your herd, use an index that includes weightings for PL and HLIV. Selection using an index is a great way to ensure balanced overall genetic progress; just make sure the index focuses on health.

2 Proper dry cow management

The second step involves management practices during pregnancy. Studies show that heat stress during the dry period negatively affects the developing calf in a cow's uterus. In fact, according to Dr. Jimena Laporta from the University of Wisconsin, calves born from dams that experienced heat stress during late gestation weigh less than calves born from dams that did not. In addition, calves born to those heat-stressed dams continue to weigh less through their first year of life and have compromised metabolism and immune function. As spring and summer approach, remember that properly cooled dry cows can yield healthier and more productive calves.

To maximize the passing of immunity from the dam to the calf through colostrum, dry period vaccination against calfhood pathogens and adequate maternal nutrition are also important. Work with your veterinarian and nutritionist to ensure your dry cow management strategies are positively impacting your calves.

3 Feed clean, high-quality colostrum on day one

On the first day of a calf's life, you should feed colostrum to defend the calf against scour-causing pathogens. In 2014, the USDA National Animal Health Monitoring System (NAHMS) defined excellent passive transfer of immunity as having a serum immunoglobulin G (IgG) level at or over 25 grams per liter. The difference between the excellent level of passive transfer and the failing level (less than 10 grams per liter) translated into nearly 18% fewer sick calves, as shown in **Figure 1**.

Feeding colostrum is the most important step in preventing scours because newborn calves have no natural immunity. Instead, they have a digestive system that is "open" to receive antibodies. Whole bovine colostrum also contains fat, which has been shown to facilitate brown fat metabolism, to help the calf thermoregulate its body temperature (avoiding cold or heat stress helps reduce the chances for illness). Colostrum also provides prebiotic elements that nurture beneficial gut microflora; the "good" bacteria lining a normal gut form a barrier against pathogenic or "bad" bacteria. Finally, the growth factors passed to the calf through colostrum promote intestinal tract development, increasing the calf's ability to absorb nutrients and remain healthy.

Unfortunately, disease-causing bacteria such as *E. coli* can contaminate gloves, equipment or colostrum. These bacteria can then pass through the channels meant for antibodies and go directly into a calf's bloodstream or block those channels, resulting in reduced absorption of antibodies. Therefore, it is a good practice to routinely check bacterial plate counts on colostrum with a goal of less than 100,000 colony-forming units per milliliter. Using swabs and a luminescence meter is also a great way to gauge bacterial load on surfaces involved in colostrum handling.



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Check with your milk processor, veterinarian or calf adviser for availability of luminescence and plate count testing.

In addition to cleanliness, other important factors for colostrum feeding are quickness, quality and quantity.

Quickness

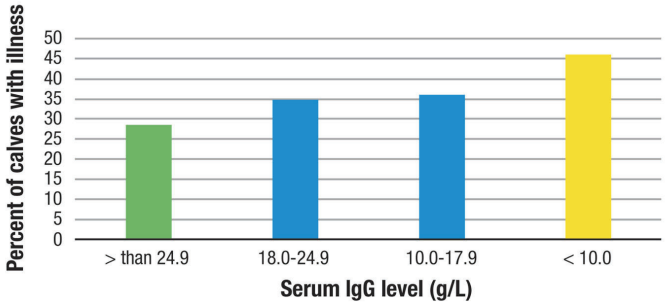
The ability of the calf to absorb antibodies diminishes every hour, so feeding colostrum within the first hour or two will maximize the immunity transferred to the calf. If you use or store colostrum from the dam, the highest concentration is also attained from her within the first two hours after calving.

Quality

High quality is defined as whole colostrum that contains at least 60 grams per liter of IgG or greater than a 24% Brix refractometer reading. Every collection of colostrum should be tested for quality and can be enriched with dried colostrum powder if it does not meet this requirement.



FIGURE 1 Morbidity by passive transfer level



Source: NAHMS 2014

TABLE 1 The effect of stress on absorption of IgGs

Scenario	Grams of IgG fed in day 1 colostrum	Efficiency of absorption	Actual amount of IgGs absorbed
Normal	300	40%	120
Stressed	300	25%	75
Compensation for stress	400	25%	100

Quantity

The goal for colostrum feeding on the first day of life is 300 total grams of IgG between the first two feedings. As mentioned, the first feeding should occur as soon as possible after birth, preferably within the first two hours. The second feeding should occur within 12 hours of birth. Boosting immunity with the second feeding maximizes IgGs that are needed to defend the calf's health until it can sufficiently produce its own antibodies. This feeding also provides more of the growth factors to help calves reach their full potential.

Calves that had a difficult birth, are a twin, or were exposed to heat or cold stress can have impaired absorption, according to Laporta. For example, a difficult birth can reduce the efficiency of absorption by up to 20%. In this case, these stressed calves should receive additional boosts in IgG during their first two feedings. The effect of stress on the absorption of IgGs is illustrated in **Table 1**.

4 Feeding transition milk

The fourth step to preventing scours is transition feeding. Feeding transition milk (or a mixture of whole colostrum and milk) to calves beyond day one of life can positively impact average daily gain (ADG), lower the risk of diarrhea and reduce mortality. These benefits have been demonstrated by feeding either high concentrations for a short period of time (50-50 ratio of colostrum to milk for two to three days) or lower concentrations for an extended period (10-90 ratio of colostrum to milk for 14 days).

The transition feeding step provides IgGs to bind pathogens in the gut lumen and allows for more persistent serum IgG levels to be maintained, while the growth factors in the colostrum promote gut and development. When using dried whole colostrum powder, feeding recommendations are based on grams of powder rather than grams of IgGs during this step. If a powdered milk replacer is being used, substitution for the equivalent number of grams is recommended.

As General MacArthur once said, "The best luck of all is the luck you make for yourself." Don't leave your calf health to chance; take a proactive approach to mitigating scours.

References omitted but are available upon request.

4 STEPS TO HELP PREVENT CALF SCOURS

1. Choosing genetics for health and longevity
2. Vaccinating and providing dry cows with a low-stress environment
3. Defending calves on day one with clean, high-quality, whole colostrum
4. Transitioning calves to milk-feeding





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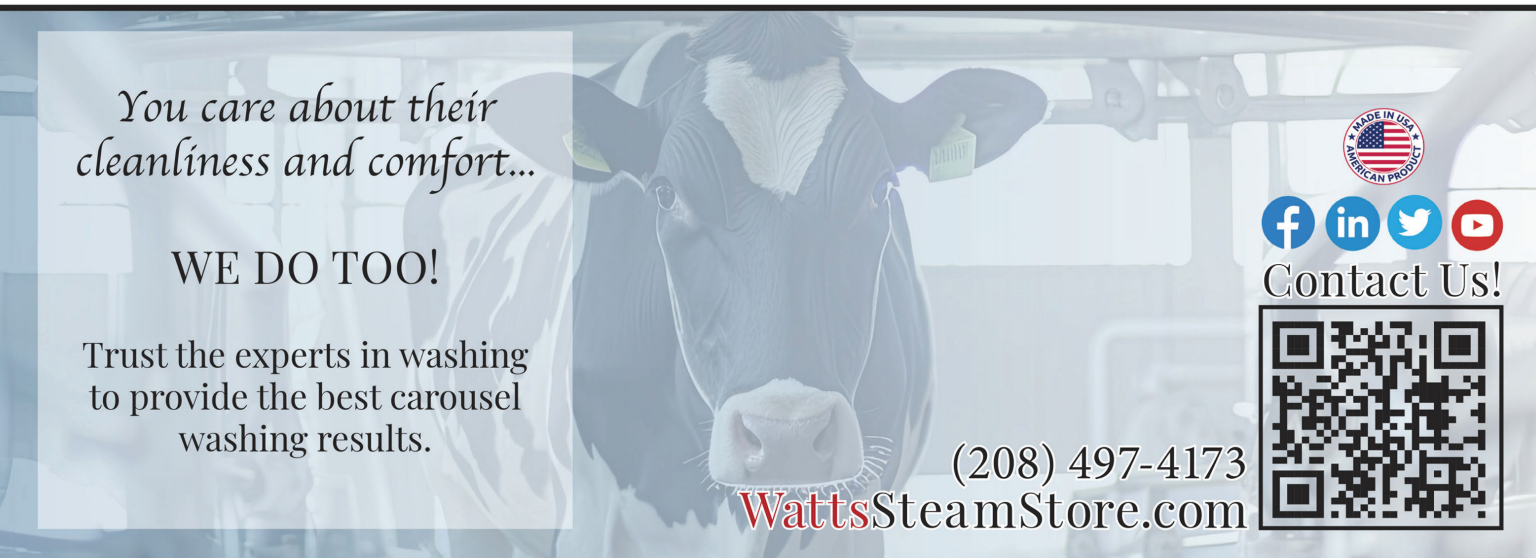

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The following section contains content for use in dairy training. The article on this page is available in Spanish on page 8.

Working with cattle: Tips for minimizing stress

Chris Gwyn for *Progressive Dairy*

One of our areas of focus is to help producers reduce dairy cow stress. In a recent anecdotal survey, we asked them: Which dairy cow stressor do you think has the biggest impact on you, your cows and your bottom line? We sent the survey at the start of summer, so I wasn't surprised that a majority responded with "heat stress," but another stressor also rose to the top of the list and was based around "animal handling."

Comments from our survey included:

• Getting employees to be calm around animals

• Confirming that my employees are safe and my cattle are well cared for

• Farmer and cow well-being

• Cow comfort

We also recently interviewed Dr. Jennifer Van Os, assistant professor and extension specialist at the University of Wisconsin – Madison, for the *RumiNation Podcast* "Tools for Cow Handling at the Farm Level" (Season 5, Episode 12). During the podcast, Van Os discussed her focus on improving animal welfare and the development of more engaging training resources for proper handling of dairy cows.

When she first arrived in Madison, Van Os met with several Wisconsin dairy farmers and other industry professionals to ask them about the challenges they face when it comes to animal welfare, ensuring her program could help address key concerns. Van Os said a common request from farmers was for her to come to their farm and help train employees on proper cow handling.

"This came as a surprise because there are a lot of videos and other materials dedicated to this topic," Van Os said. "The fact that producers still thought there was a lack of resources confirmed a need for something different, something more innovative."

Affirming the need even more, Van Os pointed to a 2018 USDA report that concluded only 55% of U.S. dairy farmers provided training to their employees specifically on moving and handling cows. Potential barriers to providing this training included lack of time, resources and high costs (especially if translation is needed).

Affirming the need even more, Van Os pointed to a 2018 USDA report that concluded only 55% of U.S. dairy farmers provided training to their employees specifically on moving and handling cows.

In her role, Van Os' goal is to focus on understanding and improving dairy animal welfare, particularly by identifying low-barrier solutions. She said she believes more engaging and active learning tools are necessary. "Passive learning helps people understand the concept of animal handling, flight zones and other animal welfare issues, but active learning and putting 'real-life factors' into play are necessary to deal with on-farm reality," Van Os said.

There is a lot you can do for your cows to minimize their stress and to help your employees thrive in their roles. Below are some tips for improving animal handling.

Focus on active learning

There are numerous research-proven animal handling resources, including: training videos, online guides and classroom lesson plans, fact sheets and more. Although these materials exist, applying these concepts is often challenging.

The FARM Animal Care Program helps U.S. dairy farmers apply this training to their specific operation. According to the FARM website, the program:

Continued on page 6







Working with cattle: Tips for minimizing stress, cont'd from page 5

• Details animal care guidelines using the latest research and best management practices

• Implements on-farm evaluations by trained evaluators who help identify strengths and outline improvements

• Ensures integrity of the program through third-party verification

In addition to this program and other efforts that focus on active learning, there is a new interactive video game making its debut. Van Os developed "Mooving Cows" to help dairy farms improve their animal-handling skills. This educational tool allows workers to practice these skills in simulated farm environments. Participants get immediate feedback on how their actions can affect cow behavior, stress and productivity. It allows them to make mistakes but to learn from them, decreasing the chances of it happening in real life on the farm.

There are other tools emerging and helping reduce handling stress, such as the use of cow monitoring systems. Many producers are turning to activity collars or eartags for herd health and fertility alerts. These systems help reduce unnecessary stressful cow touches, allowing farmers to focus on cows that need attention while leaving the rest of the herd alone.

Let cows be cows

Cows will tell you what they want and what they don't like, especially when it comes to handling. While active learning is important, it is also key to study and understand dairy cow behavior so you can anticipate their reactions and then use that learning at the farm level.

For example, cows may be more sensitive during certain times, such as when they are ill or around calving. It is critical to understand these situations and not add any additional stress that will compromise the cow's immune system even more.

You can learn a lot from a cow's body language. For instance, research shows that you can tell how a cow feels by looking at her tail. If it is hanging down, a cow is most likely relaxed. When her tail is tucked in, she is either in pain, scared or cold. The rest of the cow's posture can also demonstrate signs of discomfort, including an arched back and lowered head. If she appears agitated, stressed or not eating, give her some space and assess the situation from afar.

Most farmers know, but it is always a good reminder to approach cattle calmly, moving slowly toward them, and when possible approach them from the side rather than directly behind them. Understand a cow's flight zone and keep in mind that sudden movements or loud noises can startle and stress her. A cow also has a point of balance, which is located at her shoulder. This point of balance is where a cow will determine if she should move forward or backward when a perceived threat enters her flight zone. Recognize a cow's point of balance when trying to get her to move. For example, if you are behind her point of balance, she'll most likely move forward and away from you. If you stand in front of her point of balance, she'll probably move backward and away from you.



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As you know, cows can be stubborn and difficult to move and handle. However, you should never use aggressive methods or excessive force. A cow's behavior can become unpredictable and possibly dangerous when she's stressed. Hitting or mishandling her will turn to a lack of trust, and this can lead to injury for both you and the cow. Consistent, gentle handling helps build trust, along with establishing a routine when working with cows. They like predictability.

Cattle also like to be in a group. They are herd animals and separating one cow from the others for too long will cause stress. However, don't rush cows. They move at a slower pace than most people, so allow cows to move and walk at their own speed.

Evaluate your facilities

Properly designed facilities are important for low-stress handling. If more than 1% of a group loses their footing or slips when being moved, you should evaluate your facilities and your handling techniques. This is also true if 5% of your cows balk and have to be persuaded to move. These are signs that something may be wrong.

Proper handling is especially critical in the alley, holding pen and milking parlor. When a cow is stressed, adrenaline interrupts her oxytocin response and impairs her milk letdown. Gentle and consistent handling, especially in these areas, can significantly improve milking efficiency and production.

Procedures such as hoof trimming, health checks and artificial insemination require a level of restraint. Make sure your equipment is in good working condition. Also, limit the amount of time in headlock systems, chutes or other devices, restraining cows for

TIPS TO IMPROVE ANIMAL HANDLING ON YOUR FARM

- Focus on active learning
- Let cows be cows
- Evaluate your facilities
- Reduce your stress

only as long as necessary based on the treatment or required procedure.

Properly designed facilities and well-maintained equipment can make handling cattle much faster, safer and less stressful for everyone involved.

Reduce your stress

When looking for ways to reduce stress and improve animal welfare on your farm, research shows that farmers should also take care of themselves and their employees' physical and mental health. A 2023 study from Norway showed that farmers with a low level of stress and a greater occupational well-being received a higher animal welfare score. In contrast, the study showed that a low occupational well-being and high level of stress were negatively associated with their animal welfare score.

In another study, researchers in Canada surveyed dairy farmers to better understand their mental health and potential connections to cow health and welfare. The results showed that farmer stress and anxiety were positively associated with the prevalence of severe lameness. Plain and simple, taking care of yourself helps you take care of your herd.

References omitted but are available upon request.



Photo courtesy of Jefo Nutrition.

Properly designed facilities are important for low-stress handling. If more than 1% of a group loses their footing or slips when being moved, you should evaluate your facilities and your handling techniques. This is also true if 5% of your cows balk and have to be persuaded to move. These are signs that something may be wrong.

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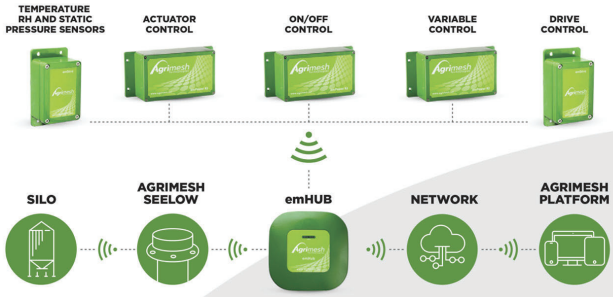

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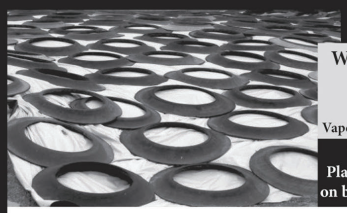

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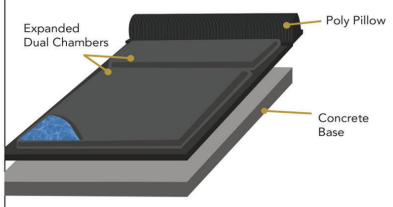

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Trabajando con ganado: Consejos para minimizar el estrés

Chris Gwyn por *Progressive Dairy*

En Jefo Nutrition, una de nuestras áreas de enfoque es ayudar a los productores a reducir el estrés en las vacas lecheras. En una encuesta anecdótica reciente, les preguntamos: ¿Qué factor de estrés para las vacas lecheras crees que tiene el mayor impacto en ti, en tus vacas y en tus ganancias? Enviamos la encuesta al comienzo del verano, así que no me sorprendió que la mayoría respondiera "estrés por calor", pero otro factor de estrés también surgió en la parte superior de la lista y estaba relacionado con el "manejo animal". Algunos comentarios de nuestra encuesta incluyeron:

- Lograr que los empleados estén tranquilos cerca de los animales
- Confirmar que mis empleados están seguros y que mis vacas reciben buen cuidado
- Bienestar del granjero y de las vacas
- Comodidad de las vacas

Recientemente también entrevistamos a la Dra. Jennifer Van Os, profesora asistente y especialista en Extensión de la Universidad de Wisconsin-Madison, para el podcast RumiNation "Herramientas para el Manejo de Vacas en el Nivel de la Granja" (Temporada 5, Episodio 12). Durante el podcast, Van Os habló sobre su enfoque en mejorar el bienestar animal y el desarrollo de recursos de capacitación más atractivos para el manejo adecuado de vacas lecheras.

Cuando llegó por primera vez a Madison, Van Os se reunió con varios granjeros lecheros de Wisconsin y otros profesionales de la industria para preguntarles sobre los desafíos que enfrentan en cuanto al bienestar animal, asegurándose de que su programa pudiera ayudar a abordar las preocupaciones clave. Van Os dijo que una solicitud común de los granjeros era que ella fuera a sus granjas y ayudara a capacitar a los empleados en el manejo adecuado de las vacas.

"Esto me sorprendió porque hay muchos videos y otros materiales dedicados a este tema", dijo Van Os. "El hecho de que los productores aún pensaran que faltaban recursos confirmaba la necesidad de algo diferente, algo más innovador".

Afirmando aún más la necesidad, Van Os señaló un informe del USDA de 2018 que concluyó que solo el 55% de los granjeros lecheros de EE. UU. proporcionaban capacitación a sus empleados específicamente sobre el movimiento y manejo de las vacas. Las posibles barreras para proporcionar esta capacitación incluían la falta de tiempo, recursos y altos costos (especialmente si se necesita traducción).

En su rol, el objetivo de Van Os es centrarse en comprender y mejorar el bienestar animal en la ganadería lechera, particularmente identificando soluciones de bajo costo. Ella cree que se necesitan herramientas de aprendizaje más atractivas y activas. "El aprendizaje pasivo ayuda a las personas a comprender el concepto de manejo animal, las zonas de escape y otros problemas de bienestar animal, pero el aprendizaje activo y poner en juego los 'factores de la vida real' son necesarios para enfrentar la realidad en la granja", dijo Van Os.

Hay mucho que puedes hacer por tus vacas para minimizar su estrés y ayudar a que tus empleados prosperen en sus roles. A continuación, algunos consejos para mejorar el manejo animal en tu granja.

Enfócate en el aprendizaje activo

Hay numerosos recursos de manejo animal probados por la investigación, incluyendo: videos de entrenamiento, guías en línea y planes de lecciones en el aula, hojas informativas y más. Aunque estos materiales existen, aplicar estos conceptos a menudo es un desafío.

El Programa de Cuidado Animal de FARM (Farmers Assuring Responsible Management) ayuda a los granjeros lecheros de EE. UU. a aplicar esta capacitación a su operación específica. Según el sitio web de FARM, el programa:

- Detalla normas de cuidado animal

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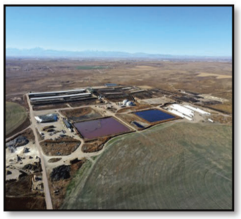

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• Asegura la integridad del programa a través de la verificación de terceros.

Además de este programa y otros esfuerzos que se centran en el aprendizaje activo, hay un nuevo videojuego interactivo que está haciendo su debut. Van Os desarrolló "Mooving Cows" para ayudar a las granjas lecheras a mejorar sus habilidades de manejo animal. Esta herramienta educativa permite a los trabajadores practicar estas habilidades en entornos de granja simulados. Los participantes reciben retroalimentación inmediata sobre cómo sus acciones pueden afectar el comportamiento, el estrés y la productividad de las vacas. Les permite cometer errores, pero aprender de ellos, disminuyendo las posibilidades de que ocurran en la vida real en la granja.

Hay otras herramientas emergentes que ayudan a reducir el estrés del manejo, como el uso de sistemas de monitoreo de vacas. Muchos productores están recurriendo a collares o etiquetas de actividad para alertas de salud y fertilidad del rebaño. Estos sistemas ayudan a reducir los toques estresantes innecesarios a las vacas, permitiendo a los granjeros concentrarse en las vacas que necesitan atención mientras dejan al resto del rebaño en paz.

Permite que las vacas sean vacas

Las vacas te dirán lo que quieren y lo que no les gusta, especialmente cuando se trata de manejo. Si bien el aprendizaje activo es importante, también es fundamental estudiar y comprender el comportamiento de las vacas lecheras para poder anticipar sus reacciones y luego usar ese aprendizaje a nivel de la granja.

Por ejemplo, las vacas pueden ser más sensibles durante ciertos momentos, como cuando están enfermas o cerca del parto. Es fundamental comprender estas situaciones y no agregar ningún estrés adicional que comprometa aún más el sistema inmunológico de la vaca.

Puedes aprender mucho del lenguaje corporal de una vaca. Por ejemplo, la investigación muestra que puedes saber cómo se siente una vaca observando su cola. Si está colgando, es probable que la vaca esté relajada. Cuando su cola está metida, ella está en dolor, asustada o fría. La postura restante de la vaca también puede demostrar signos de malestar, incluyendo una espalda arqueada y una cabeza baja. Si parece agitada, estresada o no come, dale algo de espacio y evalúa la situación desde lejos.



Chris Gwyn
Gerente de Desarrollo de Negocios de Rumiantes Norteamericanos
Jefo Nutrition

La mayoría de los granjeros lo saben, pero siempre es un buen recordatorio acercarse al ganado con calma, moviéndose lentamente hacia ellas y, cuando sea posible, acercarse a ellas desde el lado en lugar de directamente por detrás. Entiende la zona de vuelo de una vaca y ten en cuenta que movimientos bruscos o ruidos fuertes pueden asustarla y estresarla. Una vaca también tiene un punto de equilibrio, que se encuentra en su hombro. Este punto de equilibrio es donde una vaca determinará si debe moverse hacia adelante o hacia atrás cuando una amenaza percibida entre en su zona de vuelo. Reconoce el punto de equilibrio de una vaca al intentar hacerla mover. Por ejemplo, si estás detrás de su punto de equilibrio, es probable que se mueva hacia adelante y lejos de ti. Si te colocas delante de su punto de equilibrio, es probable que se mueva hacia atrás y lejos de ti.

Como sabes, las vacas pueden ser tercas y difíciles de mover y manejar. Sin embargo, nunca debes usar métodos agresivos o fuerza excesiva. El comportamiento de una vaca puede volverse impredecible y posiblemente peligroso cuando está estresada. Golpearla o manejarla mal se traducirá en falta de confianza, y esto puede provocar lesiones tanto para ti como para la vaca. Un manejo consistente y gentil ayuda a construir confianza, junto con establecer una rutina al trabajar con vacas. Les gusta la previsibilidad.

A las vacas también les gusta estar en grupo. Son animales de manada y separar una vaca de las demás durante demasiado tiempo causará estrés. Sin embargo, no apresures a las vacas. Se mueven a un ritmo más lento que la mayoría de las personas, así que permite que las vacas se muevan y caminen a su propio ritmo.

Evalúa tus instalaciones

Instalaciones diseñadas

Continúa en página 11

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Trabajando con ganado: Consejos para minimizar el estrés,
Cont'd de la página 9

adecuadamente son importantes para un manejo de bajo estrés. Si más del 1% de un grupo pierde el equilibrio o resbala al ser movido, debes evaluar tus instalaciones y tus técnicas de manejo. Esto también es cierto si el 5% de tus vacas se niega y tienen que ser persuadidas para moverse. Estas son señales de que algo puede estar mal.

El manejo adecuado es especialmente crítico en el pasillo, el corral de retención y la sala de ordeña. Cuando una vaca está estresada, la adrenalina interrumpe su respuesta de oxitocina y afecta su bajada de leche. Un manejo suave y consistente, especialmente en estas áreas, puede mejorar significativamente la eficiencia y la producción de ordeño.

Procedimientos como el recorte de casco, controles de salud y inseminación artificial requieren un nivel de contención. Asegúrate de que tu equipo esté en buenas condiciones de funcionamiento. Además, limita el tiempo en sistemas de sujeción, como trabas para la cabeza y otros dispositivos, sujetando a las vacas solo el tiempo necesario según el tratamiento o procedimiento requerido.

Instalaciones diseñadas adecuadamente y equipos bien mantenidos pueden hacer que el manejo del ganado sea mucho más rápido, seguro y menos estresante para todos los involucrados.



Foto cortesía de Jefo Nutrition.

Reduce tu estrés

Cuando buscas formas de reducir el estrés y mejorar el bienestar animal en tu granja, la investigación muestra que los agricultores también deben cuidar su salud física y mental, así como la de sus empleados. Un estudio de 2023 en Noruega mostró que los agricultores con un bajo nivel de estrés y un mayor bienestar ocupacional recibieron una puntuación de bienestar animal más alta. En contraste, el estudio mostró que un bajo bienestar ocupacional y un alto nivel de estrés estaban asociados negativamente con su puntuación de bienestar animal.

En otro estudio, investigadores en Canadá encuestaron a ganaderos lecheros para comprender mejor su salud mental y posibles conexiones con la salud y el bienestar de las vacas. Los resultados mostraron que el estrés y la ansiedad del ganadero estaban asociados positivamente con la prevalencia de cojeras graves. En resumen, cuidarse a uno mismo te ayuda a cuidar de tu rebaño.





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The human side of technology: Three ways monitoring makes life easier

Evan Platte for *Progressive Dairy*

AT A GLANCE

Monitoring technology can improve the on-farm work environment and make work easier for owners and employees by streamlining many labor-intensive tasks like sorting cows.

If you've ever shopped for dairy monitoring technology, you've heard about the many benefits for your cows: achieving more-accurate heat detection for greater reproductive efficiency, identifying at-risk cows for earlier interventions, letting cows be cows.

While the cowside benefits of monitoring technology are significant, don't overlook the human benefits for your employees. These advantages go beyond simple labor savings. Monitoring has the potential to enhance job satisfaction, increase worker retention and create new opportunities for your team. Here's how.

Less frustration and injury potential

Let's face it, how fun is it to search for that needle-in-a-haystack cow in a 100-cow pen, separate her from her herdmates and move her into a headlock for treatment? As herd and prey animals, cows' natural behaviors often lead to frustration for the humans that work with them.

Handling animals every day will never be totally frustration-free, but monitoring systems with sorting gates create a calmer and less-stressful environment for cows and workers. Sorting gates that link to a monitoring system automatically divert cows from the milking parlor return lane into a separate pen for breeding, treatment or other management interventions. Employees can focus on meeting cow needs instead of spending time searching for and sorting animals that need attention.

It's also important to keep in mind that a 150-pound person is no match for a 1,500-pound mature Holstein cow. When employees sort individual cows manually, there is always risk of being stepped on, knocked down or pushed against the wall. Automatic sorting gates reduce the chances of human injury – as well as injury to the animal – when sorting cows.

Reducing sources of frustration or potential injury naturally leads to greater job satisfaction, motivation and worker retention. The time savings from technology allow workers to focus on more fulfilling animal care tasks that deliver more value to the dairy as well as to the individual.

Advancement opportunities

Herd managers who spend their lifetimes working on dairy farms develop what some call cow sense – a seemingly uncanny ability to spot a cow that's off her game, often well before anyone else notices. It is difficult, if not impossible, to train someone to have an eye for cows because it is based on years, if not decades, of cattle experience.

Today's dairy labor force doesn't always have that innate ability. Oftentimes, new hires have never worked on a dairy before. With monitoring reports at their fingertips, employees can accurately identify cows needing attention and take appropriate action with each cow. This tool quickly helps build confidence in employees, motivates employees to continue improving their skills and opens doors to opportunities with greater responsibility in different parts of the dairy.

It is not only new hires who appreciate cow monitoring systems. I work with a young second-generation owner at a dairy farm in the upper Midwest who wasn't directly involved with the cows until taking over the dairy a few years ago. Monitoring fills that knowledge gap and builds confidence that the right cows get the right attention at the right time.

Even for experienced workers, activity monitoring often helps identify at-risk cows before symptoms such as droopy ears or higher temperatures are apparent.

Monitoring will never replace a person's cow sense but rather will enhance it. And cows that are identified as at-risk by the monitoring system still require proper disease diagnosis by a veterinarian or trained herd manager. Accurate and trustworthy monitoring technology tools present a great opportunity for worker development and advancement – with or without a lifetime of cow sense.

Teachable moments

Anyone involved with training knows that learning is most effective when workers know the why and not just the how of tasks around the dairy. Consistency and objective task handling are critical in dairy herd management.

Cow monitoring data and reports can help reinforce worker training with real-world examples of why it is important to follow protocols and procedures to the letter. It can be beneficial to show an employee the negative effects on a cow when there is protocol drift in health treatment protocols or other daily management tasks.

For example, rumination data can demonstrate to the feeding crew how delays in delivering feed can affect cows, driving home the importance of consistent feed delivery schedules. By reviewing this data, the feeding crew can see the effects on cows and their rumination when they don't adhere to feeding protocols and/or make mistakes in mixing feed ingredients.

Monitoring data also can present very positive teachable moments by showing how proper compliance leads to the results you want. It is possible to use monitoring data to establish benchmarks, and potentially a rewards system, tied to continuous improvement in cow care.

In summary, technology helps make life easier for employees and better for cows. With labor at a premium, it makes sense to create a positive work environment where accountability, confidence and trust are a given so your employees want to come to work and can focus on doing the best job possible with every cow, every day.



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Review record-keeping methods and retention standards

Katie Wantoch for *Progressive Dairy*

AT A GLANCE

Considerations and methods to develop a simple record-keeping system.

For many dairy farmers, farming is widely viewed as a "way of life" rather than as a business. The Internal Revenue Service (IRS) considers an activity a trade or business if it is conducted with a profit motive. Profit is defined as income or receipts greater than expenses, where expenses include depreciation of capital assets. Just a note, this determination of "profit motive" does not require that a profit be generated, only that there is a motive for making a profit in conducting the activity. For tax purposes, generally all individuals, partnerships or corporations that cultivate, operate or manage farms for a gain or profit – either as owners or tenants – are farmers. Farming activity includes livestock, dairy, poultry, fish, fruit and truck farms.

Farming is a complex business which demands accurate records and careful financial management.



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Both financial and production records are required to provide information the farmer needs to make critical risk management decisions. Recordkeeping begins with collecting and organizing of the farm business's production (physical) and financial (income/expense) information.

Physical records

Production or physical records may be related to:

- *Livestock:* Identification; weights, date of birth, pregnancy rate, calving rate, death loss rate, average weaning weight, average daily gain
- *Crop:* Yields, inputs (fertilizer, seed), pesticide application, irrigation, planting and harvest dates
- *Labor:* Paid and unpaid
- *Weather:* Precipitation, wind, storm events (hail, snow)

Financial records

Financial records that may be kept include:

- Income and expense receipts
- Invoices sent to and from customers
- Checks and bank statements

Methods of recordkeeping

Records may need to be provided to government agencies, lenders, insurance companies, safe handling practices, organic production, etc. One of the most important decisions is deciding how to track production and financial records.

- *Paper:* "Shoebox" method, pen and paper or notebook, ledger book specific to production and/or financial records. This method requires more time, with potential user errors, but is favorable to farmers not familiar with computers. Minor costs are associated with this method.
- *Electronic:* Spreadsheet (like Microsoft Excel, Google Sheets, etc.), business financial software packages (such as QuickBooks or Quicken) or more farm-specific financial software packages (like CenterPoint, Farm Biz, PCMars, Ultra Farm Accounting and others). The program may complete the financial calculations; however, the farmer must have a basic knowledge

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14H016836 DRYDON HAYK x GAMEDAY x Zarek	1,295	1,321
14H016834 SUNDOWN* FROST BITE x Einstein x Medley	1,261	1,469
14H016827 SCAR* FROST BITE x RENEGADE x TARRINO	1,259	1,295
14H016755 SOCKS* GEORGE MILLER x MOONSHINER x Medley	1,256	1,214
14H016677 BREESE Overdo x TOP DOG x BIG AL	1,254	1,159
14H017133 MADRID-P CIRRUS-P x GAMEDAY x ROME	1,245	1,196

YOUNG SIRES CONTINUED	HHP$	DWP$
14H016337 KELSO Prologue x BIG AL x RESOLVE	1,243	1,241
14H016788 ICEFYRE* FROST BITE x Acura x Yoda	1,237	1,337
14H016393 ORGANIC MASSEY x Pursuit x Achiever	1,236	1,363
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of computers, time to learn the software, design the form and enter the receipts correctly. There may be varying costs associated with an electronic method.

• *Outsourcing:* Hiring a professional for recordkeeping. Expect higher costs associated with this method.

Record retention

Regardless of the method a dairy farmer uses, they likely have a lot of documents in storage. Unfortunately, there is not a steadfast retention rule regarding all these records. Several federal agencies have document retention requirements, including the IRS and those related to hiring employees (OSHA, FLSA, etc.). It is essential to understand which categories apply to know what documents to keep.

Document retention guidelines typically require businesses to store records for one, three or seven years. In some cases, farmers may need to keep the records forever.

• Legal documents, such as business formation records, deeds, property appraisals, bill of sale documents, etc., should be kept indefinitely.

• According to the IRS, tax returns should be kept for three to seven years, depending on the situation. The statute of limitations period for income tax returns is generally three years. It is six years if there is a substantial understatement of gross income. A good rule of thumb is to add a year to the statute of limitations period. Using this approach, farmers should keep most of their income tax records for a minimum of four years, but it may be more prudent to retain them for seven years.

• Retain all farm business financial records applicable to income taxes, including depreciation schedules and year-end financial statements, for at least seven years. A certified public accountant (CPA) may recommend keeping accounting records indefinitely.

• All business banking, credit card and investment statements, as well as canceled checks, should be kept for seven years, possibly longer, depending on business or tax circumstances.

• Keep all permits, licenses and insurance policy documents until a replacement is received for expired ones.

• The Fair Labor Standards Act (FLSA) requires employers to keep payroll records "for at least three years." Refer to the federal record retention guidelines for a precise breakdown of requirements for personnel records. For instance, documents relating to exposure from harmful agents must be kept for 30 years after employment ends. In contrast, farmers should keep OSHA accident forms for five years after the incident.


Photo by Mike Dixon.

• Keep job advertisements, applications and resumes on file for at least one year.

Summary

Recordkeeping is best kept simple. There is no "best" record-keeping system for all situations. If the record-keeping method is too complicated, the farmer may be more likely to make mistakes or avoid recordkeeping altogether. Records should provide essential information on a timely basis. Both financial and production records need to be collected and organized to generate management reports for farm business decision-making. Establishing a record retention policy ensures a farmer can comply with record-keeping standards.

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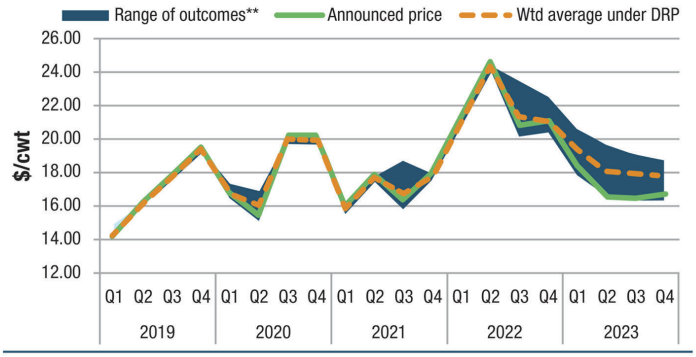
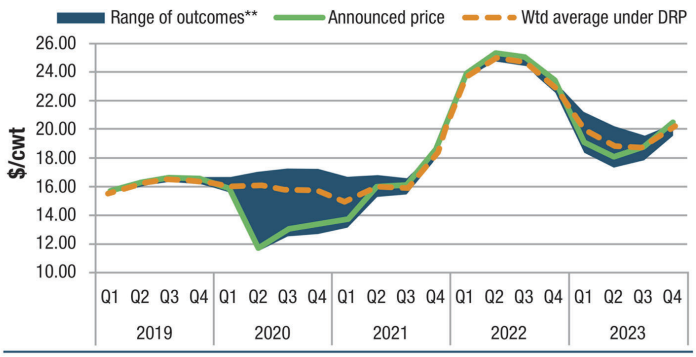
FIGURE 1 Class III price outcomes*, 2019-2023



* Class pricing option only.
** Range does not include YAF.
Sources: USDA-RMA, USDA-AMS, CME

FIGURE 2 Class IV price outcomes*, 2019-2023



* Class pricing option only.
** Range does not include YAF.
Sources: USDA-RMA, USDA-AMS, CME

Maximizing Dairy Revenue Protection: Insights from five years of data

Alex Gambonini for *Progressive Dairy*

AT A GLANCE

Since 2019, roughly 27% of the U.S. milk supply has been covered under Dairy Revenue Protection. The insights gleaned from the last five years of DRP data highlight the importance of strategic decision-making and a long-term perspective in managing risk.

Dairy Revenue Protection (DRP) has emerged as an effective risk management tool for dairy producers, offering protection against unexpected declines in quarterly milk revenue. Introduced in 2018, DRP became available for purchase starting in the first quarter of 2019. From 2019 to 2023, producers covered nearly 300 billion pounds of milk, accounting for roughly 27% of the U.S. milk supply. After five full years of DRP data to look back on, what insights have we gained?

1 DRP has resulted in a positive net benefit to producers

Over the past five years, every $1 producers spent on DRP coverage resulted in $1.78 returned to their wallets. The positive net benefit underscores the value of DRP in helping producers secure profits, particularly during depressed price periods. **Figure 1 and Figure 2** illustrate the benefits of coverage from 2019 to 2023, portraying the range of outcomes under DRP compared to the actual Class III or Class IV price. DRP enabled producers to safeguard against downside price risk with limited opportunity losses. The producer premium (total premium minus premium subsidy) is the only cost associated with DRP, and since the program is designed to insure against declines in milk revenue, there is no limit to the upside if market conditions improve and prices rise.

As another example, **Figure 3** displays the percentile distribution of net to producers (indemnity minus premium) over the five-year period. Although DRP losses were observed up to the 70th percentile, DRP had an unequal distribution of returns. In the largest cases, DRP paid out more than $6 per hundredweight (cwt) while costing producers less than $1 per cwt. The significant indemnity payments during poor-performing periods of the market outweighed the frequency of losses, resulting in an average net gain of 23 cents per cwt over the last five years.

2 Cheaper premiums do not mean greater profits

While cheaper premiums may seem appealing, they do not necessarily translate into greater profits. Over the last five years, most producers tended to secure coverage during the nearest quarter to expiration, primarily driven by the lower premiums associated with nearby coverage periods. However, the overall net benefit of DRP coverage based on the booking horizon indicated an advantage to securing coverage further in advance. Despite the higher premiums, coverage booked two to four quarters ahead yielded a significantly higher net benefit than coverage booked during the nearby quarter. **Figure 4** highlights this, showing that coverage booked in the third quarter from expiration resulted in a much higher average net benefit, despite higher premiums. Opting for cheaper premiums may reduce the chance or magnitude of indemnity.

3 Do not let emotions get in the way

Timing the market sounds like a great idea, but accurately predicting the exact moment when dairy markets change direction is incredibly challenging. Instead, being proactive and consistent in obtaining DRP coverage can help remove emotion from the decision-making process.

To prove this point, **Figure 5** depicts pounds effectively covered



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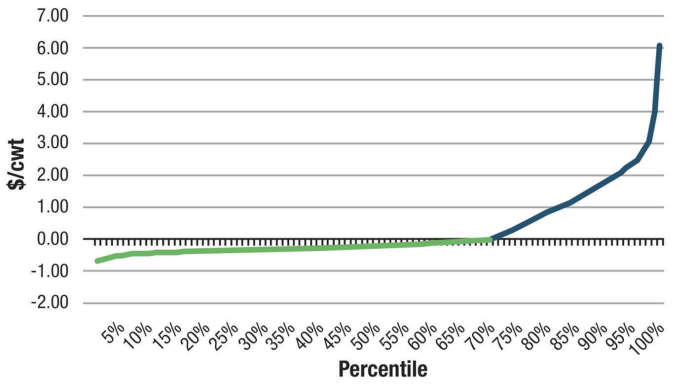
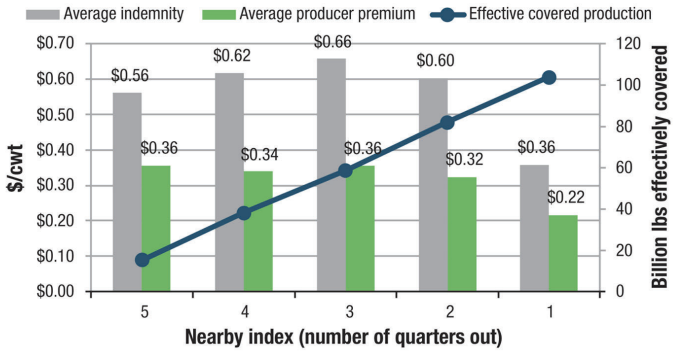
FIGURE 3 Net to producer by percentile, 2019-2023



Source:USDA-RMA

FIGURE 4 DRP coverage by horizon, 2019-2023



Source:USDA-RMA

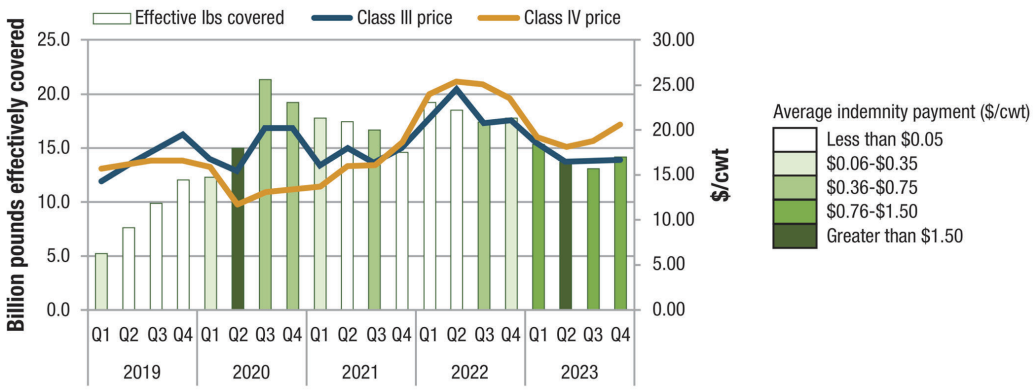
by DRP along with Class III and Class IV prices quarterly from 2019 to 2023, with the shading of the bars representing the magnitude of the average indemnity payment. The figure shows how emotions can influence coverage decisions, with drastic changes in coverage volumes based on market movements.

For example, Class III and Class IV prices sharply declined during the COVID-19 pandemic in first-quarter and second-quarter 2020, leading to a substantial average indemnity payment of $1.79 per cwt in second-quarter 2020. This rapidly increased covered volume, which grew by nearly 42% from the second quarter to the third quarter. However, as Class III prices rebounded dramatically in the third and fourth quarters due to the Farmers to Families Food Box program, fewer payments caused producers to lose trust in the program, leading to reduced coverage volumes in the following quarters.

Moreover, emotions continued to drive coverage decisions over the last two years.

As Class III and Class IV prices reached new highs in early 2022, fewer indemnities were paid out, leading farmers to discontinue coverage for 2023. Coverage volume for the year hit its lowest mark since the program's first year. But, as prices decreased from their 2022 highs, DRP coverage delivered considerable returns to dairy farmers throughout 2023, with indemnities averaging over $1 per cwt in every quarter during 2023.

FIGURE 5 Pounds effectively covered vs. Class III and IV prices, 2019-2023



Source:USDA-RMA

Proactive producers who booked coverage consistently in advance succeeded most during volatile price periods of the dairy market. While leaving emotion out of decision-making is easier said than done, it is essential to keep the overall goal of DRP in mind: protecting revenue from unexpected declines in the market.

The insights gleaned from the last five years of DRP data highlight the importance of strategic decision-making and a long-term perspective in managing risk.

By leveraging the lessons learned from the past five years, producers can better position themselves to navigate the challenges of the dairy market and achieve greater financial stability.

To learn more facts and statistics on DRP over the past five years, check out HighGround's report (www.highgrounddairy.com/drp-five-years-in-review).



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Looking at terminal lactations in a different light: Milking beef

David Cook for *Progressive Dairy*

Twenty years ago, achieving satisfactory reproductive results on a dairy was a key measure of viability. Today, our knowledge of, and ability to, achieve reproductive metrics has revolutionized how we think about reproduction. These changes have allowed us to decouple our thinking on reproduction.

Today, we no longer hope for enough heifer calves or need to push to create enough replacements in our herds. We can now decide on an economically justifiable conception rate and what animals we want to get heifers from. With our additional capacity, we can produce high-quality beef calves that are recently selling for over $600 at birth. Cull cow prices can also be great for quality animals. We now think about heifer calves in terms of specific numbers per week or month. Our excess capacity to produce beef calves is a huge opportunity for dairy.

Over time, bringing in a replacement heifer must result in one dairy animal leaving the farm. If a cow does not leave the farm, then the farm's herd numbers are growing. Depending on the size of the farm, the timeline can be days to months before another cow must leave.

We must also change our thinking about raising replacements and selling cull cows. In a dairy animal's lifetime, she can yield both milk and beef (if she does not die on the farm and is not condemned at slaughter). The cost of replacement is not the cost of raising that animal, but it is the difference between its raising cost and the cull cow price multiplied by the probability of it being sold for beef.

Intentionally managing terminal lactation cows (a cow that has been reproductively culled at least 60 days prior to sale) can yield better cull cow prices and a higher probability of being sold for beef. By definition, increasing the intrinsic beef value of cows reduces the cost of dairy replacements (raising cost minus beef value). Dairies need to set goals for percent of farm revenue from milking animals sold for beef (cows in their terminal lactation) and for a maximum level of death loss. I like to call these animals "milking beef" because it is a constant reminder that our primary value from these animals is beef. To achieve goals for terminal lactation, a dairy must maintain good management of the heifer replacement pipeline, and these need to be decisions that occur years in advance.

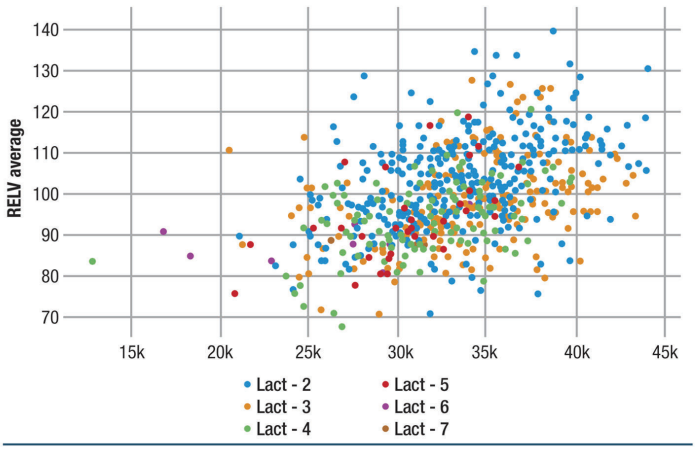
By managing for terminal lactations, the dairy is intentionally identifying cows unlikely to complete a lactation or have a profitable future. The worst thing that could happen to one of these cows is to get pregnant, thereby prolonging unproductive life (a dry period) and increasing the likelihood of disease and possible on-farm death (during parturition). When we manage these animals for the goal of selling as beef, we are also able to generate revenue from these animals via milk production. This type of management waits only for a need to reduce stocking density or a more healthy, more promising replacement to show up at the farm gate.

A few good ways to make early do not breed (DNB) decisions on your milking beef is to look for the following animals in their first week of lactation:

- Animals whose prior lactation output puts them in the bottom 2% to 3% percentile
- Animals who have more mastitis cases than they do lactations
- Animals who have more lame events than they do lactations

Figure 1 is a scatterplot of previous lactation 305-day milk compared with current lactational performance. There is a clear linear trend here: Cows that did well in the previous lactation do well in this lactation. By creating a cut-off (red line) at freshening to identify the lowest-production animals as milking beef, we can improve herd-level milk production by removing these animals from the herd. This allows older, more productive and healthier animals to stay longer due to reduced culling pressure as new replacements arrive.

FIGURE 1



Causes for leaving a dairy are primarily related to low production, mastitis and lameness. Animals known to be predisposed to those conditions should be managed for their beef yield and value. Reducing the population of these animals in your herd also has marked improvements in the dairy value of the herd. These herds tend to have more older cows that produce milk effectively and don't have health issues, which become easier and more profitable to manage.

Before you begin, you must also consider the impact on beef-on-dairy calf sales. This approach of keeping higher percentage of herd open and DNB could produce a lower calf crop. Terminal lactations are likely animals that would have attempted to produce a beef-on-dairy calf, and in some markets that calf has high value. To help understand, look at your farm's history of the animals that were terminal in the past three years. Look at the data and answer two questions: What is the probability the terminal animal would have actually made it to the next lactation, and what is the probability they die or are condemned before slaughter? You can use your historical data to understand the potential profitability of your milking beef by post-hoc analysis of those same animals.



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The success of a milking beef program requires both a high degree of success in reproductive management and transition health management. Have both? You're on the right track to success.

If you are not managing in this way already, talk with your beef buyer, your herdsman, nutritionist and other consulting teams. What would dedicated effort for beef yield do for your revenue? What does that management look like? To implement this strategy on your dairy, start planning today so you can ensure your heifer replacement pipeline can supply the replacement of milking beef.



Benchmarking antibiotic usage on the farm

Melissa Hart for *Progressive Dairy*

AT A GLANCE

Defined daily dose is the adopted measurement for antibiotic protocols and is the number of days an average cow received an antibiotic treatment in a time period.



Staff photo

"Overuse of antibiotics is a very significant threat to our industry," said Dr. Pamela Ruegg, DVM, Michigan State University as she addressed a crowd of dairy producers at the Great Lakes Regional Dairy Conference in Mt. Pleasant, Michigan. "It's something that leads into the whole sustainability issue relative to how are we going to maintain our social contract with our consumers. At the same time, we have to ask, 'How are we going to effectively and freely take care of the animals that we care for?'"

Ruegg went on to show a survey performed by Cornell University of 1,000 consumers who were asked to rank the threat to their personal health based on antibiotic use on dairy farms.

"The results of this survey showed 70 percent of the consumers perceived a moderate to high threat to their personal health based on our use of antibiotics on dairy farms," Ruegg said.

Producers believe they are using the correct amount of antibiotics, but in contrast to milk quality, reproductive performance and milk yield, the industry has no key performance indicators for it.

"If you can't benchmark it, then you have no goals for it and you can't see where you are with it," Ruegg said.

Benchmarking allows a way to measure something and see where you are compared to your contemporaries. This is where the defined daily dose (DDD) comes in; the DDD is the adopted measurement for antibiotic protocols and is the number of days an average cow received an antibiotic treatment in a time period. Therefore, 5 DDD per cow per year means the average cow received a labeled dose of an antibiotic for five days in a year.

Ruegg has performed lots of research on antibiotic use in the Midwest, but if it doesn't provide a way to improve practices, how beneficial can it be?

With a plan in hand, Ruegg and her colleagues developed an antibiotic benchmarking tool for producers to use in their computer systems. The tool will help farmers measure antibiotic usage in adult cows and pre-weaned calves with the goal of helping the farm's advisers understand how to use antibiotics responsibly, while maintaining animal welfare.

Following the prompts in the system to identify all events, chores or protocols that are used to record antibiotic usage, farmers can create a report and examine it to make sure their treatment protocols are correct. When they have calculated the DDD per cow per year, they can then compare to validated peer farms. If good record-keeping systems are in place, these reports can generate not only the average DDD for a period of time for the herd, but what each treatment was, how often it was given and where the herd ranked with other herds.

This benchmarking has shown there is great variation in antibiotic usage from farm to farm. It has also shown that mastitis treatment during lactation or at dry-off accounts for most of the doses per cow. This data was collected from 74 farms in three U.S. states. Some farms show zero use, and other farms are as high as 11 DDD per cow per year.

Ruegg said you need to consider three things when evaluating your antibiotic practices.

"One, you can go with your normal protocols. Two, consult with your local vet to go over protocols for mastitis, metritis and pre-weaned calves, or three, you can ask yourself, 'Do I really need to treat for six days or can I treat for the label duration of three days?'" Ruegg said.

The ultimate goal for any farm is to prevent bacterial diseases so antibiotic usage is not needed. According to Ruegg, producers need to determine incidence of the big five bacterial diseases, and those include clinical mastitis, metritis, BRD, foot diseases, calf diarrhea and pneumonia. Then they need to review the duration of the treatments of mastitis and metritis. And finally, consider selective treatment of non-severe clinical mastitis and selective dry cow treatment.

Ruegg offered producers the option to benchmark their farms by visiting the dairy antibiotic benchmark website (dairyantibioticbenchmark.msu.edu/).

Melissa Hart is a freelance writer based in Michigan.







Implementing an autogenous vaccine for pinkeye: It's so easy, even an academic vet can do it

Jessica McArt for *Progressive Dairy*

AT A GLANCE

Pinkeye development, treatment and prevention, and how to create and implement an autogenous vaccine.

A few years after I started my position as a veterinarian in Cornell University's Ambulatory and Production Medicine Clinic, I inherited the primary vet work for a large dairy farm upon the retirement of my boss. At the same time I began working there, the dairy experienced an outbreak of infectious bovine keratoconjunctivitis, better known as pinkeye, in which the incidence of cases in 4- to 5-month-old heifers skyrocketed from 3% to 80% and much of the lactating herd became affected.

After my initial panic, I reviewed the scientific literature on pinkeye development, treatment and prevention, which I describe below along with my personal experiences creating and implementing an autogenous vaccine for pinkeye.

Pinkeye pathogenesis and the importance of environment, management and nutrition

Pinkeye can be caused by several agents including viral, fungal and bacterial, with commonly implicated agents being moraxella spp., specifically *M. bovis* and *M. bovoculi*, and mycoplasma spp. Interestingly, these bacteria are also found on the ocular surface of healthy calves, which means presence of the bacteria alone is not enough to cause disease. As we know from many other bovine diseases, there is an important interaction among an animal, an infectious agent and the environment. The presence of flies, dust or other mechanical irritants and a weakened immune system due to poor nutrition, environmental stress or lack of antibodies can initiate a cascade of events that increase the ability of these bacteria to cause clinical disease.

Pinkeye is characterized by visual changes to the cornea (the clear part of the eye) and the conjunctiva (a clear covering over the white part of the eye) caused by the body's response to bacterial invasion. We see this clinically as an increase in tear production, blinking, edema of the cornea (which turns it a bluish color), corneal ulceration, presence of small blood vessels in the cornea and light sensitivity. As you can imagine, this is quite painful.

Fortunately, pinkeye is a self-limiting disease, and most animals heal within 60 days with only a small, pinpoint corneal scar left as a reminder. However, a small percentage of animals develop more severe ocular inflammation which results in permanent blindness and/or eyeball perforation.

Unfortunately, few antibiotics are labeled for treatment of pinkeye, most antibiotic treatments minimally shorten the duration of the disease, and adequate pain control can be difficult. In addition, the sheer number of affected animals during an outbreak can make treatment logistically frustrating. As such, prevention of pinkeye is much more rewarding and successful.

Creating an autogenous pinkeye vaccine

Given the high incidence of cases in the herd I was working with, in addition to managing the current chaos, I decided to adjust the farm's pinkeye vaccination program, as their current program was certainly not working. After some research and discussion with other bovine veterinarians, I decided to go with an autogenous vaccine.

Although there are commercial vaccines available for pinkeye, none contain multiple agents (*M. bovis*, *M. bovoculi* and mycoplasma spp.) responsible for the disease. Also, the large antigenic variation among bacterial strains (differences in the molecules the bacteria expose to the animal's immune system) requires a vaccine that can keep up with these changing antigens over time. In addition, bacterial strains can differ between farms. So I wanted to use a vaccine that would continue to be effective on this specific farm.

Making an autogenous vaccine is not as complicated as you might think, and your herd veterinarian can follow these steps to create a farm-specific vaccination protocol.



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"The Box" containing swabbing supplies needed for identification of causative pinkeye agents.



Photo provided by Jessica McArt.

Fortunately, pinkeye is a self-limiting disease, and most animals heal within 60 days with only a small, pinpoint corneal scar left as a reminder. However, a small percentage of animals develop more severe ocular inflammation which results in permanent blindness and/or eyeball perforation.

Step 1: Collect swabs. "Swabbing eyeballs," as I call it, is the most important step in the process. This tells us what organisms we are dealing with and becomes the foundation of our autogenous vaccine. For me, this step involves a call to my technical service veterinarian at Vaxxinova (formerly Newport Laboratories) to request shipment of "The Box." The Box is my favorite part of pinkeye prevention, as it contains everything a veterinarian needs to collect and submit swabs including viral and bacterial media, a submission form and a prepaid shipment label.

I swab a total of five animals, each with swabs intended for viral and bacterial media. It is of utmost importance to swab the correct animals, which are those in the early stages of disease, seen with that tear-streaking stain running down their cheeks. Swabbing animals with more advanced disease, such as those with corneal edema or ulcers, will not provide helpful results.

After swabs have been collected, simply fill out the submission sheet and add a cold pack to the box along with the samples, and off it goes via overnight shipping to the diagnostic lab.

Step 2: Consult with diagnostic lab. Swabs are tested quickly for infectious agents and a first report is provided within one to two days of submission by my technical service veterinarian. If swabs did not find causative agents, or there is reason to suspect not all infectious agents were found, a re-swab might be necessary.

Once preliminary results are solidified, bacterial strains are "typed" to assess their antigenic potential and any shift in strain type since a previous swabbing event; this takes another four to six weeks due to the length of time needed to culture mycoplasma.

From here, a conversation between your herd veterinarian and technical service veterinarian will determine the number of bacterial strains to include in the vaccine, and vaccine production will begin. It is important to realize that vaccine production takes approximately 10 weeks, so staying on top of swabbing before outbreaks occur is critical.

Step 3: Create a herd vaccination protocol. Work with your herd veterinarian to create a vaccination program aimed at disease prevention. Like other vaccines, autogenous pinkeye vaccines work best if administration of an initial and booster dose are completed a month before the peak of disease incidence. For my herd, this meant vaccinating calves at 3 months old with a booster at 4 months old. In addition, since much of the lactating herd was affected, we also gave two doses to all cows. From there, we integrated the vaccine into a routine herd schedule for calves, heifers and cows.

Response and adjustments to vaccine schedule

When the calves that received the pinkeye vaccine at 3 and 4 months old reached the barn where

Continued on page 38

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Implementing an autogenous vaccine for pinkeye: It's so easy, even an academic vet can do it, cont'd from page 37

our pinkeye incidence usually skyrocketed, we found that the incidence of affected calves dropped dramatically to less than 5%. Similarly, new pinkeye cases in the lactating herd dropped to zero about a month after administration of the booster dose. My excitement (and relief) was immense.

Cases remained low for eight months when, much to my dismay, I walked through the heifer barn and saw a huge number of pinkeye cases again in our 4- to 5-month-old calves. Turns out that the calves were doing so well, and pinkeye cases were so low, that the heifer manager decided to stop vaccinating. After a brief and firm conversation, vaccination was again begun, and I took the opportunity to swab eyeballs to create an "updated" vaccine. As discussed above, we need to keep up with pinkeye – not only do bacterial species shift but strains of bacteria shift, and thus our vaccine needs to change over time to remain effective.

After switching to the updated pinkeye vaccine, the farm sailed along without issue for another 10 months, at which point we had a resurrection of pinkeye cases in calves. I tracked down the heifer manager again, and it turns out they ran out of vaccine without notifying me of their low stock. This, unfortunately, was a serious issue, as it takes a good four months from swabbing to vaccine shipment. I set off swabbing eyeballs for a third time and modified our vaccine notification protocol to attempt a continuous future supply of vaccine. Fortunately, after dealing with a high incidence of pinkeye in calves for the following four months, implementation of our newly produced autogenous vaccine again reduced the number of pinkeye cases to near zero.

Being a bovine veterinarian is never a boring job, and a year-and-a-half later we again had a pinkeye outbreak, but this time in 3- to 4-month-old calves. Discussion with the herd and heifer managers confirmed the vaccine was being given according to our usual schedule; however, they noted changes in barn movement patterns and barn cleaning frequency. It was clear these management adjustments had increased the social and environmental stress on the heifers, and we decided to add an additional dose of vaccine at 2 months old. This adjustment ended the pinkeye outbreak and remained an effective strategy for a year-and-a-half, at which time we had yet another pinkeye outbreak in 3- to 4-month-old heifers. No changes were reported in vaccine administration or heifer movement or management. I was concerned we had experienced a large shift in bacterial strain, so I swabbed eyeballs again. Lo and behold, we indeed had a large shift in several bacterial strains which had resulted in our vaccine's ineffectiveness. An updated vaccine took care of the problem, and in discussion with the herd manager, I decided to maintain a six-month swabbing and vaccine production schedule going forward to stay on top of vaccine shifts.

What I learned about pinkeye and autogenous vaccines

Pinkeye can be a large and annoying issue on many dairy herds in both calves and cows. Treatment is often unrewarding and extremely labor-intensive, and the pain associated with pinkeye is a welfare concern.

To create the best environment for our calves and cows to succeed, we must remember that disease development depends on a triangle relationship among the animal, the infectious agent and the environment. In addition to good housing and nutrition, implementation of an autogenous vaccine for pinkeye can be a powerful tool to prevent disease.

FOUR KEY POINTS TO REMEMBER WHEN ADDING AN AUTOGENOUS PINKEYE VACCINE TO YOUR HERD:

- Maintain good communication between your herd veterinarian and the farm management team to discuss changes in vaccination protocol or farm management practices.
- Be ready to adjust the vaccination schedule over time depending on the age of animals experiencing a pinkeye outbreak.
- Set up a regular schedule for the herd veterinarian to swab eyeballs to stay in front of bacterial strain shift events, as an updated vaccine takes four months to create from swabbing to delivery.
- There is great technical service support for pinkeye vaccine development and implementation, so do not be afraid to ask for help.

Butterfat 101: There's more to it than nutrition

Robert Krammes for *Progressive Dairy*

AT A GLANCE

Several key nutrients to optimize maximum butterfat production and how your attitude can drive it.



Photo courtesy of Standard Dairy Consultants.

Kyle Krammes collects consumed feed from the esophagus prior to entry into the rumen at the Miner Institute.

Do you believe a 5% butterfat for Holstein herds or 6% Jersey herds is attainable? Why not? The way we think about something drives how we address the circumstances. Establish your goal and write it down. Make a poster and hang it in the barn where everybody can see it. If individual cows are capable of it, then there is little reason to think it isn't possible in a herd. This article will address several tangible factors related to butterfat, but it all begins with mindset.

What we feed to optimize butterfat

All we have to do is balance the ration to maximize fat, right? Regarding the number of variables involved in ration formulation, few diets are ever truly balanced. Consider the word "optimized" instead. Let's look at several key nutrients that must be optimized for maximum butterfat production.

Fiber

The foundation of any good ration is fiber. Without adequate fiber, we cannot maintain a healthy rumen. To maximize profits we need to be careful not to overfeed fiber, which may inhibit intake and production. Higher fiber or long particles don't necessarily equate to higher butterfat. The goal is to hit the sweet spot where we maximize intake with minimal eating time. This allows more time for ruminating, preferably while lying down.

Nutritionists use a variety of measures to ensure good rumen function, including NDF (neutral detergent fiber) and peNDF (physically effective NDF). I like to look at the amount of NDF that comes from forage. If the NDF from forage is around 21%, we should have enough for good rumen function. The peNDF should also be close to 21%, as most peNDF comes from forage. To calculate peNDF, the TMR is shaken through the Penn State Particle Separator. The percentage of particles remaining on the top three sieves is multiplied by the total NDF in the diet. Diets with adequate peNDF are often between 18% and 21%.

A recent visit to the Miner Institute gave my colleagues and I new perspectives on particle size. We learned that regardless of the length of material a cow consumes, she chews it down to half-an-inch or less before the feed enters the rumen. This dispels some myths about the necessity of feeding long hay to cows.

Starch

Much of the energy in a cow's ration is derived from starch, which predominantly comes from corn silage and corn grain. Many associate low butterfat with feeding too much starch. Don't be afraid of starch; instead, use it to your advantage. We often successfully balance one-group TMRs between 25% and 32%. Significant reasons to feed depend on grain processing and peNDF available in the ration.

One of my clients with a rolling herd average (RHA) fat greater than 1,350 pounds feeds a diet containing 28 pounds of corn silage (dry matter) with a dietary starch of 30.5%. The forage NDF is 21.27%, and the peNDF is about 20%. The herd is achieving a 4.6% fat with excellent herd health and reproduction.

Fat

Fat plays a critical role in high-producing dairy herds. Total fat can be categorized into saturated and unsaturated fats. Too much unsaturated fat can upset normal rumen function and cause low butterfat. Most of the butterfat problems I encounter are tied to an imbalance of fats in the diet.

In September of 2023, one Pennsylvania farmer struggled with a low butterfat of 3.4%. Because of their proximity to an ethanol plant, they bought wet distillers grain below market prices. Their ration contained 6 pounds of wet distillers on a dry matter basis. Manipulating starch, fiber and minerals didn't seem to help improve butterfat percentage. Last year, I convinced the dairy producer to discontinue the distillers due to the high unsaturated fat content. Instead, we added 5.5 pounds of dry matter of roasted, high oleic beans. Other ration nutrients remained relatively the same. We saw an immediate response within a few weeks. The butterfat went to 4% and is maintaining. Body condition and heat observation have also improved.

There has been increasing interest in supplementing specific fatty acids, such as palmitic acid (C:16). Many nutritionists and producers that feed high levels of palm fat usually see an immediate butterfat response. However, after long periods, cows may lose body condition if they do not receive adequate energy from other sources, and reproduction can be compromised. Because palm fat directly transfers to the mammary gland, a higher butterfat test could mask acidosis. Butterfat alone is not the best indicator of herd health; therefore, palm fats should be used wisely. Consequently, cows require a combination of fatty acids (**Table 1**, page 40).



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Minerals

Sodium bicarbonate gets the lion's share of attention when we talk about minerals related to butterfat and is typically fed at 0.9% to 1% of the diet. In addition to contributing to rumen pH buffering, it increases DCAD (dietary cation-anion difference). DCAD is not only important for dry cows but also in lactating diets where metabolic buffering is thought to increase milkfat production.

How we manage

Feeding and push-ups

TMR is delivered to the bunks before the sun rises at most farms. The process is repeated 10 to 12 hours later. The question: Is this often enough? The data indicates that cows respond best if fed multiple times

Continued on page 40

If butterfat is depressed or you're not progressing, it may not be your fault, but it is certainly your responsibility. Ask yourself objectively: "Am I the cause or the cure for the challenges I'm faced with?"

TABLE 1 Common fatty acids in dairy nutrition

Name	Chain length	Saturation	Functions
Palmitic	C16:0	Long chain saturated	Found in great quantity in milk, drives butterfat
Stearic	C18:0	Long chain saturated	Most predominant FA available for absorption
Oleic	C18:1	Unsaturated	Improves body condition, fertility, needed in early lactation for portioning energy reserves
Linoleic	C18:2	Unsaturated	Sufficient in diet
Linolenic	C18:3	Unsaturated	Omega-3 improves fertility and embryo survival

Butterfat 101: There's more to it than nutrition, cont'd from page 39

throughout the day – measuring rumen pH is an example.

Ideally, rumen pH will fall between 6.2 and 7. However, averages can be misleading. You wouldn't be comfortable if one foot is in boiling water and the other in a bucket of ice. Cows may fall below 6.2 and, at times, reach the 5.5 range. This is often the result of the slug feeding effect; constant access to feed helps prevent large meals and reduces time spent below pH of 6.

Our group often conducts camera studies. It is not uncommon to find cows out of feed or unable to reach the feed for six to eight hours in the evening. We will see cows come up to the bunk, stand around and then walk away. The occurrence represents a missed meal. Cows always need feed available. We should stimulate the cow by feeding or pushing up feed at least six times per day. Having feed available always minimizes slug feeding and reduces the time she needs to spend at the bunk, allowing for more lying and rumination time.

Cow comfort

Stall design, lack of bedding material and overcrowding are the leading causes of a cow not lying down enough. Ideally, cows should lie down 12 hours per day or more. I worked with a herd that milked cows in three locations, all of which received the same ration. One of the farms was overcrowded by 50%, and the butterfat was routinely five-tenths of a percent lower than the other two farms.

Are your cows ruminating enough? Rumination is critical for saliva production, which significantly contributes to rumen buffering. Many farms now utilize cow monitors – besides the obvious identification and activity monitoring value, we can track rumination and resting times. The healthy cow ruminates between 500 and 600 minutes daily. Ration adjustments have an immediate impact on ruminations.

How we breed

The power of genetics comes into play here, and I learned this lesson early on. In April of 1998, Ju-Vindale Avant-Garde Mona was sold as Lot No. 1 at the "Joys of Ju-Vindale" sale, and I became the owner. Mona completed her third lactation with a butterfat of 4.6%. In 312 days, she made 1,166 pounds of fat. Mona is an example of the "model cow" because she had type, high production and longevity. In her fifth lactation, Mona produced 41,341 pounds of milk and 1,995 pounds of fat in 365 days. Her butterfat average was 4.82%, and that was 25 years ago.

With all the reproduction technology available, there are no excuses. Breeding for components should be a priority. Genetics is a relatively small percentage compared to all the farm expenses and offers great returns over time.

If butterfat is depressed or you're not progressing, it may not be your fault, but it is certainly your responsibility. Ask yourself objectively: "Am I the cause or the cure for the challenges I'm faced with?" Make your own list of things you can do to improve butterfat. Discuss the list with your team of trusted advisers and stakeholders. Strive to check as many boxes as possible, and remember your success begins with mindset.

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PROGRESSIVE DAIRY

Manure and minimum tillage: It's a balancing act

Contributed by **Chryseis Modderman**

In the manure management world, we're constantly telling you to incorporate your manure into the soil; get it under the soil surface as soon as possible after application, or you could lose up to half of your total nitrogen. This advice directly contradicts soil health advice that advocates for minimum soil disturbance. Both recommendations are correct, and manure use and soil health are complements, not contradictions; so, what is a producer to do?

Why do we recommend manure incorporation?

We're trying to minimize volatilization and nutrient stratification. Volatilization occurs when the ammonium form of nitrogen in manure converts to ammonia gas and is lost to the atmosphere. Volatilization is minimized when manure is incorporated into the soil and not left on the surface. Most of this loss happens within the first 24 hours of application, and after four days, we consider nearly all the ammonium form nitrogen (N) to be gone. Remember, manure contains two forms of N: organic N (not immediately plant-available) and ammonium (is immediately plant-available). That means not all the manure's N will be lost – the organic N will stick around – but the form that plants can immediately use will mostly be lost to the atmosphere. The organic N can eventually be used by plants after it is broken down by microbes in a process called mineralization.

Nutrient stratification is the layering of nutrients in the soil. Without the soil mixing that tillage provides, nutrients tend to accumulate heavily in the first couple inches of the soil, which stimulates root growth near the soil surface. In general, plant roots seek out and grow toward the components they need to live, such as water and nutrients. So, if soil water is not a limiting factor where the root would mine deeper to find moisture, root growth will tend to remain shallow. A shallow root system may lead to root lodging from lack of a good, deep anchor. Another concern is nutrient pollution from runoff and erosion of the soil surface. Nutrient stratification is not just a manure challenge; it affects commercial fertilizer applications as well.

What should producers do?

There's no easy answer here, and those with success in both manure management and soil health will understand that it's a balancing act and it all boils down to what works for your operation. Fortunately, minimum tillage systems often already have factors working in their favor to minimize the consequences of volatilization and nutrient stratification. Many no-till fields have ample crop residue and remaining roots, which help hold surface-applied manure better than the bare soil of conventional tillage. Just as healthy soil improves rainfall infiltration, liquid manure applied to the surface will find its way into the soil more easily than in fields with degraded soil structure due to excessive tillage. Also, even if nutrients are concentrated at the surface, runoff and erosion of those nutrients are less likely in systems with good soil structure and cover.

If an operation isn't strictly no-till, minimum disturbance injection and tillage are options to get the best of both worlds, as any small amount of incorporation will help retain ammonium, and even a small reduction in soil disturbance can improve soil health. Though, keep in mind that soil type and moisture will impact how much soil is turned up and disturbed, even with minimum disturbance tools.



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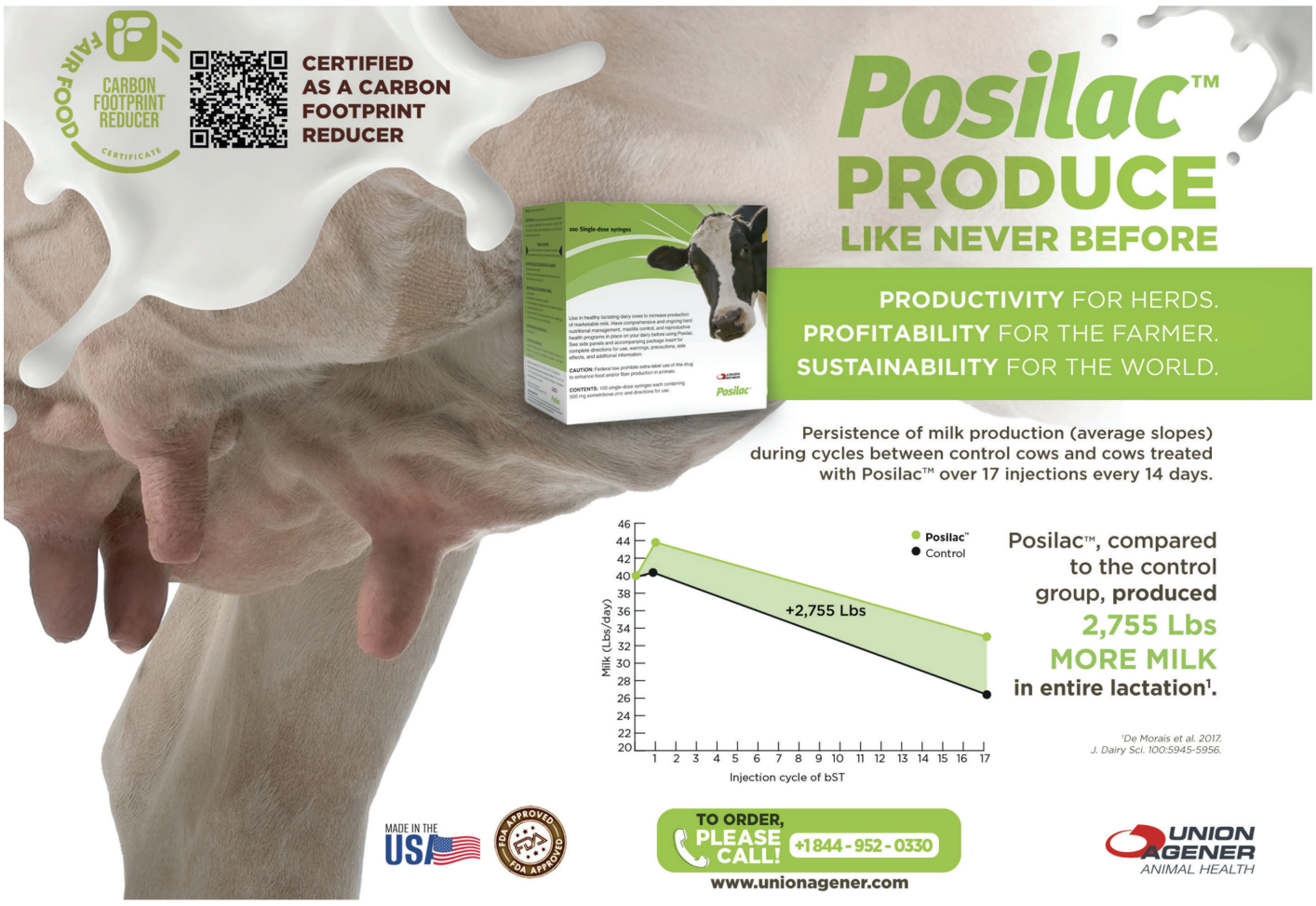
Remember that going no-till is not a black-and-white decision. Some operations choose to do both no-till and conventional till, sometimes within the same field, depending on the ammonium content of the manure, soil type and moisture, and proximity to sensitive features like tile intakes or streams. Every producer and operation must consider all factors and make the best decision for their manure management and soil health goals while balancing finance and environmental protection considerations.

This article first appeared in the West Central Research and Outreach Center March 2024 newsletter.





NEW HIRES

Progressive Dairy would like you to meet:

Brian Wesemann

Executive Director of Sales – North America
Golden Calf Company
Burlington, Illinois
brian.w@goldencalfcompany.com

What education are you bringing with you to this position?

Bachelor of Science, animal science with dairy emphasis from University of Wisconsin – Platteville.

Please describe your agricultural background.

I was born and raised on a registered Holstein dairy in northern Illinois. Most of my career I've been blessed to help dairies and calf ranches improve animal welfare and business profitability. I am a past and current Dairy Calf and Heifer Association (DCHA) board member contributing to gold standards development and am currently on the board and assisting with the 2024 meeting coming up on April 9-11 in Westminster, Colorado.

What territory will you cover?

United States and North America.

What are your new responsibilities?

I will partner with dairies to improve colostrum management. This company has a variety of flexible offerings to help dairies improve colostrum management and reduce time spent on more tedious tasks like cleaning and focus more on other calf-centric efforts. Expanding the number of herds we are working with that prefer a direct U.S. manufacturer relationship.

What previous positions have you held?

My career has been blessed with opportunities in calf housing, nutritional ingredients, nutrition and animal health in sales and sales management for four employers. These were typically small to medium privately held businesses in which I have been fortunate to contribute to a number of product launches while helping more dairies and calf ranches realize the benefits of great products. I have been fortunate to lead some talented sales people focused on helping dairies improve animal health while improving farm profitability.

Who has made the biggest impact on your career?

I have been very fortunate to learn and observe from many special people. My family – specifically my dad and grandpa. Both successful dairymen and farmers. My first employer, Lance Hampel of Calf-Tel, took a chance on a confident farm kid with a college degree and provided an amazing opportunity to learn about entrepreneurship. Many other successful agribusiness people I have met. A short list that I consider include Nick Robinson, Courtney Booth, Skipper Carlisle, J and Marene Hall, John Osborne.

How will you be of most help to producers in your region or area of expertise?

I look forward to working with herds to improve calf health by helping their calf team have the tools, processes and knowledge they need to consistently do an important and challenging job. My goal is to provide solutions that are simple, consistent and as cost-effective as possible. Saving a couple of minutes per calf with improved cleanliness will improve the herd of the future and help keep employees and calves happy today.

Why did you choose this company?

Founders Andy and Dagmar Beckel are great people committed to helping dairymen and calf raisers. Andy grew up milking cows, like I did, and is committed to helping American dairy farms stay successful by pushing for more innovation. The company is focused on the calf and colostrum management area, which research shows every year has important immediate and lifetime value in bovines. I like how customer-focused and committed to U.S. manufacturing they are.

What goals would you like to accomplish while in this position?

I'd like to partner with more herds each quarter to improve calf health and help them get the most value from their liquid gold – colostrum. Doing that will allow this U.S.-based family company to grow while supporting U.S.-based family companies – dairy farms – that help feed our nation and the world.



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Dream politician

By **Yevet Crandell Tenney**



Some time ago, I was sitting on the stairs with my grandson. He is a cute little blond fellow of about 2 years old just learning to talk in full sentences. I was yawning and said, "Honey, I am so tired."

He said, "Grandma, go to sleep."

"Who will watch you if I go to sleep?"

"I will watch myself," he replied.

"What will you do if you get in trouble?" I smiled.

He didn't skip a beat, "I will put myself in timeout."

Children are so guileless and unassuming. They don't weigh words and predict what will happen if choices are made; they don't plan out their responses to please the crowd. They just act from innocence and tender feelings. They are blatantly honest. What would the world be like during an election cycle if we could trust our politicians like children?

We are again in the middle of a primary election, and again we realize that politics is the art of telling people what they want to hear. Truth, on the other hand, is telling it like it was, is and eventually will become – no hazing, hem hawing or beating around the bush. No excuses. No bluffing. Just the plain un-airbrushed truth. Not a cardboard figure painted by the media. Not a makeover to sell the gig. Plain and simple. The journey is an open book for all to read. I stand for right and justice every time. I don't fear the false witnesses with their lie-weaving, wagging tongues. They can spin their lies in tiny half-truths and spread them with gnawing sound bites, but truth seekers will always uncover the lie. Oh, for a politician like that.

What if a politician said, "My Savior is my judge, and I face Him every night and every morning. I know I must answer for my choices. My right hand knows what my left hand does. My heart and head are connected by a firm desire to serve my God. My actions are in full-blown daylight. No dark-shadow rooms with sleazy deals and backdoor promises. I surround myself with honest, good-hearted people who will labor side by side with me to save liberty, freedom and the Constitution. I am who I say I am, and I do what I say I will do. My voting record and my speeches are never at variance. Prove me and you will find my integrity."

Oh, to find a candidate like that.

I wish we had a Moses or a Joshua, maybe even a young David to fight our Goliaths. A Joseph who was sold into Egypt would be nice. He would know what to do in this economically uncertain time because he had a direct channel always tuned into God. What about the fiery furnace guys – Shadrach, Meshach and Abednego – who refused to kneel before the idols of the king even under strict command and pain of death? I would even be glad for a Daniel who trusted God even in the den of ferocious lions.

Where is our modern George Washington who refused to be crowned king? He chose to be president, which was a title without much grandeur of significance in his time. Where is our Lincoln who led us through one of the darkest hours of our nation's history? He said, "Character is like a tree and reputation like a shadow. The shadow is what we think of it; the tree is the real thing."

Politicians, as all of us, prove their character by the things they do and not what they say. Politicians have the uncanny ability to forget their past deeds and expect us to accept their statements even though we see them saying and doing the exact opposite on another occasion. I wonder sometimes if politicians think they are living in a one-dimensional box where others can only see what they want them to see, or they think their audiences are amnesiacs who can't remember from one sound bite to the next.

Maybe those politicians don't have their audiences figured right. They know we are not listening to the sound bites at all. We are on our devices engaging in our favorite game, watching the latest movie or just plain texting our days away. They think we are too busy to pay attention to sound bites and little lies that change the Constitution, incrementally locking one more link in the chain around the neck of our freedom. Politicians gamble that we are so far gone that we don't care what happens to our country. Maybe they are right.

God forbid!

Most Americans feel about the country like Sir Walter Scott wrote in "The Lay of the Last Minstrel":

We need those heroes who have childlike honesty to tell it like it is without a personal agenda or secret backdoor friendships. Someone who believes God is the same yesterday and forever and is a God who will hold us accountable for the choices we make.

Breathes there the man, with soul so dead,
Who never to himself hath said,
This is my own, my native land!
Whose heart hath ne'er within him burn'd
As home his footsteps he hath turn'd,
From wandering on a foreign strand!

The American people are a slumbering dragon that is about to wake up. One sleepy green eye is focusing on the treasure of freedom that is being stolen by the moral pygmies in our government. The dragon's hot breath is mounting inside making ready for explosions of righteous indignation that will make the Hobbit's battle look like child's play.

I trust that somewhere there is a Moses who will, through the power and grace of God, bring down the plagues of Egypt and with his staff, part the Red Sea and allow the righteous to walk through the river of adversity on dry ground. Of course, the righteous must put God first and give homage to Christ, who is the king and savior of this land.

I believe God will raise up a Joseph of Egypt to teach the followers of Christ to prosper in these uncertain economic times. He will teach us to put away our toys and focus on things that really matter: God, family, food, shelter and caring for the poor among us. He will teach us to forgive and bring together our broken and blind. He will motivate us to put on color blinders to see all people as children of God. He will help us see there is power and protection in serving the God of this land.

There will be those who, like Shadrach, Meshach and Abednego, will honor God despite political winds. Those who honor God, God will honor. He promises that. We have seen God fulfill his promise in the past, and we will see it in the future. The fiery furnace was not a fairy tale for children to enjoy. It was a miracle given to honor those who honored God. If it happened then, it can happen again.

We will see Daniel come out safe from the lion's den. These men will be among us and will seem like ordinary people, but God will make them strong with His power. They will work miracles in His name. He will teach them to prosper, but we must recognize His hand in our lives and rise up to become the champions of the future.

Perhaps we are the Moseses, Josephs and Daniels of the future. Perhaps we will lead people from lions' dens. Maybe we are the ones who will rise up and call down the powers of heaven. God is no respecter of persons, but he favors those who follow Him and keep His commandments.

If we are going to call down the powers of heaven, we must throw our idols to the "moles and the bats," as Isaiah says, and stand for truth no matter where we find it. We must seek the gift of discernment to sort through a media filled with too many opinions and not enough facts. If we are the needles that will wake the slumbering dragon to save our freedom from the politicians who have lost touch with the truth, we must pray and vote for those leaders who will champion the truth and the Constitution because God honors those who honor Him. He will honor a president who leads in righteousness as He did Washington and Lincoln. We need those heroes who have childlike honesty to tell it like it is without a personal agenda or secret backdoor friendships. Someone who believes God is the same yesterday and forever and is a God who will hold us accountable for the choices we make.

Yevet Crandell Tenney is a Christian columnist who loves American values and traditions. She writes about faith, family and freedom.

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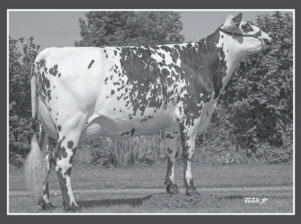

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Carolyn Cooks!

This hearty soup – adapted from the cookbook, "Eat at Home Tonight" by Tiffany King – certainly hits the spot on a cold, blustery day. Serve with fresh bread for a fairly quick and easy meal.

The recipe is somewhat forgiving: I added more broth, corn and potatoes, and it still turned out great.

Have a great recipe that includes dairy? Submit your favorites to editor@progressivedairy.com

Vegetable and sausage chowder



1 medium onion, diced
1 pound Italian sausage
2 Tablespoons butter
3 Tablespoons flour
2 cups chopped potatoes
1 red bell pepper, diced
32 ounces chicken broth
1 bay leaf
1 cup frozen corn kernels
1 cup half-and-half
Salt and black pepper, to taste
1/2 cup shredded Parmesan cheese

Slice the sausage into bite-size pieces. Brown sausage and onion in a large pot over medium heat. After sausage is cooked, add the butter until melted. Stir in the flour and cook while stirring for one minute. Add the potatoes, bell pepper, broth and bay leaf. Bring to a boil and cook until potatoes are tender. Stir in the corn and half-and-half. Cook the soup for 5 to 10 minutes more. Do not let the soup boil. Season with salt and pepper. Discard the bay leaf.

Serve the soup in bowls, topped with shredded Parmesan.

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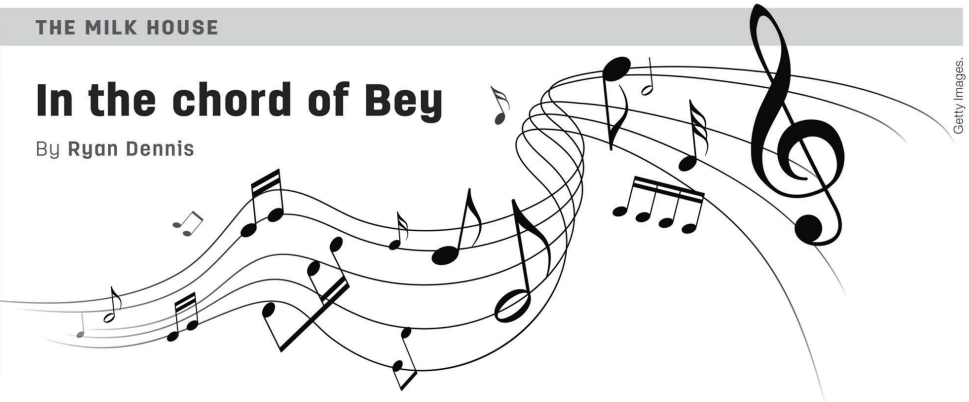
In the chord of Bey

By **Ryan Dennis**



Getty Images.

This February, a Verizon commercial came on during the Super Bowl. I leaned over to a friend and asked, "Is Beyoncé wearing a cowboy hat?"

Growing up, country music was the only thing I listened to. Not only did I know every singer from the other side of the '90s, but I could name where each song peaked on the country charts and maybe how long it took to get there. I knew it well enough to understand how protective of a genre it was, and I participated in the gatekeeping myself. I was among the first in line to point to a song and declare, "That's not country." Anything that felt too much like pop immediately got my scorn.

In truth, country music has always redefined its sound, and where one stands on it is likely influenced by when they were born. What my grandfather considered real country was different than what I did. Likewise, I find what's on the airwaves now suits me less than the Mary Chapin Carpenter, Billy Dean and Radney Foster that I grew up on. Change is inevitable, regardless of our opinions on it. Now, however, country music may be on the verge of its biggest reformation yet.

During the Super Bowl, Beyoncé released two country singles: "Texas Hold 'Em" and "16 Carriages." "Texas Hold 'Em" debuted at number one on the country charts, and "16 Carriages" at number nine. By the time this column reaches print, her country album, *Cowboy Carter*, will have been released. Taylor Swift left country music to become a megastar, while Beyoncé is taking the opposite path. Alan Jackson's 1994 hit, "Gone Country," speaks truth yet again.

The release of "Texas Hold 'Em" makes Queen Bey the first Black woman to top the country charts. In addition to Billboard's Hot Country Songs, she reached number one on six other hybrid charts, such as Hot Gospel Songs and Hot Latin Songs. She is also the only woman to top both the Hot Country Songs and Hot R&B/Hip-Hop Songs charts. The achievement has garnered the respect of one of the biggest country legends ever. Dolly Parton said, "I'm a big fan of Beyoncé and very excited that she's done a country album. So congratulations on your Billboard Hot Country number one single. Can't wait to hear the full album!"

Many pundits of the music industry suggest that Beyoncé's entry into country music isn't as surprising as it might seem. Beyoncé grew up in Houston, Texas, and declared to be a fan of singers like Dolly. In 2016, her album Lemonade featured an unmistakably blue grass "holler" song called "Daddy Lessons," which she played at the County Music Awards with The Chicks. More importantly, she comes from a long tradition of contributions to the genre by Black artists and musicians, even if those roles have been historically underemphasized.

Some of the more astute fans of the genre will know Charlie Pride, the Black American singer who had 30 number-one hits on the country charts and was inducted into the Country Music Hall of Fame, or maybe Linda Martell, the first Black female to sing at the Grand Ole Opry. Most country singers, however, are white, despite a large Black population in the South. Nonetheless, the origins of country music were more diverse. The banjo was created by slaves in the Caribbean who brought it to the U.S. with them. It is sometimes forgotten that during most of the "Wild West," up to a quarter of cowboys were Black and were responsible for many of the "cowboy songs" of the era. In fact, according to Francesca Royster's book *Black Country Music: Listening for Revolutions*, the songs that predated the official genre of country music were produced by both Black and white singers, but in the 20th century, recording companies split them into "race records" produced by Black artists and "hillbilly music" by white singers, which was renamed "country music" in the middle of the century. Record labels only invested in country music and allowed race records to die out.

Last year, the Black Music Action Coalition released a report critical of country music, claiming that it did not do enough to recognize the contributions of Black artists nor address barriers they experience in the genre. They noted that there's a growing audience of country listeners in the Black American population, with a 33% increase from 2005 to 2018. They applauded the Country Music Association's ban of the Confederate flag at its annual festival but asked the association to do more to support Black artists in making inroads in the industry.

Whatever your views on country music may be, Beyoncé putting on a cowboy hat is a big deal. "Texas Hold 'Em" and "16 Carriages" seem to be, at least in my opinion, both country music and Beyoncé at the same time, which is an interesting feat in itself. More importantly, her new releases have cast attention toward recognizing the Black roots of country music, as well as starting a conversation on whether it is inclusive enough. Like it or not, country music is always going to change. There's always a chance … it might change into something even better.

Ryan Dennis is the author of The Beasts They Turned Away, *a novel set on a dairy farm. Visit his website (penofryandennis.com).*

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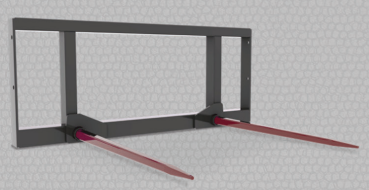

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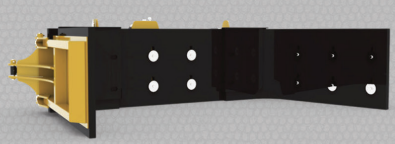



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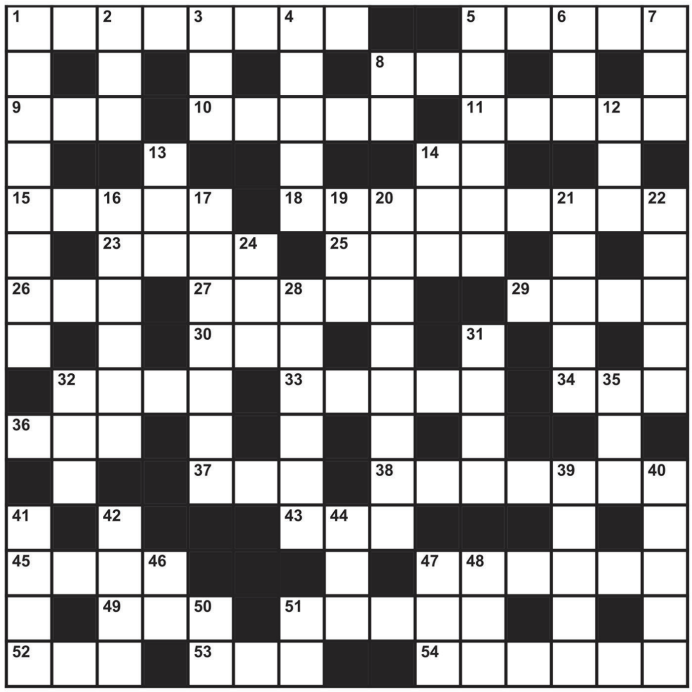


No cheating.
But if you are truly stumped, the answer key can be found on page 54.

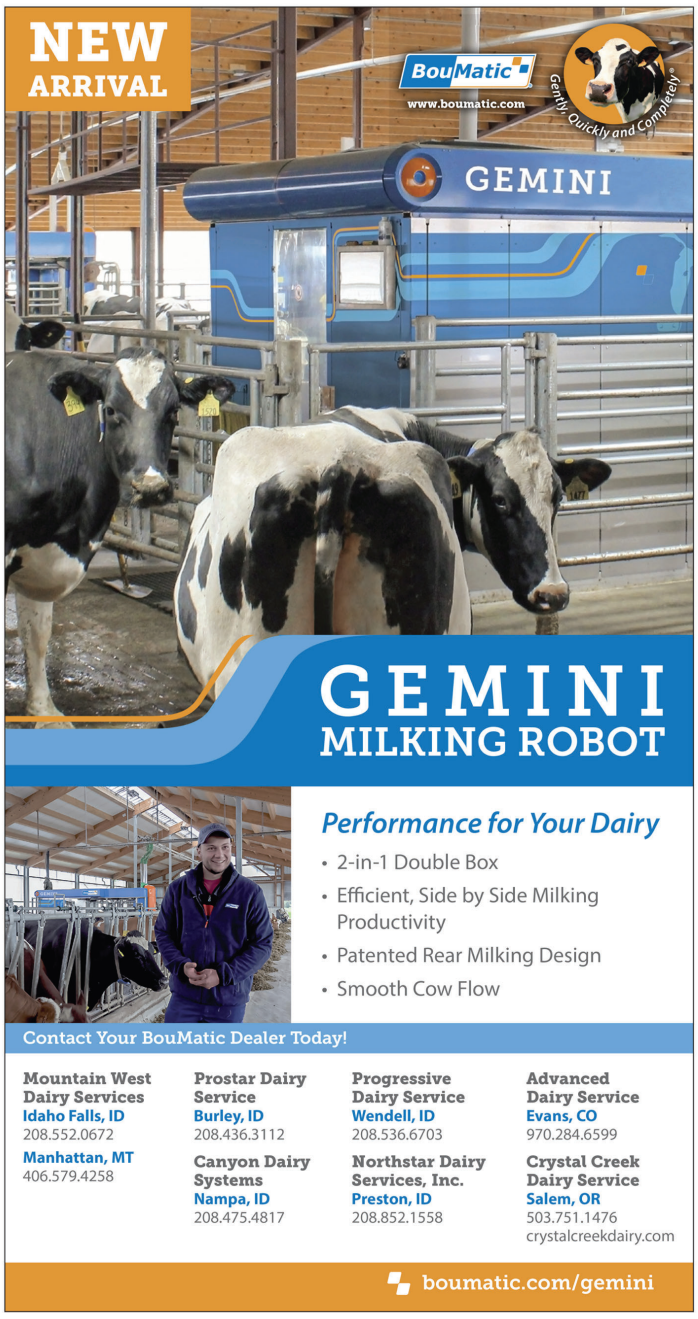
Across

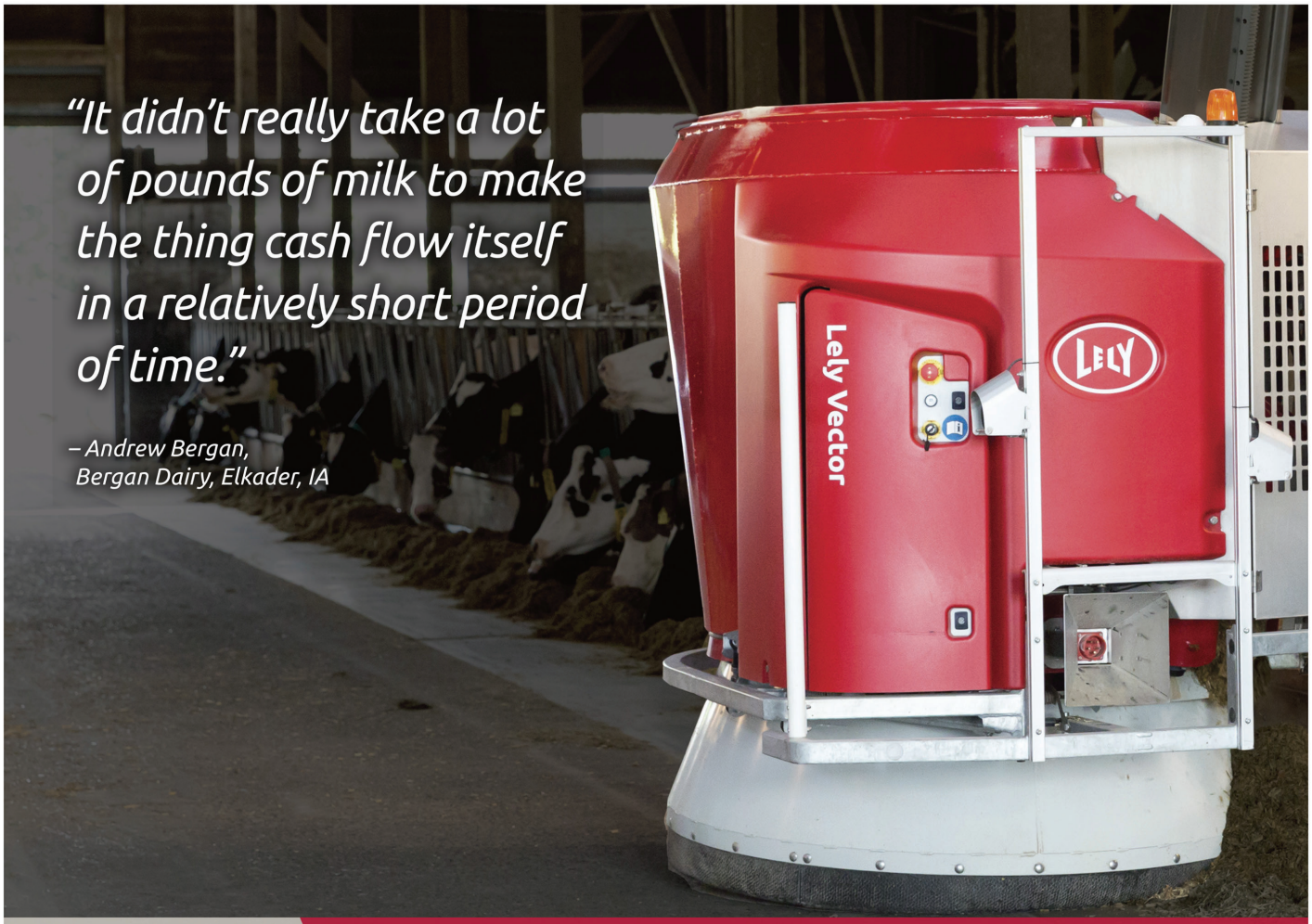
1 Champion
5 USA competitor
8 Tire pressure, for short
9 Have some food
10 Equipment used in milking
11 Forecast, of a sort
14 Doctor, abbr.
15 Show the way
18 Give kind comments to someone
23 Baking equipment
25 Sounds from a pasture
26 Male turkey
27 Complete
29 Watches closely
30 Stranded cell stuff, for short
32 Back then
33 Moon related
34 Lawn cover
36 "___ takers?"
37 A couple
38 Increase
43 Major conflict
45 Highest point
47 Particular area
49 On the ___ (escaped from prison)
51 _____ metabolism
52 20-20, e.g.
53 Of a cow- not being milked for a couple of months
54 Celiac sufferer's no-no

Down

1 Passable
2 Large container
3 Feline on the farm
4 Delay, as a motion
5 Lemon or lime, for example
6 Swelling reducer
7 Include
8 Letter afterthought, abbr.
12 Old horse
13 Gun the engine
14 "___ good turn daily" (Boy Scouts slogan)- 2 words
16 Ground corn
17 Pull back from a position
19 Basketball association, abbr.
20 Schedule planning tool
21 Chasm
22 Relieved
24 __- negotiable
28 Candle material
31 Pull with difficulty
32 Single thing
35 Hold the deed on, e.g.
39 Are
40 Part of a woodworking joint
41 Kind of price
42 Bundle of cut grass
44 Letters before an alias
46 Cirque du Soleil show
47 Cleaning cloth
48 Add-on to a building
50 Doctor's deg., abbr.
51 Indicates the manufacturer







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– Andrew Bergan, Bergan Dairy, Elkader, IA

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God is faithful

By **Tom Heck**



Do we have losses and difficult situations on our farm here? Definitely yes.

I greatly appreciate all the readers I have from across the nation and other countries of the world. I count it a privilege to be able to write. I'm so glad the Lord can use somebody like me to bless other people in this way. In doing so, I am greatly blessed.

I have received many responses over the years on the different stories I've written. I feel I must respond to one response I got from a dairy farmer in Texas who was very honest and forthright and wrote: "You always tell us about the good things that happen on your farm and how God answers your prayers; you don't tell us about your losses." Well, my Texas farmer is pretty much correct.

Do we have losses and difficult situations on our farm here? Definitely yes. I have to look back two winters ago when we had whole-herd pneumonia go through our dairy herd. We had so many of our cows come down with pneumonia. We were buying a lot of medicine from our vet to treat our cows. He told us, "You may have over half your herd die from this. You've done everything right with taking care of your cattle, including vaccinating them, but sometimes this still happens."

Day after day, we would get up early in the morning and go out and milk the cows. After that, we would do the other barn chores and then treat all the sick cows. I, with the help of my family, IV-ed so many cows with antibiotics. Every cow we treated we prayed over. We thanked God for each cow and asked Him to bless the work of our hands in taking care of them. We also prayed the medicine would work well and that each of our cows would recover and not die. Then at night, we would do our chores again and then go back to treating cows like we did that morning. Oftentimes, we wouldn't get in until after midnight. For a few days, we only got a few hours of sleep every night.

In time, we got through this all. It certainly wasn't easy. Did we lose any cows, you ask? Yes and no. We didn't have any cows die that winter, although we had a lot of extremely sick cows. Our milk production dropped way down too. Our vet told us that we could have a number of them die the next summer in the extreme heat and humidity because of the damage to their lungs. Well, the summer heat and humidity came, and we had a number of them start breathing extremely hard. Instead of seeing them suffer so, and possibly die, we ended up culling some of them.

By God's grace, we made it through that battle. Was it easy? No. But through prayer and God answering our prayers, we made it through and are still dairy farming today. God never promised us an easy life, but He did promise to see us through.

"In the world ye shall have tribulation: but be of good cheer; I have overcome the world." (John 16:33, KJV)

If He overcame the world and He lives in me, then I, too, can overcome the world as I look to Him.

Will we have losses in this world? Definitely yes. We live in a fallen world. But, I know as I look to my Lord, He will see me through. There are times, like when we had all those sick cows, if I couldn't go to the Lord in prayer, I don't know what I would do. God says in His word to call out to Him in the day of trouble, and I most certainly do. Yes, I do have losses, but I keep my eyes on my Lord, and He sees me through them all. He is faithful.

Tom Heck, his wife, Joanne, and their two children own and operate a dairy farm in Wisconsin. Order his book at his website (tomheckfarm.com).





Starbar products launches Aviator Fly Bait Aerosol

The makers of Starbar products announced the launch of Starbar Aviator Fly Bait Aerosol, a simple solution to combat labeled flies in hard-to-reach places, like walls and surfaces around ag operations and rural settings. Aviator Fly Bait Aerosol excels at controlling labeled flies where traditional baits can't reach.

This aerosol fly bait introduces another effective tool for fly control. By providing multilevel fly control for house flies, lesser house flies, fruit flies, dark-eyed fruit flies and vinegar flies, the product becomes an indispensable solution helping to ensure a clean and productive environment on your operation.

For residual control of up to 30 days, the product should be applied to nonporous surfaces protected from rain and direct sunlight.

Visit starbarproducts.com for more information.

CORRECTION

In the March 12, 2024, issue of *Progressive Dairy* on page 14 of the inner section, Siebren Jacobi was incorrectly identified as the owner of Rocking S Dairy. He is the manager of the farm. *Progressive Dairy* regrets the error and apologizes for publishing the inaccuracy.

Royal Family Farming and Grow United partner to bring transparency to the food industry

Austin Allred and Will Taylor share a common goal of nourishing people, animals and the planet. That has made the partnership between Allred, a multigenerational farmer, and Taylor, a tech startup entrepreneur, a no-brainer. Allred's Royal Family Farming and Taylor's Grow United have partnered to bring transparency to the food supply chain industry.

Together their companies have built and are launching FarmTracer – an app that allows users to gain confidence in the authenticity of their food, knowing its journey from farm to table. By scanning a barcode at the point of purchase, whether that be a grocery store or restaurant, the consumer can see the history and path of that product from farm to fork. The app will provide complete transparency, showing the consumer everything about the farm, from the diet they feed their animals to their product's carbon footprint.

Using the Grow blockchain, the app verifies and confirms actions in the product's lifecycle such as origin, growing location, processing date and more.

The app is currently partnered with multiple farmers and producers in Washington state and surrounding areas and is spreading out nationally. Visit www.farmtracer.com for more information.

New research confirms the effect of FerAppease on the health and performance of preweaned dairy calves

A Texas A&M University research study by Cooke et al. (2023) evaluated the impact FerAppease, a unique analogue of the naturally occurring maternal bovine appeasing substance (MBAS), had on the health and performance of preweaned Holstein calves. Results showed that the product reduced the incidence of diarrhea, lowered mortality risk and increased bodyweight. The results were recently published in the American Association of Bovine Practitioners' (AABP) *The Bovine Practitioner*, Vol. 57, No. 2.

The study, conducted on a New York commercial dairy farm, used 410 calves with 205 in the treatment group and 205 in the control group. Treated calves received a 2.5-milliter topical application of FerAppease to the nuchal skin and 2.5 milliters to the skin above the muzzle at one day of age and then every 14 days until weaning at 60 days. An extra dose was applied when calves were moved from hutches to collective pens at approximately 100 days old. Control calves did not receive any treatment. Both calf groups were evaluated daily for approximately 100 days regarding their general health, focusing on detection of diarrhea and respiratory diseases by farm personnel who were kept blind of the treatment groups.

Researchers determined that the product reduced the incidence of diarrhea from 70.8% in the control group to 58.6% in the treatment group (P = 0.01), and mortality risk was statistically lower (P = 0.011) for the treatment group at 2.4% compared to the control group at 7.8%. In addition, FerAppease-treated calves were 9.4 pounds heavier on average (P = 0.002) than control calves seven days after they were moved from individual hutches to collective pens.

Product use doesn't require a veterinarian's prescription or a veterinary feed directive plan, and there are no meat withholding requirements. Visit www.feraah.com for more information.

Phibro announces expansion of Animate plant to support continued product growth

In response to growing domestic and international demand, Phibro Animal Health Corporation (Phibro) is expanding its manufacturing facility to support Animate. Animate nutritional specialty product is a patented anionic mineral supplement for prepartum dairy cattle, which, when fed as recommended, may help reduce the incidence of clinical and subclinical hypocalcemia, leading to enhanced cow health and milk production.

Animate is recommended to be fed to prepartum dairy cows a minimum of 21 days before calving to help optimize calcium metabolism during the critical days before, during and after calving, which may help reduce the risk of clinical and subclinical hypocalcemia, conditions that can result in significant health issues and reduced milk production. Visit www.pahc.com for more information.

Introducing Bio-Fleet – an economical, environmentally friendly hydraulic fluid for dirty, wet or unpredictable environments

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protocols including Vickers M-2950-S, Vickers 1-286-5, U.S. Steel 126, and U.S. Steel 127. Anti-wear performance meets requirements for Vickers 35VQ-25 and V-104C (ASTM D-2882) vane pumps stand tests and exceeds DIN 51524 Part 2 and 3 (HLP/HVLP) load stage 10 that is recommended for vane, piston and gear pumps. Highly inhibited against moisture and rusting in both fresh- and seawater, they are ideal for hydraulic equipment operating outside where high-moisture and dusty environments are prominent. Formulated to perform in hydraulic systems that require anti-wear (AW), anti-rust, anti-oxidation, anti-foam and demulsibility properties. These proven hydraulic fluids are available in ISO 22, ISO 32, ISO 46 and ISO 68 weights to suit a wide range of fleet, marine and industrial applications such as vane, piston and gear pumps.

Visit www.renewablelube.com for more information.

Kuhn celebrates 40 years of Slinger innovation

2024 marks the 40th year of the Kuhn Knight Slinger side-discharge manure spreader. The first Slinger spreader rolled out of the Brodhead-based Knight Manufacturing Company facility in response to the challenge of modern dairy farmers dealing with both slurry and solid material, providing them with one machine to handle all their spreading needs. The company further improved the Slinger spreader in 1993 by introducing the revolutionary ProTwin twin-auger design to eliminate material bridging problems and ensure smooth, even delivery.

Knight Manufacturing Company was purchased by Kuhn in 2002 and became the headquarters of Kuhn North America Inc. This manufacturing facility and distribution center in Brodhead, Wisconsin, builds and ships noncommercial SL 100 Series and commercial SLC 100 Series ProTwin Slinger manure spreaders to farm implement dealerships across the U.S. and Canada, along with export shipments to countries including Brazil, Japan and Mexico. These modern spreaders continue to perform with the same quality and durability established 40 years ago.

Visit www.kuhn-usa.com for more information.

The John Deere Foundation commits nearly $4 million in grants to the National FFA Organization

The John Deere Foundation announced a three-year grant totaling $3.9 million to the National FFA Organization, the premier organization preparing youth for leadership and careers in the science, business and technology of agriculture. Through this investment, the company will continue its nearly 80 years of support for FFA.

Visit www.JohnDeere.com for more information.

Zoetis surpasses $1 million in donations to Folds of Honor

Zoetis celebrated a contributory milestone in 2023 with its continuation of support to Folds of Honor. Rounding out the second half of 2023, the company exceeded $1 million in donations in its two years of support for the organization. Proceeds from the sales of select products continue to raise funds for Folds of Honor scholarships.

Throughout 2024, the company will continue to donate a portion of sales of select cattle products to Folds of Honor. Qualifying products are Draxxin Injectable Solution, Draxxin KP Injectable Solution, Excede Sterile Suspension and Excenel RTU EZ Sterile Suspension.

Visit foldsofhonor.org and www.zoetisus.com/services-and-programs/folds-of-honor/faqs for more information.

National Dairy Board Scholarship applications being accepted

Applications are being accepted for college scholarships that are awarded by America's dairy farmers and importers through the National Dairy Promotion and Research Board (NDB).

Eleven scholarships worth $2,500 each will be awarded, in addition to a $3,500 James H. Loper Jr. Memorial Scholarship to one outstanding recipient. NDB funds, in part, Dairy Management Inc. (DMI), which manages the national dairy checkoff program.

Undergraduate students in their sophomore through senior year for the 2024-25 academic school year and enrolled in college/university programs that emphasize dairy are eligible. Relevant majors may include: communications/public relations, journalism, marketing, business, economics, nutrition, food science and agriculture education.

Scholarships are awarded based on academic achievement, an interest in a career in a dairy-related discipline, and demonstrated leadership, initiative and integrity. Candidates must complete an application form, submit an official transcript of all college courses, and write a short statement describing their career aspirations, dairy-related activities and work experiences.

Visit usdairy.com/about-us/dmi/scholarship to apply. Completed applications must be received no later than May 31. Questions about the program can be submitted to ndbscholarships@dairy.org.

Influential dairy leaders awarded World Dairy Expo Recognition Awards

World Dairy Expo announced the recipients of the 2024 Expo Recognition Awards. Nominated and selected by their peers, these individuals have made remarkable contributions to the dairy industry and their communities. Honorees will be formally honored during the Recognition Awards Banquet at World Dairy Expo on Oct. 2, 2024. Banquet tickets will be available at www.worlddairyexpo.com beginning July 1.

• Dairy Producers of the Year: Mike Larson, Ed and Barb Larson, Sandy Larson, and Jim Trustem, Evansville, Wisconsin, Larson Acres

• Industry People of the Year: Jim Barmore, Marty Faldet and King Hickman, Lakewood, Minnesota, GPS Dairy Consulting LLC

• International Person of the Year: Paul Larmer, Guelph, Ontario, Canada, Semex

Visit worlddairyexpo.com for more information.

Passing the baton around the world: Animal Ag on the global stage

Don't miss the 2024 Stakeholders Summit in Kansas City, Missouri, slated for May 8-9.

During one of the most anticipated sessions of the summit, we'll dive into how animal ag has fared in global conversations, including the 2023 edition of the U.N.'s climate change conference (COP28). This session will provide a unique opportunity to understand the impact of international discussions on the meat, dairy, poultry, egg and seafood communities in the U.S., as Eric Mittenthal from the Meat Institute, Nick Gardner representing the U.S. Dairy Export Council and Allison Pigatto from Eat Well Global, share their firsthand experiences and provide invaluable perspectives on the discussions that took place at COP28. Gain deeper insights into the challenges and opportunities facing animal agriculture globally and discover what lies ahead in 2024 and beyond.

Visit whova.com/portal/registration/annua5_202405 for more information.



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GAMES

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1 A	D	2 V	O	3 C	A	4 T	E	■	■	5 C	H	6 I	N	7 A
D	■	A	■	A	■	A	■	8 P	S	I	■	C	■	D
9 E	A	T	■	10 T	U	B	E	S	■	11 T	R	E	12 N	D
Q	■	■	13 R	■	■	L	■	■	14 D	R	■	■	A	■
15 U	S	16 H	E	17 R	■	18 E	19 N	20 C	O	U	R	21 A	G	22 E
A	■	23 O	V	E	24 N	■	25 B	A	A	S	■	B	■	A
26 T	O	M	■	27 T	O	28 T	A	L	■	■	29 E	Y	E	S
E	■	I	■	30 R	N	A	■	E	■	31 D	■	S	■	E
■	32 O	N	C	E	■	33 L	U	N	A	R	■	34 S	35 O	D
36 A	N	Y	■	A	■	L	■	D	■	A	■	■	W	■
■	E	■	■	37 T	W	O	■	38 A	U	G	M	39 E	N	40 T
41 S	■	42 B	■	■	■	43 W	44 A	R	■	■	■	X	■	E
45 P	E	A	46 K	■	■	■	K	■	47 R	48 E	G	I	O	N
O	■	49 L	A	50 M	■	51 B	A	S	A	L	■	S	■	O
52 T	I	E	■	53 D	R	Y	■	■	54 G	L	U	T	E	N



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www.cgfa.org
donna@agamsi.com
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May 8-9, 2024
California Animal Nutrition Conference
Visalia, California
www.cgfa.org
dboggs@cgfa.org
(916) 441-2272

May 14, 2024
Cornell Dairy Foods Extension Program: The Science of Yogurt and Cultured Dairy Products
Ithaca, New York
https://cals.cornell.edu/education/degrees-programs/science-yogurt-and-cultured-dairy-products-basic-level
lmf226@cornell.edu
(607) 255-7098

May 14-15, 2024
Advanced Unit Operations and Dairy Economics Short Course
San Luis Obispo, California
https://dairy.calpoly.edu/short-course-symposia
carmenl@calpoly.edu
(805) 756-6101

May 21-22, 2024
State of the Science Summit: Strategies to Reduce Livestock Methane
Davis, California
https://caes.ucdavis.edu/news/events/feedsummit
caesevents@ucdavis.edu
(530) 752-1164

June 4, 2024
Hoof Health Workshop
Location to be determined
www.pdpw.org
mail@pdpw.org
(800) 947-7379

June 11, 2024
Hoof Health Workshop
Location to be determined
www.pdpw.org
mail@pdpw.org
(800) 947-7379

June 13-14, 2024
Western Agricultural & Environmental Law Conference
Reno, Nevada
https://nationalaglawcenter.org
nataglaw@uark.edu
(479) 575-7646

June 18, 2024
Hoof Health Workshop
Location to be determined
www.pdpw.org
mail@pdpw.org
(800) 947-7379

June 24-27, 2024
National Holstein Convention
Salt Lake City, Utah
www.holsteinusa.com
(800) 952-5200

June 24-27, 2024
Air and Waste Management Association Annual Conference
Calgary, Alberta
www.awma.org
info@awma.org
(800) 270-3444

July 14-18, 2024
National Association of County Agricultural Agents Annual Meeting and Professional Improvement Conferences
Dallas, Texas
www.nacaa.com
exec-dir@nacaa.com
(217) 794-3700

July 16-18, 2024
Cornell Dairy Foods Extension Program: High Temperature Short Time (HTST) Pasteurizer Workshop
Ithaca, New York
https://cals.cornell.edu/education/degrees-programs/high-temperature-short-time-htst-pasteurizer-workshop
lmf226@cornell.edu
(607) 255-7098

July 21-25, 2024
ASAS-CSAS-WSASAS Annual Meeting and Trade Show
Calgary, Alberta, Canada
www.asas.org/meetings
asas@asas.org
(217) 356-9050

August 12-14, 2024
National Mastitis Council Regional Meeting
Ghent, Belgium
www.nmconline.org/events
nmc@nmconline.org
(952) 758-2146

August 12-14, 2024
Waste Conversion Technology Conference & Trade Show
San Diego, California
www.wasteconversionconference.com
gene@swixusa.org
(850) 386-6280

September 15-18, 2024
International Whey Conference
Dublin, Ireland
www.adpi.org/events
(630) 530-8700

October 1-4, 2024
World Dairy Expo
Madison, Wisconsin
www.worlddairyexpo.com

October 8-10, 2024
Cornell High Temperature Short Time (HTST) Pasteurizer Virtual Workshop
https://cals.cornell.edu/education/degrees-programs/high-temperature-short-time-htst-pasteurizer-workshop
lmf226@cornell.edu

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Texas and airplane doors

By **Dwayne Faber**

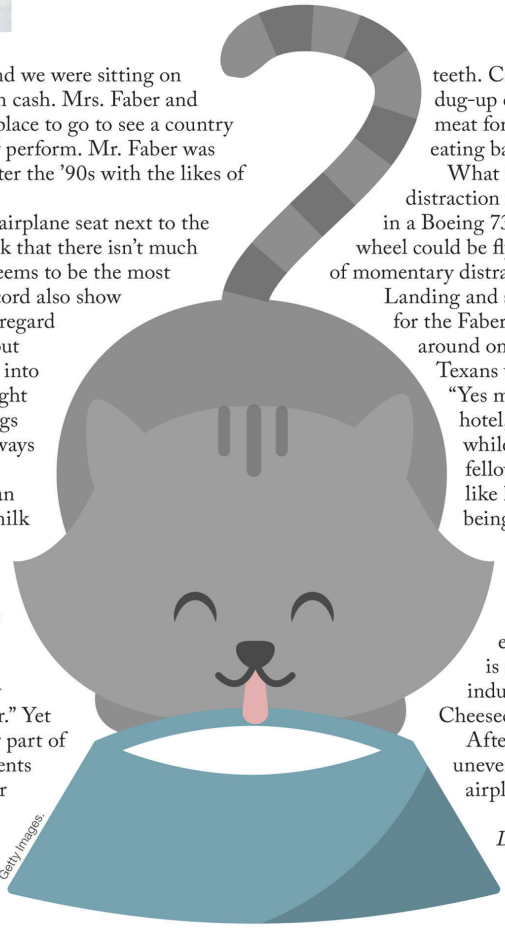
The first comment from our eco-warrior was an observation that no other animals consume the milk of another animal. So, I showed her a picture of cats licking up spilled milk in the milk house – and that's where the fight started.

It was spring break in the Faber household, and we were sitting on $20,000 worth of airline miles and zero dollars in cash. Mrs. Faber and the three Faber girls decided that Texas was the place to go to see a country concert with a duo by the name of Dan and Shay perform. Mr. Faber was unaware that they kept making country music after the '90s with the likes of Alan Jackson and Toby Keith.

Leaving Seattle, I had the joy of sitting in an airplane seat next to the world's most annoying vegan. Now you may think that there isn't much of a hierarchy in annoying vegans, as annoying seems to be the most common adjective to describe vegans. Let the record also show that I am very much a free-market libertarian in regard to someone's food choices. Want to eat nothing but meat? Cool. Want to eat nothing but soy, shaped into different meat shapes to make you feel better? Right on. Want to eat nothing but $1.50 Costco hot dogs for breakfast, lunch and dinner? I'm looking for ways to fight inflation too.

The first comment from our eco-warrior was an observation that no other animals consume the milk of another animal. So, I showed her a picture of cats licking up spilled milk in the milk house – and that's where the fight started. Mrs. Faber was glaring at me from across the plane, as engaging with someone in a confined place such as an airplane is not the place for confrontation. The words of Shakespeare also briefly crossed my mind in that "discretion is the better part of valor." Yet sometimes, it's more fun to engage in the smaller part of valor and that is getting into meaningless arguments with strangers who have no desire to change their opinion or world view.

Our next engagement revolved around the observation that it wasn't natural for us to eat animals. "Not natural to eat animals" was uttered from a mouth that contained canine teeth. Canine teeth are meant to bring down and eat a freshly dug-up carrot. Your author then offered to give up eating meat for life on the day that coyotes and mountain lions quit eating baby deer.



Getty Images

What followed was awkward silence and a hope for some distraction for the remainder of the flight. Given we were flying in a Boeing 737, there was a very real possibility that a door or a wheel could be flying off at any given moment and provide some level of momentary distraction.

Landing and spending time in Texas was a complete culture shock for the Faber family. While in Washington state, we are walking around on eggshells to make sure we use proper pronouns. Texans warmly walk around greeting people with a hearty, "Yes ma'am" or "No sir." While sitting out front of the hotel, we met a local cowboy, and after chatting for a while, he offered up his truck for our family's use. This fellow was a bronc rider in town for a rodeo and walked like he came into sudden contact with terra firma after being launched swiftly from the back of an angry horse.

We went to the Fort Worth Stockyards Rodeo, and it became apparent that no people are more friendly, more patriotic, more godly and more willing to fly halfway around the world to kill enemies of the state. In our experiences, Texas is some of the best parts of us. Our family even indulged in the local cuisine at the Texas Roadhouse and Cheesecake Factory.

After all the excitement, the flight home was rather uneventful as all the doors and wheels stayed on the airplane.

Dwayne Faber is a writer, speaker and dairy farmer. He and his family operate farms in Oregon and Washington. To contact him, visit his website (dwaynefaber.com) or follow him on X (formerly Twitter) (@dfaber84).



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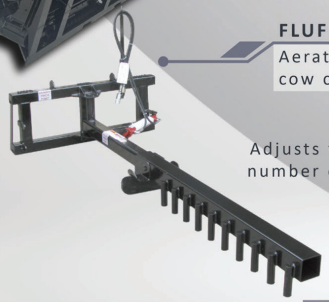

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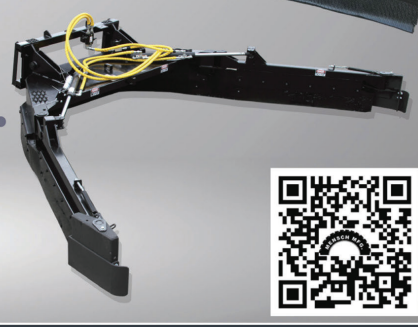



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