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# Cornell Cooperative Extension

## Central New York Dairy, Livestock and Field Crops

*Quarterly Newsletter*

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# Dairy Marketing, Consumer Perceptions and the Future

*By David R. Balbian, Regional Dairy Management Specialist, CNYDLFC Team*

U. S. consumers love dairy products. They don't buy as much fluid milk as they used to, but they do love dairy food products made from milk. In 2021, per capita U.S. dairy consumption (in milk equivalent) hit an all-time high buoyed by consumption of yogurt, cheese and butter. This has happened in spite of competition from plant based dairy substitutes.

Current and projected milk prices for the remainder of 2023 are quite dismal. Milk production has been increasing in the upper Midwest, Idaho and even New York, while export demand has softened, especially from China. A small tip of the balance in the supply demand equation has resulted in a dramatic price decline.

What does the future bring? I wish I had a crystal ball and could tell you. However, I do know that as long as there are people in this world they will need food to survive and dairy will be a part of that food supply. Consumers, especially in more affluent countries, are influenced by marketing efforts, whether promoted by businesses or by conspiracy theorists.

The marketing folks are always looking for some kind of advantage in the marketplace, especially if they cannot win solely on price. Having a higher quality product used to be a big advantage. Today everyone has high quality products at the farm level. If you do not, there is a good chance you will lose your market.

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So, that issue is essentially off the table. Telling their customers that their producers take good care of their animals, that their producers are “local,” that their milk or ice cream has won quality awards, that they take care of the environment or do anything else that has some other positive influence on consumers seems to be the name of the game today. All of these attributes find their way down to the farm level.

For consumers, perception is reality. It doesn't matter if their perception is based on fact or not. Their perception influences the decisions they make, including what food products they purchase and consume.

For dairy producers, all of this means that they will have to abide by consumer wants and desires. The marketing people who are directing their efforts to the retail market often promote those wants and desires. In most cases, if whatever advantage an individual business is trying to get becomes successful; everyone else jumps on the bandwagon. It becomes integrated into the structure of doing business from the farm level all the way to the grocery store shelf. Unfortunately, the producers are the ones who need to jump through all the hoops to meet these requirements, even if they are already meeting the requirements. They need to document what they are doing and go through all the red tape involved.

In the past, if a producer became unhappy with the buyer of their milk they could simply contact other buyers and switch markets. That is no longer the case. Like it or not, the time and cost to meet these marketing demands has become part of the cost of doing business. The world is changing and we all need to keep up.

# Back to Basics for Cow Comfort

Rick Grant, President, Miner Institute

**Note from Dave: Many of the practices mentioned in this article parallel practices by the two herds featured at this year's Dairy Day that milk 2X with herd averages over 30,000 lbs. of milk**

I was putting together a talk recently on cow comfort economics, and I was struck by the fact that the same handful of factors keep rising to the top. Regardless of housing system, when it comes to improving cow health and performance, I keep seeing phrases like feed push-up, feeding frequency, deep bedding, and bunk space.

Much of the cow comfort research to-date has been conducted with cows housed in free stall environments, with some work on tie stalls and open lots. Research published last year by Canadian researchers (J. Dairy Sci. 105:793 and 5097) added to this research by exploring the relationship between management and performance for lactating cows housed in automated milking system (AMS) barns.

There is too much information in these two articles to share in one Farm Report, but here is an important take-home. The same management factors that are important in more traditional housing are just as important in AMS barns. Depending on the study, either 124 or 75 commercial dairy farms were used in Ontario and Quebec. So their conclusions are built on a substantial data base.

I'll only highlight a few of the results and may circle back in another article since there is so much information in these two papers. Milk yield was positively associated with use of a robotic feed pusher; herds using these feed pushers produced about 4.6 lb/d more milk. It is likely keeping feed within easy reach of the cow and not the robot per se that explains this benefit. Milk yield was also positively related with deep bedding. In this case, herds with deeper bedding produced about 5.7 lb/d more milk. Study after study confirms the value of deep bedding, and research tells us that deep bedding equates to at least 4 inches deep or greater.

Less clinical lameness was associated with deep sand bedding and greater feed bunk space. In these herds, milk yield also tended to be greater with more frequent feed push-ups. Cows with easy access to feed and deep comfortable resting areas spend less time searching for feed and can eat feed more efficiently. Consequently, more time may be spent lying down which all equates to more milk and less lameness.



It is no surprise that improving access to feed and providing a more comfortable resting surface translates to better health and performance. Fifteen years ago Alex Bach published the results of a study of 47 dairy farms where the same ration was fed on every farm. Non-dietary (i.e., management) factors accounted for 56% of the variation in milk among these farms when nutrition was accounted for. Three of the top factors were feeding for refusals, feed push-ups, and stalls per cow, or stocking density. In other words, much of the variation in production from farm-to-farm was due to whether cows could reach feed or not, and whether they had ready access to a stall to lie down in.

It is true that the same essential management factors rise to the top of every to-do list for enhancing cow comfort, health, and productivity. Key factors include deep bedding, feed access 24/7, managing time outside the pen and lock-up time, avoiding overcrowding, and abating heat stress. Like so many things in life, focusing on the basics – although not always exciting – does assure healthy, profitable herds. And research tells us that these key management factors remain basically the same regardless of housing type.

Original article published in Miner Institute Farm Report February 2023

# Get Familiar with Toxic Pasture Weeds

*Dwight Lingenfelter, Extension Associate, Weed Science, PennState Extension*

**Talkin' Weeds: Scout your pastures and remove problem weeds before they harm your animals.**

During drought and the usual summer slump that reduces forage growth, there are concerns for poisonous weeds in pastures and hay.

Livestock may be forced to graze on weeds they normally would not, or they may eat weeds out of curiosity. It is important to scout your pastures and remove these weeds – or broken limbs and leaves – before they cause health problems in your animals.



Horsenettle  
(Scott Morris, Cornell University)



Poison Hemlock  
(John Cardina, Ohio State University)



Water Hemlock  
(Rob Routledge, Sault College)



Wild Garlic bulblets  
in a wheat field  
(Joseph DiTomaso, Cornell University)



Milkweed  
(Randall Prostak, University of Massachusetts)



St. John's Wort  
(Cornell University)

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Check out these poisonous plants that are often seen throughout the Northeast and Mid-Atlantic.

Selected poisonous plants of the Northeast		
<b>Bouncing bet</b>	Leaves and stem — delayed for several days; depression, vomiting, abdominal pain, diarrhea	Saponin — amount equivalent to 3% (dry weight) of sheep weight killed within four hours
<b>Buttercups</b>	Leaves and stem especially in flower. Dried hay loses toxicity — anorexia, salivation, weakness, convulsions, breathing difficulty, death	Protoanemonin — toxicity reported to vary with species, age and habitat. Generally 1% to 3% of body weight necessary.
<b>Cherry, black</b>	Leaves (wilted leaves are worse), stems, bark and fruit — anxiety, staggering, breathing difficulty, dilated pupils, bloat, death	Cyanogenic glycosides (cyanide, HCN) — less than 0.25 pound, leaves (fresh weight) can be toxic to 100-pound animal. Leaves from several small to mid sized branches are sufficient to kill an adult animal.
<b>Clover species</b>	Vegetation — hairballs; sweet clover; nose bleeding, anemia, abdominal swelling	Coumarin with sweet clover — varies
<b>Fern, bracken</b>	Entire plant — dullness, fever, bleeding, loss of appetite, and salivation	Glycoside thiaminase — cattle fed 50% bracken for 30 to 80 days was toxic. Others report that only 20% of diet for 30-60 days was toxic.
<b>Garlic, wild</b>	All plant parts — tainted milk and meat	Only toxic in large quantities
<b>Hemlock, poison</b>	All plant parts — nervousness, salivation, vomiting, diarrhea, weakness, paralysis, trembling, dilation of pupils convulsions, and coma, death	Coniine and others (pyridine alkaloids) — 0.5% to 4% (fresh weight) equivalent of cattle weight is toxic. In horses, 0.25% of body weight.
<b>Horsenettle</b>	All plant parts, esp. the berries — salivation, colic, gastrointestinal irritation, diarrhea, muscle tremors, weakness, drowsiness, and depression	Solanine — remains toxic even in dry hay. Also, 12-36 hours after mowing, plant releases sugars making it more palatable to livestock, if overconsumed it can cause sudden death.
<b>Jimsonweed</b>	Entire plant (seeds are most toxic) — thirst, mood swings, convulsions, coma, death	Solanaceous alkaloids — 10-14 ounces for cattle or 0.06% to 0.09% (dry weight) equivalent of animal body weight is toxic. Toxins increase during the daylight.
<b>Locust, black</b>	Leaves (especially wilted), seeds and inner bark — causes weakness, depression, anorexia, vomiting and diarrhea	Phytotoxin robin, glycoside robininm — bark extract and powder in amount equivalent to 0.04% to 0.1% of animal weight toxic to horses. Cattle 10 times more tolerant.
<b>Milkweeds</b>	Entire plant — depression, muscle tremors, spasms, bloat, difficult breathing	Glycosides and galitoxin — 0.3% to 0.6% of body weight
<b>Mustards</b>	All parts (especially seeds) — oral and gastrointestinal irritation, shaking, salivation, abdominal pain, vomiting and diarrhea.	Thiocyanates, irritant oils and nitrates (large quantities generally necessary for toxicity)
<b>Nightshade species</b>	Vegetation, unripe fruit — loss of appetite, salivation, weakness, trembling, paralysis	Solanine — toxic at 42 mg/kg (LD50). 0.1% to 0.3% of body weight.
<b>Pigweed species</b>	Foliage (worse in drought) — kidney disease, weakness, edema, rapid respiration	Nitrates nitrate oxalates, unknown — 0.5% to 1% of diet. Sheep, hogs and young calves most susceptible.
<b>Pokeweed, common</b>	Entire plant, especially roots — gastrointestinal cramps, weakened pulse, respiration, salivation	Phytolactinm — 10 or more berries can result in toxicity to humans. Unknown for livestock, but perhaps 100-200 berries/1,000 pounds
<b>Snakeroot, white</b>	Leaves and stem — constipation, loss of appetite, salivation, rapid respiration. Toxin passes through milk (milk sickness).	Trophine alkaloid — varies from 1% to 2% of animal body weight after two weeks. Toxin cumulative.
<b>St. Johnswort</b>	Flowers and leaves — photosensitivity which leads to redness of muzzle, around eyes and around white hair.	Hypercin — uncertain
<b>Waterhemlock, spotted</b>	Entire plant is extremely toxic, esp. the roots — nervousness, breathing difficulties, muscle tremors, collapse, convulsions, death	Cicutoxin — a piece of root the size of a walnut can kill a cow in 15 minutes; 1 pound of dried plant may kill a horse.

INFORMATION ADAPTED FROM FISHEL 2000; HARDIN 1973; AND HILL AND FOLLAND 1986 AND D. WOLFGANG, (RETIRED, PEI)

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There are numerous poisonous plants that could invade an area or pasture. Many plants contain potentially poisonous substances that may be toxic to livestock if consumed in large enough quantities.

In addition, certain plants may be problematic because of mechanical irritation when eaten; photosensitization; and disagreeable tastes or odors in meat, milk or milk products.

If you suspect livestock poisoning, call your local Extension educator or veterinarian immediately. If death occurs, the stomach contents should be examined for consumed herbage. Identify the suspected plants and remove livestock from the grazing area until all poisonous plants have been removed or destroyed.

Here are some more key points about weed forage quality and poisonous plants:

- Some weeds have excellent nutritive quality.
- Weeds in the vegetative stage of development usually are more nutritious than more mature weeds.
- Regardless of weed quality, livestock may avoid grazing certain plants because of taste, smell or toxicity.
- Some plants contain potentially poisonous substances that may be toxic to livestock if consumed, so properly identify potential problem weeds and consult with a veterinarian if necessary.
- A productive pasture is important to reduce the potential incidence of toxic weed exposure to livestock. Remember to soil test and maintain the proper lime and fertility levels.
- If possible, routinely mow or spray to manage weed problems within and around the pasture area.

Recently, there has been some research that suggests that for every pound of weeds present in pastures, available desirable forage is reduced by 1 to 1.5 pounds. So, if a pasture is weedy, there is a lot of forage that is not being consumed by the livestock, or the forage is unable to compete with the weeds.

Original Article available at <https://www.farmprogress.com/weeds/0522f-3746-slideshow>



# Be Wary of Surface Water Quality

by Amber Friedrichsen, Associate Editor, Hay and Forage Grower

Water quantity may be top of mind as drought conditions persist across a large part of the country, but water quality issues deserve attention as well. Grazing livestock that drink from surface water sources may be at risk of toxicity this summer as temperatures rise and water levels fall.

In a news release from North Dakota State University Extension, Miranda Meehan writes that water quality is one of the limiting factors for many grazing operations. The livestock environmental stewardship specialist notes yearlings and calves can have improved gains of up to 0.24 and 0.33 pounds per day, respectively, when they have access to good-quality water.

With that said, surface water sources like creeks and ponds naturally contain salts comprised of dissolved solids and minerals. These components become much more concentrated when it is hot and dry because they do not evaporate with water.

Elevated concentrations of total dissolved solids (TDS) and sulfates can be toxic to livestock. Symptoms of toxicity include lower animal performance, abortion, blindness, central nervous system disorders, and possibly death. Meehan recommends monitoring TDS and sulfate levels throughout the grazing season with handheld TDS meters and sulfate test strips to ensure surface water is safe for animals to drink.

Total dissolved solids must be below 5,000 parts per million (ppm) for most classes of livestock. This value includes sulfate concentration, which must be less than 500 ppm for calves and less than 1,000 ppm for adult cattle. Submit water samples to a lab for additional analysis if screening indicates TDS exceeds 4,500 ppm and/or sulfates are greater than 800 ppm.

## Beware of blooms

Cyanobacteria blooms, or blue-green algae blooms, also become problematic when it is hot and dry. They can be toxic to livestock as well as other wildlife and humans. Toxicity depends on the type and concentration of cyanobacteria, the amount of water ingested, and the species of animal consuming the water.

Visual observations are the best way to monitor cyanobacteria blooms. Meehan also suggests using cameras to monitor water sources since these blooms can develop quickly. If a bloom occurs, immediately move livestock away from the water source and send water samples to a lab to determine if the type of cyanobacteria present is toxic.

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The consequences of drought conditions can go beyond a water shortage. Regularly monitor TDS and sulfate concentrations this summer and keep an eye on cyanobacteria blooms in surface water sources. Doing so will help prevent livestock from ingesting a dangerous amount of toxic components.

No one wants to waste high-priced feed dry matter and so the question is an important one. Upfront I need to stress that we could use more controlled research on the topic of feed availability throughout the day and intake or energy-corrected milk responses.

When I was at the University of Nebraska, we studied how a functionally empty feed bunk overnight (about 6 hours) affected feeding and resting behavior. In this on-farm case study, we couldn't measure dry matter intake because it was on a pen basis. But making sure the feed bunk did not go empty between midnight and 6:00 am doubled feeding activity at the bunk overnight, enhanced free stall use, made for less restless cows, and bumped milk up several pounds per cow.



Original Article available at <https://u.osu.edu/sheep/2023/06/13/be-wary-of-surface-water-quality/>



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