

FARM REPORT



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FROM THE PRESIDENT’S DESK: GOOD GROOMING HABITS

Many years ago Jack Albright and his students at Purdue University confirmed that grooming is a behavioral need of dairy cattle. Following restraint grooming is one of the first behaviors engaged in. Grooming, or licking behavior, provides a way for the cow to cope with stress. Cows that are sick, isolated, or unable to lie down practice much more self-grooming. Research has shown that grooming among cows reduces heart rate of the groomed cow and reduces discomfort in lame cows.



Grooming seems to be an important part of healthy group dynamics and can be a useful indicator of the stability of social structure within a pen of cows. In fact, grooming aids in maintaining the social structure, and social bonds are strengthened by greater grooming between individual cows. Overall, social grooming calms cows and plays an important role in decreasing social tension and enhancing group stability.

An early review of grooming and its impact on dairy cattle conducted by Purdue researchers reported that milk yield was positively

correlated with being groomed by other cows. They proposed that culling good social groomers could result in reduced milk yield and greater mortality within a pen of cattle. They noted that not all cows are accomplished at rendering the service of social grooming, and cows that excel at it ought to be maintained within the herd. Most research on grooming has not shown any reliable association between grooming and milk yield, but recent work confirms that some cows do spend much more time grooming others, even though they themselves are groomed less.

Mechanical brushes in cattle pens encourage natural grooming behavior – especially those hard-to-reach locations such as the neck, back, and tail – while reducing potentially destructive scratching and rubbing on walls, gates, and water tanks. Cows work as hard to gain access to a mechanical brush as they do for feed, so clearly it is a highly valuable resource to the cow. Greater use of brushes helps to satisfy the cow’s innate need for grooming, helps keep them cleaner, and

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RATIONING NUTRIENTS ON THE DAIRY FARM

In last month's Farm Report I discussed skyrocketing fertilizer prices, suggesting a couple steps that could potentially limit the damage to your farm's balance sheet. In the vein of "I cried because I had no shoes...", as bad as the situation is for dairy farmers it may be worse for some cash crop producers who don't have manure to supplement nutrient needs. They have to hope for high grain prices next year, and as of this writing it appears that they'll have them: Fall 2022 future prices for corn are in the \$5-6 range while soybeans are just over \$12, about 50% higher than market prices for both commodities vs. the past couple of years. So while this is good news for grain producers it also predicts somewhat higher feed costs for dairy farmers. The coming year it will be critical to focus on high quality forages and high forage rations!

A potential source of relief is lurking in the depths of your manure pit. It's becoming increasingly expensive to consider manure as a waste product, to be disposed of as quickly and painlessly as possible. Past practice is why in many cases you can draw a "nutrient target" around an aerial photo of a dairy

farm, with the bullseye centered on the manure storage. The soil test P level is highest in the bullseye and the ring closest to the bullseye, with declining fertility in each ring. Therefore, applying manure to fields closest to the farmstead may be convenient but it's probably a waste of nutrients — and therefore money. Of course you've heard this before; I'm repeating it for the slow learners (though I assume this doesn't include readers of the Farm Report, who like the children of Lake Wobegon, are all above average).

The coming year would be a good one for most farms to go light on manure applications to grass fields, since a single application of manure is often all the P and K these fields need. This should be confirmed by a recent soil analysis, but it may be more economical to apply a modest rate of N fertilizer (even at these prices) on grass fields and to save the manure for corn fields and topdressing alfalfa-grass. My preferences for N sources are UAN (liquid N) or a 50-50 combination of urea and ammonium sulfate. I think you can apply about 20% fewer units of N as UAN vs. straight urea; that's because the combination of nitrate

and ammonium N sources in UAN should be slightly more efficient in plant utilization than straight urea. Therefore, 200 lbs. of urea (92 lbs. N) vs. 75 lbs. of N as UAN. If you're sidedressing corn with UAN, an N stabilizer or drop nozzles will conserve N via less volatilization. The higher the ratio of grass to alfalfa in alfalfa-grass fields, the more I like topdressed manure. If the field is mostly alfalfa, apply 0-0-60 according to soil test and save the manure for your corn, forage seedings and grass-alfalfa fields. If you must apply manure this winter, give preference to fields that will be seeded to alfalfa or alfalfa-grass. You'll lose much of the N by letting the manure sit out there all winter, but legume-grass seedings don't need a lot of N — a sniff, not a snort. Be selective as to where you apply manure to prevent runoff problems — and if you have a Nutrient Management Plan follow it. Liquid and slurry manure storages are "the way to go" because they put you in charge of manure management. Which is why even if it is permitted, winter manure application should be a last resort.

— *Ev Thomas*
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NOBODY ASKED MY OPINION, BUT...

...patience is a virtue. It's just not one of my virtues.

...I'm told that many physicians want to be referred to by their specialty. For instance, ophthalmologist, not "eye doctor". This preference almost certainly includes proctologists.

...hope springs eternal. Last month I was talking with an old friend who seemed unusually cheerful. I asked why, and he said he read that married couples have sex 74 times per year. "It's now the end of November. Looks like I'm going to have a really exciting December!"

GET YOUR FORAGE SEED ORDERED IMMEDIATELY

Reports from the seed industry are grim, showing tight to very tight supplies of several forage seeds commonly used on Northeastern dairy farms. Species expected to be in shortest supply include meadow fescue; it's entirely possible — perhaps likely — that if you go to your dealer in March looking for meadow fescue seed you may be out of luck. Alfalfa and tall fescue are also in short supply, while timothy and orchardgrass supplies are extremely tight. Bromegrass and most clovers (alsike, red, Ladino) are also in very short supply — there's really no place to turn. These shortages aren't demand-driven but are the result of high heat and drought in seed producing areas in the Pacific Northwest and adjoining areas of Canada.

It's OK to substitute tall fescue for meadow fescue in alfalfa-grass seedings, and if you're still using 5 pounds or so of grass in these seedings this would be an excellent time to drop your grass rate to 2 pounds per acre. You'll save money, probably have a higher-quality crop, and you'll leave some grass seed for the next guy.

— E.T.

CAPPED

The Bride and I are milk drinkers but have differing preferences on “potency”: I drink skim milk while T.B. drinks 1%, and we both use 2% on our morning cereal, so all three types are always in our fridge. This is strictly a taste preference, not any attempt to limit our dairy fat consumption. I use half-and-half in my morning coffee (never the non-dairy stuff), and we eat cheese almost every day either on a sandwich and/or as a late-afternoon snack. (A family favorite is the aged white cheddar from Aldi's, which we can buy both in Northern NY and in our winter quarters in Virginia.)

That being said, I have a small bone to pick with the dairy industry: Why in the world can't the various milk retailers agree on a uniform color coding — for both cap and label — for the several types of milk they sell? Where we buy milk the store brand uses red for whole milk, dark blue for 2%, light blue for 1%, and pink for skim. Not sure about any connotation of pink for skim milk... However, go to a different store and whole milk has a white cap, 2% is light blue, etc. I know, you're going to say just read the label, but I'm a creature of habit and when the container is parked in the back of the refrigerator and the only thing visible is the cap.... And for some unknown reason this past summer North Country grocery stores had a hard time stocking the different types of milk, so several times TB had to go to another grocery store (resulting in a different colored cap and label) to buy whichever one was out of stock.

At least we don't have to contend with “milk substitutes” made from coconuts, almonds, oats or other non-dairy products. One of our friends left the dregs of a container of almond milk in our guest house refrigerator, and being adventurous I decided to try it. It wasn't bad, but neither did it taste anything like the real deal. The label stated that it contained cane sugar, sea salt, gelatin gum, calcium carbonate, and potassium citrate — yum! Some almond milk contains carrageenan, potentially a problem for anyone with gastrointestinal “issues”. Meanwhile, milk contains...well, milk.

— E.T.

**Is there something you would like to know
more about? Email article suggestions to
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SHOULD WE MANAGE DRY-OFF DIFFERENTLY WHEN USING ROBOTIC MILKING FACILITIES?

Research has shown the advantages of gradual dry-off compared to abrupt dry-off strategies, including reduced rates of intramammary infections. While abrupt dry-off is still used in almost 75% of dairy herds in the United States, dairy welfare concerns have risen regarding increased pressure and discomfort in the udder post-dry-off. Udder pressure and milk leakage can be mitigated in high producing dairy cattle by reducing milk yield prior to dry-off. Typically, feeding lower energy diets towards the end of lactation sends cows into a negative energy balance, resulting in decreased milk production. With the growing popularity of milking robots, it may be possible to reduce milking frequency before dry-off instead of or in addition to feeding a lower energy diet to limit milk production.

Traditional milking parlors are typically not designed to easily lower milking frequency of select cattle. However, milking robots can be programmed to deny entry to cows leading up to dry-off, giving the farmer more control of milking frequency. A study conducted in Denmark, published in the October issue of the *Journal of Dairy Science*, showed that restricting access to milking robots is

just as effective in lowering milk yield as feeding a lower energy diet. The study shows that the most efficient way to reduce milk yield is by combining feed and milk restriction strategies. Additionally, the amount of grain offered at the time of milking could be limited to further expedite the drop in milk production before dry-off.

In addition to health and welfare improvements for cattle, reduced milking frequency before dry-off presents economic benefits to the producer. A cow that is producing less milk consumes less feed. The University of Florida estimated that these feed cost savings, in addition to the savings from reduced mastitis incidences, could save a producer \$29 per cow compared to abrupt dry-off. Reduced milking frequency also allows for improved mammary involution, the process that the udder undergoes during the dry period to prepare for the next lactation. Sufficient mammary involution may also allow for added economic benefits in the subsequent lactation.

Implementing gradual dry-off strategies using robots to reduce milking frequency may also provide producers with the opportunity to utilize selective

dry-off therapy. Cows producing less at dry off will leak less post-dry-off than high producers. This allows a better keratin plug to form in the teat more quickly, giving the cow the best natural protectant against intramammary infections. If cows have a better keratin plug after dry-off, the need for dry-off antibiotics may be reduced. More research needs to be done to see the impacts of a combination of selective dry-off therapy and gradual dry-off strategies on intramammary infections.

Advancing technology allows producers to make management decisions to improve dairy welfare, as well as the economic status of the farm. The first robotic milker was installed on a dairy farm almost 30 years ago; this technology is relatively new compared to the thousands of years cows have been utilized for milk production. Understanding and harnessing the benefits of milking robots include the denial of cow entry leading up to dry-off. Reducing milking frequency before dry-off in robotic milking facilities satisfies both the animal welfare and economic components of making a new management decision.

— Emily Fread
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Learn more about Miner Institute's equine program, visit whminer.org/equine



2021 FEED DEALERS SEMINARS

- **Monday, December 13 — 8 am - 10:30 am**
- **Thursday, December 16 — 6:30 pm - 9 pm**

The Feed Dealer Seminars are specifically targeted for nutritionists, veterinarians, crop and management consultants, extension educators, and dairy producers with specific interest in nutrition-oriented topics. Presentations blend the latest concepts in feeding and other management aspects of dairies with field level application.

The 2021 Seminars will be presented virtually via Zoom. All topics will be presented in two sessions to accommodate attendee schedules. There is no cost to attend, but pre-registration is required. Links to join the live presentations will be shared after submitting registration.

<https://web.cvent.com/event/42dcflab-eba6-4169-b656-2c1131e8539d/summary>

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GROOMING, Continued from Page 1

may reduce frustration or stress due to boredom.

Greater brush usage follows milking and return from the parlor. Placement of the brush either next to the feed bunk or on the opposite side of the pen did not influence its use in a recent study. That's good information to know when deciding where to install the grooming brush in cow pens.

The bottom line is that grooming or licking behavior is an innate and necessary behavior for dairy cows. A direct, consistent link between grooming and improved performance is improbable, but grooming enhances cleanliness, reduces stress, and improves social stability. The use of mechanical brushes is steadily becoming more common on dairy farms with good reason. Most importantly, we need to appreciate the importance of grooming behavior to a herd's health and well-being.

— Rick Grant
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REPAIRS ON THE FARM

It's said that a farmer only needs two items for most farm repairs: Duct tape and WD-40. If it moves and isn't supposed to, use duct tape. If it's supposed to move and doesn't, give it a shot of WD-40.

WD-40 got its name because it was the 40th attempt at making a water-dispersible spray-on coating for ballistic rockets. Duct tape is also called "duck tape" because it was originally made from cotton duck cloth. Duck tape has been around for over 100 years, and during WWII was used to seal ammunition boxes. Modern duct tape is useful for many quick repairs, but not for sealing heating and cooling ducts! That's because the adhesive on standard duct tape fails, and the synthetic reinforcing mesh deteriorates when used on heating ducts. So duct tape sticks to almost anything — except ducts. Go figure.

— E.T.

BRAND LOYALTY AND HYBRID SELECTION

I am not brand loyal. Put me in a grocery store with hundreds of brand names, and I almost always end up with the generic or value option in my shopping cart. If I do choose a particular brand, it is because I am convinced that there is some additional value that justifies a higher purchase price. Flavor, texture, assurance of food safety, and other factors are weighed against price discrepancies all with the aim of getting the best value. When it comes to ordering corn seed, my approach is much the same.

Brand names are serious business in the seed corn industry, and there are certainly plenty to choose from. The companies readily distribute their trademark symbols on hats, pens, and other paraphernalia in the hopes of recruiting a new customer or two. In August, the roads through corn fields can be peppered with so much signage you'd think it was an election year. Historically, the hybrid numbers were advertised on the signs, but the recent trend seems to be to drop the hybrid and just put a big brand name out there all by itself.

The fact of the matter is that every seed company has good and not so good silage hybrids. Some will do better on your farm than others, but having one brand over another doesn't necessarily put more milk in the tank.

I was recently involved in some modeling work that utilized seven years of plot results from the New York and Vermont corn silage evaluation program. The goal was to see how brand, year, and location were associated with variability observed in the plot data. We found that brand has very little to do with corn silage yield and quality in comparison to year and location. For silage yield, the variance associated with brand was effectively zero. This means that there is basically zero chance that having a particular brand of corn will boost silage yields. Brand is slightly more influential when it comes to corn silage quality, but it still plays a negligible role from a digestible dry matter standpoint. It appears as though brands that suffer from comparatively low fiber digestibility may make up for it with additional starch.

So how do you get the best value when shopping for corn? In my opinion, it's no different than shopping for food at the grocery store. Look at what is available, how the value differs, and what the price is. Discount and incentive programs are common, and substantial savings can be found if you shop around. In terms of product quality, focus on the agronomic qualities that are most important for your location. Pest protection and disease resistance packages are not created equally,

but careful research can help you make an informed decision. You pay a premium for some characteristics, such as the BMR mutation, but you are almost assured to see a bump in fiber digestibility from it. Be cautious about paying extra for characteristics that don't have a consistent or proven benefit for silage corn. If you do decide to try something new, consider starting out small and trying a few test strips instead of going all out with a new technology. Lastly, consider product support offered by different corn companies. This is an area where brand really does matter if it is an important value to you. Some send you out the door with your seed and wave goodbye while others will keep tabs on you throughout the whole growing season.

Regardless of what brand you end up with, keep in mind that year and location have a huge impact on corn yield and quality. Don't switch brands just because you had a bad year for corn. It is highly probable that brand had nothing to do with it. You can also purchase from multiple companies each year if you feel that some brands are better suited for certain needs on the farm. This may very well be true, but be careful if you think one brand is better at everything.

— Allen Wilder
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DO YOUR COWS HAVE HITCH IN THEIR GET-ALONG?

Lameness continues to be a welfare and production problem that impacts dairy farms in the U.S. The challenge is that lameness can often be hard to identify because it isn't always obvious. Estimates indicate that 20 to 35% of cows in a typical dairy herd experience some degree of lameness.

When most people think of a lame cow, they think of a limping cow – a cow who walks slow and hunched up, and tends to be the last cow in the group while walking to the parlor. Often she has an obvious hoof lesion, hock or knee injury. These are examples of clinically lame cows, usually seen in older, higher lactation cows.

Many people don't realize that a substantial amount of lameness cases are subclinical and can be hard to detect if cows aren't locomotion scored. Signs of subclinical lameness include; an arched back while either standing or walking, stiff joints, hind legs swinging outward or inward, standing with front legs crossed, and short steps (hind legs not coming far enough forward). Some easy-to-point-out aspects of lameness are knee and hock injuries. These injuries don't always cause permanent lameness but can be prevented by reducing slipping and falling due to slippery floors and aggressive use of a crowd gate. Locomotion scoring your herd weekly would be ideal, but at a minimum, scoring bi-weekly or monthly would be beneficial to pointing out subclinical cases.

Hock injuries are scored on a 1 to 5 scale; 1-no hair loss, 2- less than ¼ hair loss, 3-greater than ¼ hair loss, 4- swollen, and 5- severely swollen. If greater than 70% of your cows score a

2 or 3, and greater than 10% of your cows score a 4 or 5, it would be beneficial to figure out what could be causing that issue. Many hock injuries can come from stalls. Stall base (deep bed, shallow bed, mattress, rubber mat), bedding type (sand, compost manure solids, shavings), stall dimensions (length, width, and curb height), brisket indicator, and neck rails are all areas in stall design that can be monitored for causes of lameness.

Certain stall bases including rubber mats and mattresses can be abrasive to the hock. It's important to have stalls scraped and bedded properly throughout the day to minimize the abrasive effect on hocks. Each day scrape manure off the ends of stalls and pull bedding forward to reach the goal of being as close to 100% of stall coverage as possible. Maintaining bedding cleanliness by adding fresh bedding more often can decrease the bacteria load in stalls, which can then lead to a decrease in the incidence of mastitis or infectious hoof diseases. Cows tend to choose cleaner stalls free of manure, with ample bedding material to lay in.

Increasing lying behavior by improving stall size, comfort, and overall maintenance can help prevent lameness. Decreasing stocking density and time away from pen for milking can also have a positive impact on minimizing lameness. Another area that producers can look to identify for causes of lameness is flooring in pens and holding areas. It's important to have non-slip flooring to help prevent cows from slipping and falling. If you walk through a pen, or watch cows on their way to the parlor and see cows slipping, it might be an indicator that the concrete is too slippery.

To improve this, grooves can be added, and rubber flooring can be installed in the holding area where cows wait to be milked. Calm cow handling also has an impact on reducing slips and falls.

It's estimated that 90% of lameness begins in the hoof, so having proper footbath management, as well as a routine hoof trimming protocol on your dairy, are very important for lameness prevention. Common hoof health issues include infectious diseases such as digital dermatitis (hairy heel warts) and foot rot, and non-infectious diseases, such as white line disease and sole ulcers. These different hoof diseases have different costs associated with treatment. It can cost between \$100 to \$400 per case, depending on type and severity. Therefore, lameness can be a costly problem on dairies.

Lameness can cause reduced fertility, increased risk of culling, reduced milk yield, and welfare implications. This is why it is important to keep an eye out for the subclinical cases of lameness, before they become severe enough that they require a high treatment cost.

Lameness is multi-factorial and can impact many things on a dairy, including cow comfort, milk production, and reproduction on dairy farms. Work as a team with your nutritionist, veterinarian, hoof trimmer, and employees to figure out the causes of lameness on your dairy, and make a plan for lameness treatment and prevention. By doing this, it will benefit your dairy by improving both cow comfort and the bottom line.

— Kelsey Hefter
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Closing Comment

Telling a woman to calm down works about as well as baptizing a cat.

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