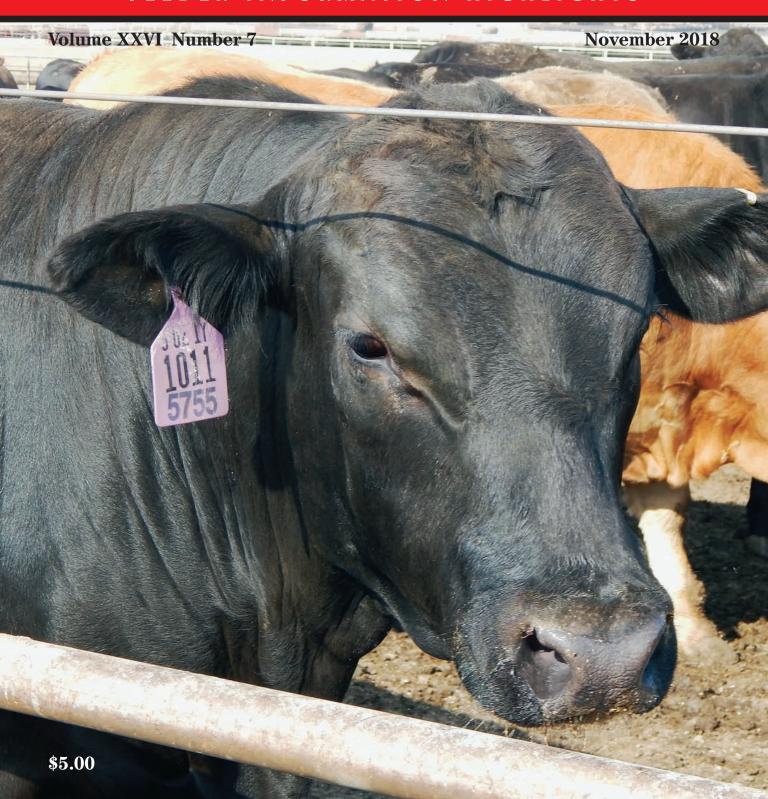


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PED LOT

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Jill Dunkel Editor feedlot@st-tel.net



Annita Lorimor General Manager feedlot@st-tel.net



Amv Spillman Digital/Circulation Manager circulation@feedlotmagazine.com



Grea Strona Publisher bigguy@st-tel.net



Robert A. Strong Editor Emeritus

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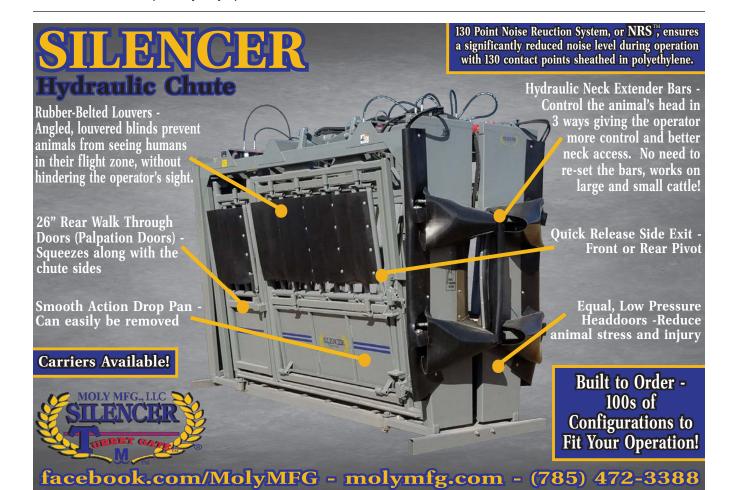
For National Sales Contact: Bob Brunker, J.L. Farmakis, Inc., 24 East Ave., #1350, New Canaan, CT 06840 / Email: bob@ilfarmakis.com / Sales Office: 203-834-8832

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Some skills are lost on the younger generation Road to approval The process for product approval is a strict one





A POUND OF PREVENTION...

It's no secret that exercise is good for you. Decades of science confirm that exercise improves health and can extend your life. In fact, adding as little as 30 minutes

of moderately intense physical activity to your day can help avoid a host of serious ailments. Regular exercise can help you sleep better, reduce stress and brighten your mood in addition to several other things.

But have you ever thought about how that might apply to cattle?

Granted, a pen of cattle doesn't need 30 minutes of moderately intense exercise, but what if light exercise could work toward prevention of bovine respiratory disease? In this issue, Dr. Ron Gill, professor and Extension livestock specialist for Texas A&M AgriLife Extension looks at the positive effect exercising has on the health of newly arrived cattle. Gill spoke on the topic at the third annual Texas Veterinary Medical

Diagnostic Laboratory BRD Conference this summer.

Gill is convinced how high-risk calves are handled from the time they are unloaded can impact their health and performance throughout the rest of their life. He also believes low stress handling would result in lower sickness rates, deaths and retreats. You can read about Gill's philosophy starting on page 6.

Along similar lines of prevention and positive outcomes related to bovine respiratory disease. I followed up with Robin Falkner, DVM with Zoetis on his concept of pathogen loading and the impact it has on BRD incidence and treatment success. He offers several thoughts on typical management practices, pen management, equipment, facilities and other aspects of feedyard health. Are we compounding risk through our management strategies? Are we keeping sick cattle near the working chutes for ease of care, but then running freshly received cattle through that same chute and near those same, germfilled pens? Are we inadvertently breaking down our own biocontainment strategies due to facility design? Dr. Falkner's questions might leave you scratching your head a bit, or at least considering a few changes. That story is on page 10.

A few weather-related topics are also in this issue. In addition to the season of pumpkin spice and Christmas decorations, it's also time to be on the lookout for lice in your herd. Lice are more than an itchy pest. Lice can reduce red blood cells in cattle by 75 percent, leading to anemia. There are several treatment options. Read up on what might work the best in your situation on page 12.

And sticking with our winter theme, now is the time to look at placing windbreaks for cattle, especially in the northern climates. South Dakota State University assistant professor and extension livestock specialist Dr. Joseph Darrington shares his advice on density, design and length-to-height ratio for windbreaks. That story is on page 14.

Those are just a few highlights in this issue. I hope you find these tidbits educational and quick to read. That's our goal at *FEED*•*LOT*—to provide you information to make or save you money and improve your operation.

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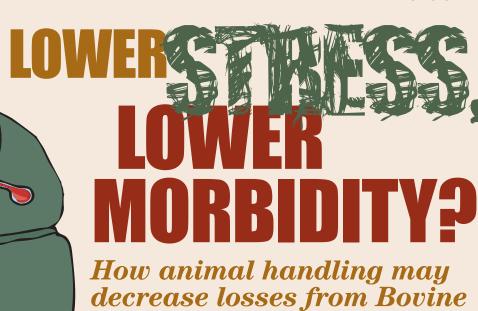
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Respiratory Disease

has not occurred," Gill said.

While solid vaccinations protocols exist, Gill says adoption has been limited. This is not just limited to smaller cow-calf producers who do not have enough calves to sell as a truckload lot. There are larger operations that do not take the time or go to the expense of vaccinating calves prior to weaning. That's why other preventative options — those that can be performed in the feedyard or preconditioning facility—are so important to consider.

Gill says the thought isn't new, though. These discussions began in the early 1990s, and Bud Williams contended through his handling methods morbidity and mortality could be reduced in high-risk cattle.

"These assertions were met with significant skepticism and rejected by many in the industry. However, it did receive some acceptance by individuals who felt there could be a better way of handling high-risk cattle," Gill said.

He shared the following examples:

 As early as 2000, Heartland Cattle Co, McCook, Neb., started acclimating cattle upon arrival and "exercising" cattle throughout the feeding period. A researcher at Kansas State University attempted to study the impact of exercise on incoming cattle by a prescribed free exercise regimen and saw no impact on performance or carcass traits but stated there was a positive impact on cattle health.

• In 2010, Jarred Shepherd, manager of Cattlemen's Choice Feedyard Inc., said at a cattlemen's conference that "making a point to exercise newly arrived cattle has improved feed and water intake, increased gain and decreased pulls. The program of handling and exercising is not prescribed but adapted to fit each newly arrived set of cattle." The actual protocol options for handling were not defined.

Gill said while researchers have tried to look at handling in the context of exercise, they are two entirely different things.

"Exercise can be provided with no improvement in handling of the cattle," he said. "In fact, handling can increase stress levels in cattle during this process if not done correctly."

Additionally, he explained, to manage variation in research settings, cattle are often allocated to treatment groups following several efforts to handle the cattle to capture certain pretreatment parameters prior to assignment to treatment groups. However, the most critical time in this scenario to improve

Accounting for approximately 75% of feedlot morbidity and 50 to 70% of all feedlot deaths, Bovine Respiratory Disease, or BRD, is far and away the most common disease among feeder cattle in the U.S. It's the costliest, too, with research estimating the disease causes feeders to lose \$800 to \$900 million annually in losses from treatment costs, reduced efficiency and death. But what if there was a way to save cattle and money, without additional input costs? Dr. Ron Gill, professor and Extension livestock specialist for Texas A&M AgriLife Extension and associate department head for Extension at Texas A&M University, says there may be.

At the third annual Texas Veterinary Medical Diagnostic Laboratory Bovine Respiratory Disease Conference this summer, Gill said current production models rely heavily on treatment of Bovine Respiratory Disease over prevention.

"Even as antibiotics have been developed that are very efficacious for the primary pathogens associated with BRD, reduction in incidence and severity of infections handling and reduce stress is during this arrival time, not during the experimental treatment protocols.

Gill has seen the benefits of low stress handling firsthand. He shared an example of when his cattle company assumed the responsibilities of preconditioning calves on an operation he leased. When they took over management, average death loss was around 3 percent and chronics were about 1 percent. Gain during the 60-day program was about 2.15 pounds per day. After they took over, the death loss dropped from 2.7 percent to 0.7 and chronics dropped to 0.01 percent and gains went to 2.65 pounds per day.

He said the best approach would be one that is system-wide, starting with effective stockmanship principles at the cow-calf level and continuing through the weaning phase. Focus must shift away from speed of processing and instead to the effectiveness of processing. He added that effective stockmanship is not slower than "ram and jam" handling, but vastly different in how it is done.

But regardless of previous handling, Gill said it is vitally important that cattle are handled using best stockmanship practices at the precondition facility or feedyard.

"The way high-risk calves are

handled from the time they arrive and unload can impact their health and performance throughout the rest of their life," Gill said. "I know time is always short, but if adequate time could be allocated for someone properly trained in low stress livestock handling to receive and acclimate high-risk calves, they could see a drop in sickness rates, deaths and retreats."

He says processing time is another area that needs some attention at some yards, primarily the stress associated with the process of pulling pens.

"The way pens are pulled for re-vac or re-implant sets up the response you get on day of shipment. You can reduce shrink on closeout day," Gill said. "And that's money in the yard's pocket."

Lastly, he says some changes could be made when it comes to loading fats.

"Some feedyards and drivers are really good at this, but I've seen plenty that need training."

He says it's important to remember that, while incredibly beneficial, low stress livestock handling is not a quick fix. It takes training and is a skill that must be continually developed.

"There's much more to it than just being slow and easy," Gill says. "In fact, 'slow and easy' isn't a



Dr. Ron Gill conducts stockmanship clinics around the world for cattle producers. He says some changes in the way feedyard cattle are handled can reduce losses from bovine respiratory disease.

requirement of low stress livestock handling at all."

He says one thing to remember is if cattlemen continue to handle cattle like they always have, they can't expect things to improve.

"Low stress livestock handling has been talked about for 30 years or more with little true adoption of these principles," Gill says. "We have seen more attention being paid to the concept, but I hope we can see a commitment to true change in the next few years."





he one thing certain in commodity markets is ambiguity. Ag Resource Company president Dan Basse, however, provided a bit of clarity and foresight at the Certified Angus Beef® (CAB®) brand's Feeding Quality Forum earlier this year in Sioux City, Iowa.

In a chaotic political climate that leaves much up in the air for trade policy, Basse offered comfort.

"We believe the markets are going to endure heightened financial risk and volatility, even our cattle markets," he said. "When you think about demand for agricultural products globally, the world economic situation looks relatively good."

The coming months hold concerns though, because unlike the stock market, commodities have seen little or no upswing. Basse suggested what to monitor.

There are two key ways he said agriculture could see a bull market again: a trade deal with China or a 20% value drop in the U.S. dollar. Neither look likely in the near future.

A longer term opportunity Basse noted is Chinese and Indian demand for better food going into 2026, along with increased buying power. China alone is forecast to add more than 150 million households with annual incomes greater than \$20,000.

"If you want to solve America's agricultural woes, you want to focus on both of those countries," he told the crowd. "Accordingly, Gregg Doud (chief agricultural negotiator for the U.S. Trade Representative Office) is looking at China and India being the two linchpins of U.S. agricultural policy going forward."

The challenges? India taxes nearly all imported commodities and the Chinese aren't rushing to the negotiating table anytime soon. Basse explained the Trump administration has applied tariffs to agricultural commodities and other products to pressure the Chinese to negotiate intellectual property disputes. The tactics have yet to cause much Chinese angst because the country holds 50% of the world's wheat stocks.

"They could feed only wheat all year long and still have enough supply available," he said. Meanwhile, their hunt for alternatives to American soybeans could find them looking far to the south.

"If this trade war continues for a long period of time – by that I mean a couple of years, and that's possible – the Chinese will run to Africa," Basse said, "because they see the opportunity of Africa ultimately being an agricultural producer."

Another reason China feels little pressure to strike a deal has to do with U.S. farm debt, currently approaching the 1980s record. Net farm income has dropped 50% since 2012 and is projected to remain flat, so the Chinese know U.S. farmers need foreign customers. Basse said he worries about banks, particularly smaller institutions, running out of opportunity capital. In fact, combined with rising interest rates, bankers may soon charge more for loans already outstanding.

"What I call this is, not so much debt going up, but an operational crisis," Basse said.

The most-highly leveraged industries will be the most at risk should the "trade purgatory" continue, he warned. The silver lining for beef producers is they are less leveraged than poultry, cotton, dairy and pork producers.

When it comes to corn, Basse is no bear.

"There may be another dime or

15 cents down, but if I were you, I'd be thinking about taking coverage, probably into the first or second quarter of next year."

As the Southern Hemisphere's corn stocks decline, combined with the drought across Europe and the Black Sea, the U.S. is expected to be the residual supplier.

"I'm looking for U.S. corn exports this year to be record large, 2.6 billion bushels, (200 million above USDA's estimate). U.S. cattlemen need to get ahead of this a little bit," Basse said, urging the buy, "Not caught up in the tailwind when U.S. farmers get the harvest in and you're competing with the export demand."

Beef producers need their own export deal with China if they hope to take the market's bull by the horns.

"Beef demand has been good, export demand has been outstanding, but I really need the Trump administration to lock down this Chinese demand," Basse said. "If we don't have that Chinese demand, I can't really sustain the bull market in agriculture as we see it today."

He drove the point home: "It's so important that the Trump administration get a trade deal with China because, without it, I don't have growth for our balance sheets as USDA would forecast for another 7 to 10 years."

That's not to say domestic demand is poor.

"If you look at beef by itself, you can see we're at our best level this year in terms of per-capita consumption, going back to 2008," he said, noting expanding demand.

U.S. beef demand will remain strong to close out 2018, Basse said, modifying "how far the futures or cash markets drop."

"You all in the market need to be paying very close attention to these opportunities for hedging going forward," he said.



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Last month, Robin Falkner, DVM, Zoetis, introduced the concept of pathogen loading (PL) and the major impact it has on bovine respiratory disease (BRD) incidence and treatment success. FEED•LOT magazine asked him to expand on some of the pathogen loading issues present in many operations.

The natural laws of BRD pathogens:

- 1. Animals do not get sick from BRD pathogens they are never exposed to.
- **2.** Increasing exposure to pathogens increases the risk and severity of BRD.
- **3.** Pathogens present in a pen within a few weeks of arrival into a new management system, when other co-factors of the BRD complex are present, are much more likely to cause clinical disease and losses than those introduced later when BRD co-factors are absent.
- **4.** In an operation receiving cattle from multiple sources, many, if not most, BRD pathogens will come in the front gate. This makes BRD biosecurity not achievable. Our BRD success, or lack thereof, is dependent on how effective the total management system is at biocontainment, which is the reduction of PL in the period encompassing procurement through a few weeks post arrival.
- **5.** Treatment puts selection pressure on BRD pathogens. Sustainable treatment efficacy is dependent on biocontainment between previously treated animals and those at risk for BRD.

Then, consider the following common management practices:

- 1. A facility is constructed to include a combined, centralized shipping/receiving, processing and treatment area, including the sole working chute a sensible decision from a construction economics and operational efficiency perspective.
- **2.** The sickest cattle, or those that have received multiple treatments (treatment failures), are kept in pens adjacent to the facility for ease of care.
 - 3. Newly arrived cattle are unloaded and held

adjacent to facility until arrival processing is completed.

While individually sound, these decisions combined can break down biocontainment. We are placing our most vulnerable animals — the newly arrived calves — near cattle shedding problem pathogens. The result is loading newly arrived cattle with additional PL. The "natural laws" of BRD are unforgiving. They do not respect our intentions or our investments in facilities and animal health products — they only abide by the "what, when and how much" of exposure. Biocontainment should be a continuous improvement approach and mindset, and every aspect of the operation needs to be considered from a PL perspective.

Hospital pen management

Simple questions like "should I hospitalize first pulls or use a return to pen system?" might not be the best questions. A hospital/recovery system that reduces

Practical principles to help reduce pathogen loads:

- Procurement: needs to be clean and quick. Strive to have cattle processed and placed as quickly as possible after marketing, optimally, within 24 hours of marketing.
- 2. Arrival/processing: minimize exposure to pathogens already present on operation, whether exposure to other cattle, equipment or environment.
- 3. Pens: start small-sized groups of calves beside older, solid cattle and avoid adjacent starting pens and/or using the same pens over and over for starting only because of pathogen buildup. Avoid the practice of "add-on" pens for starting buy a group, start a group, then build bigger groups, if needed.
- 4. Hidden exposures: continually observe to detect and eliminate any avoidable pathogen exposures, such as those caused by the movement of cattle and personnel during daily routines. A good example of this is the commingling of calves from different starting pens during the treatment process in a home pen recovery system.

PL can outperform a home pen recovery system that breaks down biocontainment firewalls. For example, commingling home-pen-recovery pulls from multiple starting pens in the alley and treatment facilities for an hour or two can result in the same biocontainment breakdowns seen in poorly managed hospital systems. What matters most is the PL result, not method used.

Personnel management

Making PL the management priority of all personnel is critical to shift the job priority from "doctoring sicks" to "managing exposures" or "least cost procurement" to "minimizing exposure and incubation." From a biocontainment perspective, we could change a daily routine of first riding through a re-treat or chronic pen and then newly arrived cattle — paying attention to what is penned next to what, and examining all cattle movements for exposure potential. There is no reason for personnel to put re-treats from older groups into an alley and commingle the first pulls from newly arrived groups with them on the way to the chute. The possible inoculation of problem pathogens into the cattle and their penmates is worth avoiding.

Equipment and Facilities

Finally, no matter how nice the facilities and management look, they will fail if a high PL results. Modest, unimpressive facilities and management that are sound on biocontainment often outperform facilities that seem to do everything "by the book" but have significant biocontainment flaws. Extensive operations have inherent biocontainment potential while confinement facilities present challenges. Since the management and facilities constraints in operations vary so much, trying to write a single recipe to maximize reducing PL within those differing constraints is impossible. But, what we can examine is every management practice, and alternatives, and improve our system by prioritizing options that reduce PL.

Procurement practices

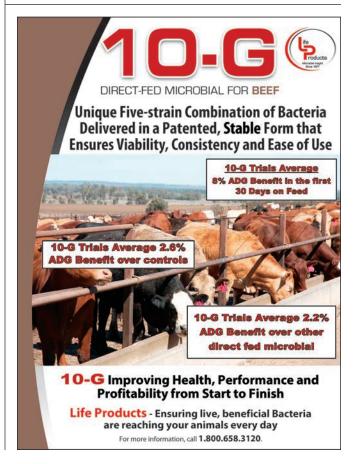
Influence of biocontainment should start in procurement and carry through to pen placement and subsequent cattle movement. Many common procurement practices fall short, meaning that regardless of post-arrival management, poor BRD outcomes are almost guaranteed. Using epidemiological software and data, Dr. Falkner has examined some common procurement practices, such as degree of commingling, group size, and a factor he refers to as time from marketing to placement (TMP). Here are a few things he's seen:

- 1. As the number of origin herds in a group increases, the risk of a given pathogen being present and multiple pathogen loading occurring increases.
- 2. As the total size of the group increases, the amount of "kindling" to power a pathogen fire increases, resulting in higher exposures to any present

pathogen. Overwhelming exposure is more likely to occur in a larger group as compared with smaller groups. Too often we combine multiple loads into a pen when a sounder biocontainment practice would be to split loads into multiple pens.

- 3. With an incubation time of three to five days for common BRD viruses, and the observed "bloom" of bacterial pathogens in the first few days post marketing, extending TMP beyond 24 hours can negatively impact the ability of arrival vaccinations and interventions to effectively prevent and control BRD pathogens present in the group. Extended TMP also can turn good, fresh calves into undesirable, highly stressed, stale, exposed ones.
- 4. Pen conditions increase risks, not only from a husbandry perspective, but also PL potential. Adjacent starting pens allow disease to move between starting groups, turning pen problems into system problems and short-term issues into chronic issues. Older, solid pens of cattle can serve as a firewall between starting groups, where the diseases present can "die out" of our system. Likewise, using the same pens over and over for short-term starting increases the potential for environmental factors that contribute to increased PL.

It's critical to look at alternative procurement, transportation and post-arrival management. The same cattle, under different management priorities that reduce PL, can produce better BRD outcomes.





Watch For a Lousy Situation This Winter

Successful treatment requires proper application strategy and management

Lice can suck the profit out of your bottom line in the fall and winter. Although lice can infest cattle throughout the year, Dr. Jason Banta, Texas A&M AgriLife Extension Service beef cattle specialist says infestations are worse in the colder months.

"As the weather gets colder, cows grow longer, thicker hair and that produces better cover and protection for lice, which means the lice have better reproductive rates," he said.

There are two types of lice that affect cattle herds, Banta said – biting lice and sucking lice.

"Lice will cause reduced appetite in a herd, which means reduced performance," he said. "It's important to be aware of the pest this time of year."

Lice can also reduce red blood cells by 75 percent, and animals with heavy infestations can become anemic, Banta said.

They are transmitted through physical contact between cows, he said. Breaking the pests' life cycle is the key to lice control.

Timing and product selection are important for treatment. Several product options are available to control lice. Most kill adult lice, but only a product with an insect growth regulator (IGR) can also kill the lice eggs.

Many control

methods will take two treatments before the life cycle is broken, Banta said. If using traditional insecticide like a permethrin-based product, an initial insecticide application should be made to knock down existing lice populations. Another application two to three weeks later is necessary to kill the adults that emerge from the eggs not killed by the original treatment.

There are products available that include an IGR that require only one treatment. Additionally, certain pour-on dewormers only need to be applied once for season long control, Banta said.

"If you go with an injectable dewormer for internal parasites, it's important to know they only get the sucking lice and won't control biting lice," he said. "If they use injectable dewormers, make sure you use a pouron insecticide to take care of the biting lice."

Always read and follow label directions when using dewormers and insecticides for control, Banta said.

Any new cows or bulls should be treated prior to introduction to the herd, Banta said.

"After the treatment regimen, your cattle will typically be in good shape until the next fall or winter," he said.

However, if you live in a colder climate with a longer winter, producers should be vigilant in checking animals regularly. In areas with longer lice seasons, a second treatment may be needed later in the year.

Tips for Effective Lice Control

- Check cattle for the presence of lice in late summer or early fall. If lice are found, all animals should be treated
- Treat strategically to prevent small, undetectable infestations from increasing and becoming difficult to control even if no lice are seen
- Identify the type of lice biting or sucking. If lice can't be identified, treat with a product labeled for both
- · Apply the correct, full dose to each animal based on bodyweight
- Apply product to the poll (head) as well as along the backline, when indicated
- · Consider a product with an IGR to save labor and treat only once
- Keep newly treated and untreated animals separate from previously treated animals until the treatments have time to work
- Consider use of a mid-season treatment, especially in colder areas where the lice season may be longer



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WINDBREAKS FOR CATTLE

In climates where wind chill is an issue during colder months, windbreaks can reduce feed costs, illness and health costs, with less loss of body condition in cows—and better gains on young animals. If there are no natural windbreaks available, constructed wind barriers can give protection from wind and drifting snow.

Dr. Joseph Darrington, Assistant Professor and Extension Specialist-Livestock Environment Engineer at South Dakota State University says some shelterbelts of trees don't have much foliage in winter/spring to stop the wind. "If you plant a shelterbelt, have a couple rows of tall trees and a couple rows of smaller trees. If you want more protection, include some evergreens," he says.

Constructing windbreaks

Main considerations when building windbreaks include height, orientation, length, and density/porosity. "Height is the highest point on the structure or tallest row of trees. Generally, the protected zone will extend out 10-15 times

the height of the windbreak with a 50% reduction in wind-speed. Windbreak length is the uninterrupted distance of trees or total length of a constructed windbreak. Ideally the ratio of windbreak length and height is 10:1, which means a 10-foot-tall windbreak should be 100 feet long," explains Darrington.

Orientation of the windbreak is ideally perpendicular to winter wind; windbreaks are usually constructed to face the prevailing wind direction. If wind tends to come from several directions, some people create a curved or cornered windbreak. "In our region the predominant cold wind comes from the northwest, about 60 to 70% of the time. The best position would be to run a windbreak from southeast to northwest, to be perpendicular to prevailing wind. If ranchers want a larger protected area, they sometimes run another windbreak from northwest to southeast, creating an arrowhead shape pointing to the north to give the greatest protection," says Darrington. "When planting shelterbelts we situate them north-south and east-west.

Constructed windbreaks or planted windbreaks have their corner in the northwest."

Density/porosity is the ratio or fraction of solid space relative to total space. This impacts the effectiveness of a windbreak by controlling how much wind blows through it versus over it.

"The denser the windbreak the greater the initial reduction in wind speed, but wind speed increases faster on the downwind side, which decreases the protected area. Dense shelterbelts and solid fences create a larger negative pressure area just behind them, causing snow to build up in drifts. The target for livestock windbreak density is 60-80%," he says.

Constructed windbreaks are generally made with boards (often placed vertically), leaving spaces between them rather than a solid barrier. "The target porosity, according to several studies, is from 20% porosity (open) and 80% solid, down to 65 or 70% solid. If you have more than 35% porosity (more than 65% density/solid) or closer to 50-50, you lose some benefits

of the windbreak — more air velocity coming through rather than being pushed up and over," explains Darrington.

"You don't want a solid windbreak because it significantly reduces wind speed right next to the windbreak and if there is snow the wind dumps a lot more of it right behind the windbreak. A porous windbreak increases the size of the protected area, reduces the wind force/physical load on the windbreak, and limits snow drift formation on the downwind side," he says.

"For 80% density, measure the width of the solid material you are using, and divide by 0.80. This gives you the center-to-center spacing needed to reach 80% density. For example, using 1 x 8's for the windbreak you'd have spacing of 9.0625 inches. If you round the numbers up or down to the nearest quarter inch, if rounding up the density is 78%, if down the density is 80.5%. This means that between each board there will be a 1.75 to 2-inch space," he explains.

"If you use 1-by-6 inch boards (which are actually 5½ inches wide and 3/4 inch thick) spacing would be 1½ to 2 inches apart. This would be 7½ inches on center (from the center of one board to the center of the next)," says Darrington.

"With 30% open and 70% solid the protected zone behind the windbreak extends 10 to 15 and sometimes up to 20 times the height of the windbreak. The protected area is always estimated based on the height. An example would be a 10-foot fence slowing the wind for about 100 to 150 feet behind it. If it's a straight windbreak with wind coming head on, perpendicular to it, this creates a triangular protected zone behind it," he says.

"Some producers make windbreaks using vertical metal roofing. A 30-inch piece of roofing is enough space for calves to nestle against it and be completely protected. You need a bigger gap, however, to create adequate porosity, so **PORTABLE WINDBREAKS** — When rotating pastures or strip grazing, moving windbreaks when cattle are moved can be helpful. "For portable windbreaks make the base heavy enough and wide enough they don't tip over in the wind, or stake them down with two-foot lengths of rebar or T-posts," Darrington says.

You can make these in sections so they can be moved with a tractor—either pulled around or picked up with a loader. "If you have to take them very far, you could lift them onto a flatbed truck to haul to the next pasture, strapping them down securely for hauling. Sections should be built so they can connect together and be set up to create a corner which provides greater protection for multiple wind directions and reinforces each individual section," he explains.

snow won't collect right behind it. For cows, some people say these types of windbreaks are a little less effective because air speed coming through those larger cracks is high enough that if they are right next to it they may still get cold, but if they are a distance of one or two heights away from the windbreak, there is decreased velocity of air. Calves, however, can be very snug next to those 30-inch sections so you might get the benefits of both (solid windbreak plus some porosity). These are also faster to build, with fewer total pieces to put vertically. Spacing for 30-inch pieces of roofing metal would be 5 or 6-inch gaps between them, or about 36 inches on center," he explains.

"To build a windbreak 6 to 10 feet

tall you need posts deep enough to hold it, or build it on skids for portability. When setting posts for a permanent windbreak, consider the wind load the structure needs to withstand and the density of the windbreak," he says.

"Wind pressure loads for a 10-foot high windbreak can exceed 20 pounds per foot if winds exceed 85 mph. This means that for a solid windbreak (which would need the strongest posts) with posts every 10 feet, the wind can exert over 2000 pounds of force on each post. Post diameter of 8 inches or greater with underground portion below frost line (which might be 3 to 5 feet, depending on your location) should be adequate in permanent systems," says Darrington.





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Unprecedented rains across Texas and Oklahoma have delayed wheat grazing opportunities, but Dr. Derrell Peel, Oklahoma State University Cooperative Extension livestock marketing specialist said things still look good for stocker operators.

"This is the first time in my career we've had too much moisture for wheat pasture," he said. "But we will use this moisture at some point and will grow a lot of forage."

Many operators put wheat in the ground in September in anticipation of turning out stocker cattle in early November. That would allow for 120 days of winter grazing until early March when cattle can be pulled off to let wheat grow for harvest. Those looking just to harvest a grain crop often plant a little later in the year. However, the wet weather is dictating planting and grazing schedules.

Those who didn't get finished planting can't get in the fields to plant. And that will delay any fall grazing opportunities for those producers.

"We are squeezing that time line a little bit and will have delayed turn out," Peel said. "But the wheat in the ground is nearly ready to graze right now. We're not grazing it yet because cattle would either tromp it or pull it up. But once it dries up enough to turn out, it will be full speed ahead."

Peel said in Oklahoma there is a lot of wheat in the ground and established. "Those who saw early potential and jumped out there and got planted – it's about ready to go. Assuming it will eventually stop raining, this delay hasn't changed my overall assessment. The numbers still look attractive."

Profitability of wheat pasture cattle depends on several factors, including the length of grazing period, weight gain, purchase price of the cattle and the cost of wheat. The spring cattle market also is a big factor. But looking at futures prices for March Feeders, breakevens still work, says Peel.

Typically, prices for stockers decrease through September and October. However prices went up counter-seasonally this fall until recently. Wet weather and mud is helping seasonal pressure kick in, bringing prices down. Runs of stocker cattle have also dropped off.

According to Peel, Oklahoma's average volume for mid-October is down around 30% compared to

the same week last year, and the statewide average was down the previous week as well.

"It's either too wet to gather and send them, or too wet to buy and take them home," he said.

Buyers are hesitant to put cattle in pens in the current conditions, he explained. "There's some management challenges with all the mud. However, the market has dropped off a little, and they might can buy a little cheaper right now if they have a place to go with them."

Hopefully those who bought cattle early can utilize pasture to hang on to calves while things dry up, he said. If cattlemen already have cattle bought, they will be in good shape to turn them out as soon as the ground is dry enough.

"In general, we've had a lot of forage to work with of late. I had some concerns with overall hay stocks around the area, but we've overcome part of that with late hay production. There were some army worm problems in Bermuda and wheat fields, but in general, we've got a lot of forage to work with."

Peel said cattlemen need to keep in mind a shorter grazing period and adjust their budgets to reflect their particular situation. **REVALOR®-XS** (trenbolone acetate and estradiol)

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BCI Research:

How would a 50% reduction in BRD impact the industry's bottom line?

More than 21 percent of U.S. cattle are affected by bovine respiratory disease (BRD), at an annual cost to the industry of more than \$800 million.

Death, reduced feed efficiency and rate of gain, treatment costs – it all adds up.

Research into new technologies and management practices that could help reduce the disease and its effects includes treatment plans, selection criteria models, the development of new vaccines and protocols, and genetic selection.

But there is more to the picture. A recent study by Dr. Dustin Pendell, professor of agricultural economics with the Kansas State University Beef Cattle Institute, and Kamina Johnson, USDA-APHIS, looks at the market impact of a reduction in BRD.

This research highlights the tradeoffs that occur when reducing the prevalence of an endemic, low mortality disease with negative production impacts.

On the up side, cattle producers stand to gain economic efficiencies due to the direct cost savings related to treating fewer cattle and less death loss, as well as improved feed efficiency seen in healthier animals.

"Producers will save money on treatment costs and the labor expense of caring for sick animals, as well as reducing the management needs of separating animals and tracking drug withdrawal periods," says Pendell. "At present, producers with cattle affected by BRD appear to be able to spend up to \$23.60 per head on a program to avoid BRD and still break even (using NAHMS

Beef Feedlot 2011 Study data)."

In addition, revenue generation will be accelerated with cattle no longer in need of treatment arriving at market sooner, and at a heavier weight than if they had weathered the disease.

"Cattle will get bigger faster and put to market faster," says Pendell. "That means a faster return on revenue, and the potential for more earned interest on that money." Healthier animals at market also mean fewer discounts for light weights and poor carcass condition, though the research does not account for individual beef cattle performance, nor the effects the absence of disease may have on that performance.

Supply and Demand

However, reducing BRD prevalence would result in increased supplies of beef cattle through lower morbidity and mortality rates, and, as the research shows, simple rules of supply and demand would likely apply.

Pendell and Johnson used US-DA-NASS cattle on feed inventory numbers to create a model whereby a linear reduction in the prevalence of BRD by 50 percent is achieved over three years and maintained for one year. The result of this hypothetical model is an increase from 78.8 percent to 89.4 percent in cattle not affected by the disease.

Over time, this significantly increases the number of feedlot cattle and beef supplied to the market, creating downward price pressure. BRD is responsible for approximately 45-55 percent of all deaths in the feedlot, according to a National

Animal Health Monitoring System (NAHMS) 2011 report. Even minimal progress toward eliminating that loss would result in increased supply of beef and increased demand for feedstuffs.

The effect of a price decline creates a mixed bag for the segmented beef industry. While beef producers would bear a fiscal burden, beef processors over the course of the study gain \$2,061 million due to lower beef cattle prices resulting from increased supply.

Additionally, grain and feedstuff producers benefit by \$493 million due to increased demand for feedstuffs.

In the first quarter of the model, a 0.001 percent increase in feed consumption is observed. As slaughter slowly increases, quarter by quarter over three years, ultimately, so does the cost of feed. Across the 16 quarters of the study, beef cattle producers (beef cow-calf and feed-lot producers) could lose \$4,965 million due to lower beef cattle prices and higher feedstuff costs.

The winners in this equation are the early adopters, according to Pendell.

"It is the early adopters who are most likely to see a net gain, as they realize benefits before cattle market numbers significantly increase," says Pendell.

The Consumer Wins

Because the price decreases, beef becomes a more affordable alternative in the meat case. Lower priced beef creates pressure on competing protein sources. According to the model, pork, lamb, and poultry producers all experience small losses due to downward pressure on live animal prices from the retail level, as well as absorbing the increased feedstuff costs.

Pork, lamb, and poultry meat prices, as well as egg prices, decrease over the 16 quarters of the study due to the addition of less expensive beef into the dietary mix. This is assuming consumers, both international and domestic, are unlikely to change their consumption patterns and preferences to any large degree (beyond the effects of affordability).

Dairy, however, presents a slightly different scenario. Because feed-stuff prices increase, dairy producers will reduce dairy production, resulting in increased milk prices. That increase will offset the increase in feedstuff expense, resulting in a 0.02-0.48 percent increase in returns for dairy producers.

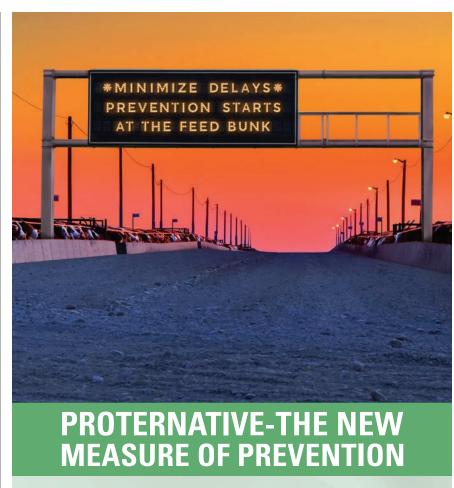
Overall, the study estimates a positive net societal impact would be experienced with a 50 percent reduction of BRD.

The researchers conclude the positive impact on consumers outweighs the negative impact on producers.

They also assume, should the 50 percent reduction in BRD come to fruition, the contributing factors will ultimately reach a long-run equilibrium.

Pendell and Johnson add future research should investigate the pros and cons of specific types of technology and treatment, including the magnitude and speed of BRD reduction when they are adopted.

"There are many advantages to reducing chronic disease in cattle, especially one as prevalent and devastating as BRD," says Pendell. "What we've tried to do in this research is calculate the aggregate economic impacts of making further scientific and genetic progress. Additional research needs to evaluate the economic impacts to the individual feedlots."



The industry is changing; it's time to take cattle feeding down a new road. Recent advancements in cattle nutrition have opened new routes to help limit pulls, treatment and positively benefit the health of an animal. Adopting a *new measure of prevention* through the feed is an important first step to help minimize delays on the road ahead.

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REBUILDING LOST SKILLS

We seem to be losing some essential skills that make the work-place culture, business relationships and all interactions more productive and enjoyable. Though this list could be quite long based on personal experience and preferences, here are four skills that I believe are being lost and how we can rebuild them in our workplace.

Putting Yourself in the Other Person's Shoes:

The ability to openly see things from the other person's point of view requires humility, awareness, patience and self-confidence. The benefit of this skill is seen in greater listening ability, empathy, problem solving, rapport and in understanding those whose background is very different from ours.

To develop this skill in yourself, practice asking probing questions such as, "Help me understand why that is important to you..."

When developing this skill with your staff be sure to exhibit this trait so they have a good example to follow. Encourage them to share personal perspectives during meetings, ask others for their feedback and quiz them about other people's thoughts before making a decision.

Common Courtesy:

Much like "common sense," common courtesy doesn't seem to be so common anymore. Tools are left scattered, trash is left in truck cabs, vehicles are parked in the way of traffic, equipment is left for someone else to clean, garbage is thrown in bins that are already overflowing, messes are left in the break room and less-than-kind remarks are made over the smallest transgression.

Our own hurried pace may be our personal excuse for not showing as much common courtesy as we should, so our first corrective measure is to be a consistent example of this behavior. Do a small favor, even when it is inconvenient. Make someone's day. Smile more. Criticize less. Catch someone being helpful, doing something right, or caring about someone else, and tell

Some skills can be taught through training and repetition, but this one is best taught first by being the example, pointing out when you see it expressed by others and then sharing specific ways that everyone can express this trait. A high standard in this skill has a tremendous effect on your overall company culture. And it goes for everyone, not just managers.

them you appreciate it.

Communicating Face-to-Face:

Technology provides great options for quick communication, immediate access to information and instantaneous responses to questions. It also means that we can go all day and not talk to anyone face-to-face, which diminishes the accuracy in communication and limits the development of teamwork and trust.

To improve this skill, ban looking at cell phones in meetings and face-to-face conversations, speak directly to people when you converse, ask questions of each person to ensure their engagement, and perhaps even assess penalties for not paying attention. It sounds dictatorial but consider the improvement in efficiency, effectiveness and quality of communication

when you consistently have everyone's complete attention. In time, you will find that people enjoy meetings more because they have a place to share opinions, express concerns and have a greater investment in the outcome of decisions.

Making a True Apology:

"I'm sorry!" said with a tone that is more out of frustration for being caught—rather than remorse for their inappropriate behavior—is far too common.

We can teach the elements of a true apology by expecting that each of these three "R's" is included in each apology:

Responsibility—The person sincerely says that they accept full responsibility for their action, rather than offering excuses, minimizing the consequences, or blaming it on someone else.

Remorse—A truly emotional expression of sorrow for their action that includes humility, contrition and regret.

Repair—A description of what they will do to ensure that the infraction doesn't happen again and do all they can to repair any damage done.

Anyone that attempts an apology without all these elements is simply brushing aside their inappropriate action in hope that everyone forgets about it—without any real change required in their behavior.

Don Tyler is founder of Tyler & Associates Management Coaching. For assistance with these and other difficult management challenges, Don can be reached at dhtyler@frontiernet.net or by calling 765-490-0353.

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IMPLANTING PROTOCOL

2 Implants vs. 1 Implant

Research echos there are many different yet successful strategies for implanting. Understanding how long your cattle will be on feed will help you choose the implant program that is best suited for you

Implants have been approved for use in the beef cattle industry for over 60 years, with the first implant being permitted in 1956. According to R. Preston (1999), implants can improve growth rate by 30% and feed efficiency by 15%. Due to their effectiveness, implants have one of the highest rates of return of any product in the beef industry. According to the USDA's National

Animal Health Monitoring System's 2013 Feedlot survey, 90% or more of steers entering the feedlot receive at least one implant. Sixty-seven percent of steers weighing less than 700 pounds received 2 or more implants, and 77% of steers weighing 700 lbs. or more received one. Implant strategies range from 1 to 3 implants depending on cattle weight, genetic potential, age, sex,

and feeding program.

There are a multitude of implants on the market today. The length of time the implants will remain effective (i.e. release hormone) ranges from 60 days to 350 days, with a majority of implants lasting from 60 to 120 days. Longer acting implants, such as Revalor-XS, contain coated pellets that control the release rate of hormones over time. The development of this slow-release technology eliminates the labor and stress associated with re-implanting cattle.

Two studies conducted by the University of Nebraska compared a 2-implant strategy using Component TE-IS on day 1 followed by Component TE-S on day 85 with a single implant of Revalor-XS. One study found that re-implanted cattle had greater feed efficiency and ribeye area compared to cattle that received a single implant of Revalor-XS. The second study found that cattle performance was similar between the single implant and two implant program. A third study conducted by UNL researchers compared the use of a single implant of Revalor-XS with a two-implant protocol of Revalor-IS and Revalor-S. Researchers observed



no differences in cattle performance between the two different implant programs.

Five commercial feedlot studies compared a 2-implant protocol using Synovex-Choice and Synovex Plus to a single implant of Revalor-XS (McLaughlin, 2013). The average days on feed ranged from 138 to 200 across the five studies. Two studies observed a greater feed conversion and carcass weight in steers receiving two implants, while the remaining 3 studies observed similar cattle performance when either implant strategy was used.

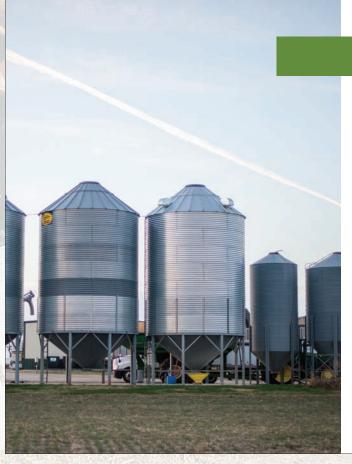
Another controlled release implant currently on the market is Synovex ONE Feedlot. Similar to Revalor XS, Synovex ONE contains pellets that are coated to slow hormone release over a 200-day period. A 161-day and 200-day feedlot study compared cattle implanted with Revalor XS to cattle implanted with Synovex ONE Feedlot. Researchers

	360 - 240	240 - 140	140 - 60
вw	300 - 600 lbs	600 - 900 lbs	900 - 1200 lbs
Aggressive	Rev XS or XH		Rev 200
	Rev IS or IH	Rev S or H	Rev 200
	Comp TE-IS or TE-IH	Comp TE-S or TE-H	Comp TE-200
	← Syn ONE Feedlot →		Syn Plus
	Syn S or H	Syn Choice	Syn Plus
- J	Rev G	Rev XS or XH	
3	Rev G	Rev IS or IH	Rev S or H
9	Comp G	Comp TE-IS or TE-IH	Comp TE-S or TE-H
Moderate	Rev G	Syn S or H	Syn Choice
	Syn S or H	← Syn ONE	Feedlot-
	← Syn ON	E Grass———	Syn Choice

found no differences in cattle performance between either long acting implant (McLaughlin, 2013).

Overall, the data suggest that cattle given a single, controlled release implant have similar performance to cattle on a multi-implant program.

It is important to remember that there are many different strategies that will work for specific situations. Understanding how long your cattle will be on feed will help you choose the implant program that is best suited for you. Some common implant strategies are outlined in the table below. Contact a consultant at Great Plains Livestock Consulting, Inc. for a customized implant program that works for your operation.



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New research busts the myth on premiums for nonimplanted calves

Recent video auction market sales data (from 2014-2017) busts the myth on premiums available for non-implanted cattle.

The report demonstrates no difference in sale price on a perpound basis between implanted and nonimplanted cattle.1 In fact, implanted lots of cattle sold for slightly more than nonimplanted lots (184.12 versus 183.03 \$/cwt). However, among cattle sold, only 1,421 of 7,525 lots (19%) were previously implanted. Findings also revealed that of cattle sold as recently as last year, 55% of the nonimplanted lots did not receive any additional premiums from special marketing programs where implants are not leveraged.

So what does this mean for producers? Tom Short, PhD, associate director in Outcomes Research with Zoetis, analyzed the recent sales data and summarized how the results have a significant impact.

"If producers are not implanting their cattle, they are leaving money on the table," Dr. Short said. "By not implanting cattle in hopes of receiving a premium, these cattlemen lost out on the added pounds and profit an implant could have offered. Data from this report also confirms that implanting more than offsets qualifying for special marketing programs where implants are not utilized."

Room for Growth

According to Doug Hilbig, DVM, senior veterinarian, Beef Technical Services with Zoetis, implanted cattle often bring a premium for producers. "Implanted cattle have more muscle and frame — the look most buyers are after. Implanted cattle are also more likely to have been vaccinated. Through vaccinations against harmful diseases, they are more likely to have better health," he said.

Why the variance across the industry? Dr. Hilbig believes this is due to different levels of education and awareness about the benefits and administration of implants. On the cow/calf side, there's also a common misconception that implants only benefit cattle in a stocker or feedlot setting. But any cattle producer can improve weight gain with implants.

Calves implanted with Synovex® C gained an average of 19 pounds more than nonimplanted calves at weaning, according to Dr. Hilbig. At \$1.77 per pound for weaned calves, that's an extra \$33 per head at sale time and a 30-to-1 return on investment. That amounts to \$3,300 in lost profit for every 100 head of cattle sold if producers opted not to implant.

Developing a Program

Dr. Hilbig recommends cattlemen work closely with their veterinarian or nutritionist to develop an implant program that is right for their own operation and to optimize their current implant program results. Having expert guidance on proper implanting techniques can help reduce any concerns a producer may have regarding implanting for the first time, as well. Dr. Hilbig assures that after implanting a few head, implant administration is simple.

"With the added weight gain from an effective implant program, it's like getting one free calf for every 25 head implanted," Dr. Hilbig said. "Cattle prices are in constant flux. One thing producers can know for sure is the value of their implant program."











Livestock Groups Petition Department of Transportation for Hours of Service Flexibility

Organizations representing livestock, bee, and fish haulers across the country submitted a petition to the Department of Transportation requesting additional flexibility on Hours of Service requirements. The petition asks for a five-year exemption from certain HOS requirements for livestock haulers and encourages DOT to work with the livestock industry to implement additional fatigue-management practices.

Current rules limit drive time to 11 hours and limit on-duty hours to 14. Instead, the organizations request that livestock haulers be granted approval to drive up to 15 hours with a 16-hour on-duty period, following a 10-hour consecutive rest period. Any livestock hauler wishing to operate under the extended drive time would be required to complete pretrip planning and increased fatigue-management training.

"We are concerned that the 11- and 14-hour rules were not drafted with livestock haulers in mind and thus do not accommodate the unique character of their loads and nature of their trips," the organizations wrote. The current requirements "place the well-being of livestock at risk during transport and impose significant burdens on livestock haulers, particularly in rural communities across the country."

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The strong safety record of live-stock haulers demonstrates their ability to ensure the well-being of both live animals and other drivers on the road. A 2014 analysis by the Federal Motor Carrier Safety Administration found that livestock haulers were underrepresented in truck-involved fatal crashes. Data cited in the petition also shows that, between 2013 and 2015, live-stock haulers accounted for 6.6 percent of all commercial drivers but less than one percent of crashes involving large trucks.













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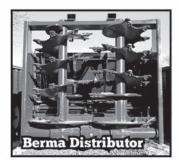


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