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FEEDER INFORMATION HIGHLIGHTS

Volume XXVI Number 8

December 2018



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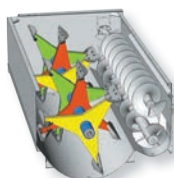
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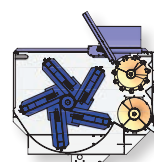
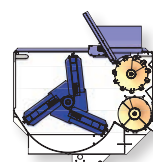


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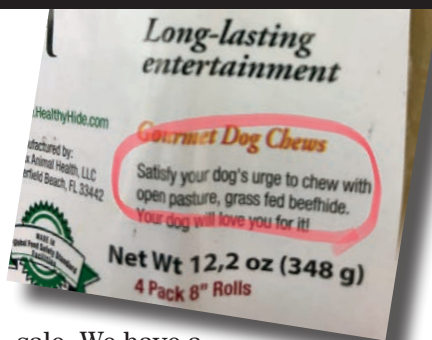
# Dog Bones and Fake News

BY JILL J. DUNKEL

I admire creative marketing. As an individual with an agricultural journalism degree, marketing is a big part of my background. But deceptive marketing or false marketing drives me nuts.

There are marketing schemes that take advantage of consumers, and I think a lot of shoppers fall for it. Organic, non-GMO... most consumers are not educated and think those products are uniformly superior. So many products labeled “non GMO” don’t even have a genetically modified counterpart. It’s almost like putting “non GMO” on copy paper and charging more for it. It’s fake news, but customers are buying into it.

Fast forward to last week. I was at the grocery store stocking up for a couple weeks when I pointed my basket down the pet food aisle. We have a herd of barn cats that work mice and snake patrol, and I never leave the grocery store without at least 40 pounds of cat food. As I was scanning the shelf for the cheapest feline cuisine, I couldn’t help notice the wide array of dog bones for



sale. We have a puppy at our house, so finding something for “John Wayne” to chew on instead of my shoes sounded pretty appealing.

I’ve heard rawhide can get stuck in the digestive tract of dogs if they swallow a large piece. At this point in puppy parenting I wouldn’t put anything past John Wayne, so I picked up a package of “easily digestible” dog chews. That’s when I saw it.

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Whaaaat? Open pasture, grass fed beefhide? And you guessed it. Those “premium” dog chews were more expensive than the rest. I know there is a difference in texture and flavor of grass fed and grain fed meat. But the hide?

Maybe the company feels this is a successful marketing tactic for those who believe cattle in feedlots are mistreated. Maybe certain consumers would spend more money for this brand of dog chews because they are uninformed about beef production. Maybe they think these dog chews are superior just because the package implies that?

Think twice about purchasing items based on “creative marketing.” Help educate your friends and neighbors. Tell them about your business and how cattlemen care for animals. We have to speak up because these creative marketing tactics are buying in to our consumers.

John Wayne did get some dog chews out of the deal. But they weren’t certified non-GMO, open range or guaranteed grass fed. And he liked them all the same. **FL**



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**INDICATIONS:** Zuprevo® 18% is indicated for the treatment of bovine respiratory disease (BRD) associated with *Mannheimia haemolytica*, *Pasteurella multocida*, and *Histophilus somni* in beef and non-lactating dairy cattle, and for the control of respiratory disease in beef and non-lactating dairy cattle at high risk of developing BRD associated with *M. haemolytica*, *P. multocida*, and *H. somni*.

**WARNINGS: FOR USE IN ANIMALS ONLY. NOT FOR HUMAN USE. KEEP OUT OF REACH OF CHILDREN. TO AVOID ACCIDENTAL INJECTION, DO NOT USE IN AUTOMATICALLY POWERED SYRINGES WHICH HAVE NO ADDITIONAL PROTECTION SYSTEM. IN CASE OF HUMAN INJECTION, SEEK MEDICAL ADVICE IMMEDIATELY AND SHOW THE PACKAGE INSERT OR LABEL TO THE PHYSICIAN.**

Avoid direct contact with skin and eyes. If accidental eye exposure occurs, rinse eyes with clean water. If accidental skin exposure occurs, wash the skin immediately with soap and water. Tildipirosin may cause sensitization by skin contact.

For technical assistance or to report a suspected adverse reaction, call: 1-800-219-9286.

For customer service or to request a Material Safety Data Sheet (MSDS), call: 1-800-211-3573. For additional Zuprevo 18% information go to [www.zuprevo.com](http://www.zuprevo.com).

For a complete listing of adverse reactions for Zuprevo 18% reported to CVM see: <http://www.fda.gov/AnimalVeterinary/SafetyHealth>.

### DO NOT USE ZUPREVO 18% IN SWINE.

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**PRECAUTIONS:** The effects of Zuprevo 18% on bovine reproductive performance, pregnancy and lactation have not been determined. Swelling and inflammation, which may be severe, may be seen at the injection site after administration. Subcutaneous injection may result in local tissue reactions which persist beyond the slaughter withdrawal period. This may result in trim loss of edible tissue at slaughter.

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# PNEUMONIA IN FEEDER CALVES?

## Don't Forget *Histophilus Somni*

In this era of advanced vaccine technology and long-acting, expensive, powerful antibiotics, why do cases of Bovine Respiratory Disease (BRD) continue to increase? One reason is the re-emergence of *Histophilus somni* (formerly known as *Haemophilus somnus*) as a major bacterial pathogen responsible for the development of pneumonia in feeder operations.

While *Mannheimia haemolytica* is the bacteria known to cause the dramatic pneumonia signs of fever, depression, appetite loss and rapid death, *Histophilus somni* (HS) can cause similar symptoms and is proving very difficult to treat and control with traditional methods. The organism is often found in combination with *Pasteurella multocida* or other BRD bacteria in “biofilms” which are clusters of bacteria in a matrix that serves

as protection from antibiotics and host immune system responses.

Stress can trigger dispersal of large numbers of bacteria from the biofilm that can then invade the lower respiratory system. Once it establishes infection in the lungs, it can travel in the bloodstream to joints, organs (especially the heart), and to the brain. These calves may develop pneumonia, pleuritis (infection of the membrane surrounding the lungs), myocarditis (infection in the heart muscle), thrombotic meningoencephalitis (infection in the brain), tenosynovitis (infection within joints), and otitis media (middle ear infection).

The disease can happen anytime in the year but most clinical cases occur between October and January. Previously, disease due to HS or “histophilosis” was associated

with primarily Western and Midwestern states in the USA and Canada but cases are now being diagnosed throughout the U.S. Most comprehensive studies have been conducted in Canada where HS accounts for an estimated 40% of the death loss in feedlots.

Unlike typical BRD outbreaks that peak at 14 days after arrival to the feedlot, HS acute pneumonia cases peak at 25 days on feed. In the absence of consistently effective treatment or vaccine options, management practices are crucial to controlling *Histophilus* pneumonia. Metaphylaxis, where treatment is applied to the whole group (either on arrival or once 10-20 % of the calves are showing clinical signs of BRD), along with prompt individual treatment of sick cattle is one recommended control approach. Vaccines are available against HS but their ability to prevent disease has not been proven.

The common BRD-associated bacteria (*Mannheimia haemolytica*, *Pasteurella multocida*, *Histophilus somni* and *Mycoplasma bovis*) are considered normal bacteria in the nasal passages of healthy calves but with stress (such as transportation and commingling) and viral infection, they can descend into the lungs and sometimes spread throughout the body, causing disease. This simple disease model is now under scrutiny with the realization that multiple factors contribute to combinations and complex interactions between the environment, the bacteria and viruses, and the calf's immune system.

Stressed cattle are more susceptible to the viral components of BRD, including Infectious Bovine Rhinotracheitis (IBR), Bovine Viral





Diarrhea virus (BVD), Parainfluenza 3 virus (PI3), Bovine Respiratory Syncytial virus (BRSV) and possibly another agent commonly found, Bovine Coronavirus (BCV).

Viruses are known to damage the lining of the respiratory tract and some will actually suppress the immune system, allowing secondary bacterial infection. Once established in the lung, the bacterial components are responsible for the inflammation and bronchopneumonia signs seen with BRD. Combinations of different bacteria can work synergistically to cause more severe disease than if operating alone. There are no early clinical signs that indicate *Histophilus* is part or all of the disease problem, other than it occurs later after arrival than most cases of BRD.

The *Histophilus somni* Disease Complex (HSDC) is a term used to describe the respiratory disease when HS reaches the lungs and the complications from “septicemia,”

when HS leaves the lungs and lands in the brain, heart and joints. Components of the HSDC include:

### **Rapidly Fatal Pneumonia**

Some animals with HS pneumonia are simply found dead due to a rapidly fatal type of damage to the lung called “severe fibrinous pleuritis.” Currently, this is the most common manifestation of HS in western Canadian feedlots and is seen 30-90 days after arrival. Rarely are abnormalities found in any other organ besides the lungs which are covered in a thick sheet of fibrin and the lungs are often remarkably collapsed underneath.

### **Bronchopneumonia**

Some calves with HS develop typical signs of BRD including depression, separation from the group, off feed, cough, excessive nasal discharge and difficult or rapid breathing. Respiratory signs with fever of 104°F or above confirms the diagnosis of BRD but detection

of the bacteria and/or viruses involved must be done at a diagnostic laboratory. Treatment is often unrewarding in the field although in the laboratory, the bacteria is susceptible to many antibiotics.

### **Heart Muscle Damage**

HS can cause a “necrotizing myocarditis” when it localizes in the muscles of the left ventricle of the heart. Death can be rapid with no previous signs (a heart attack) or chronic forms lead to “poor doers.”

### **TME**

Thrombotic meningoencephalitis-myelitis or “TME” is a disease of older calves and yearlings affecting the brain. During an outbreak, individual cases occur sporadically in separate pens in a feed yard. Signs include depression, fever, blindness, coma and death; this can look similar to signs seen with polioencephalomalacia or “brainers.” Treatment is most often unrewarding. ►

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**PNEUMONIA...** from previous page

### Other Manifestations

Arthritis with joint swelling may follow episodes of pneumonia. Middle ear infections with drainage from the ear canals may also be seen.

Diagnosis of *Histophilus somni* pneumonia in a live calf is challenging because it is present in the upper airways of both healthy and diseased calves so swabs taken from deep in the nose will not tell the story of what is actually happening in the lungs. Only lung fluid removed from the lung via bronchoalveolar lavage can be used for culture or molecular assays such as PCR to identify the organism. The organism is very difficult to grow in the laboratory, especially if the calf was treated with antibiotics, so PCR is strongly recommended for detection. Mixed lung infections with other disease-causing bacteria such as *Mannheimia haemolytica* and *Pasteurella multocida* can easily overgrow *Histophilus somni* on a culture plate so the identification is easily missed when relying on traditional bacterial culture methods alone.

Prevention depends on sound biosecurity and biocontainment practices. Because HS pneumonia or septicemia may develop secondary

to viral infections (especially BVD) or in combination with other bacterial pathogens, control should begin with minimizing the effect of well-recognized factors predisposing to BRD. Stress plays a major role in disease through immunosuppression so excellent nutrition, sound vaccination protocols and management are critical. There are numerous challenges to production of an effective vaccine to prevent *Histophilus somni* infections. In spite of all the considerable amount of work on bacterin-based HS vaccines, there is no direct proof that these vaccines are effective under field conditions. Consult with your local veterinarian for the best management plan for your operation.

The following steps should reduce the risk of pneumonia in feeder calves:

1. Vaccination with a 5-way respiratory virus vaccine and a Mannheimia haemolytica toxoid. Use of an intranasal vaccine initially for the viral fraction is recommended in high risk cattle to keep appetite up and reduce vaccine-induced fever.
2. Cattle with extremely low blood concentrations of the trace elements selenium and copper have difficulty fighting any disease challenge. An injectable trace mineral supplement (such as Multimin 90)

is often needed to boost the copper and selenium levels during the initial arrival period.

3. Metaphylactic treatment (treatment of all calves on arrival) of high risk calves with long-acting antibiotics is a well-established, beneficial procedure that can reduce morbidity (sickness) and case fatality (death) by up to 50% in high risk calves. Be aware that overconfidence in and reliance on metaphylaxis and long-acting antibiotics can lead to delayed follow-up treatment if calves are not adequately monitored.

4. Feed bunks and watering troughs are known areas for disease transmission. Keep sick cattle, especially chronic pneumonia calves, away from healthy calves and manage the feed and water separately.

5. Eliminating exposure by reducing unnecessary traffic through the farm, isolating new arrivals, good sanitation and treating sick cattle early will help reduce the risk of disease spread.

6. Buying preconditioned calves that have been weaned and vaccinated for respiratory diseases prior to weaning (especially BVD) and dewormed will help minimize sickness and death loss.

In summary, the clinical features of disease caused by *Histophilus somni* are often confused with other diseases commonly seen in the feedlot. Response to antibiotic therapy is frequently very poor due to biofilm protection. Diagnosis in a live calf can be difficult since *H. somni* is often recovered from nasal swabs of healthy calves so the presence of the bacteria in the nose of a sick calf does not prove it is causing disease. It is also a difficult bacterium to grow in the laboratory, especially if the calf has been recently treated with antibiotics. Future research will focus on the relationship between HS and other respiratory pathogens, developing improved diagnostic tests, monitoring antibiotic effectiveness and development of new vaccines for prevention of disease.

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<sup>1</sup> Data on file, Study Report No. MC013-06-AULA13 (Colorado study), Zoetis Inc.

<sup>2</sup> Data on file, Study Report No. MC014-06-AULA13 (South Dakota study), Zoetis Inc.

<sup>3</sup> Data on file, Study Report No. MC015-06-AULA13 (Oklahoma study), Zoetis Inc.

<sup>4</sup> Data on file, Study Report No. MC017-06-AULA13 (New Mexico study), Zoetis Inc.

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# Getting the Most Out of Your

Implants are one of the most profit-driving technologies available to cattle producers today. When implemented properly, implants contribute as high as a 14:1 return on investment (ROI). Two important things to consider, and review annually, when incorporating an implant protocol into your operation are selecting the correct implant program and using appropriate implanting techniques.

Last month's article provided a chart that outlined implants currently available, as well as suggested ways to incorporate them into your operation. There are two primary compounds found in

implants; the first are estrogenic compounds that mimic the naturally occurring hormone estrogen and the second are androgenic compounds that mimic the naturally occurring hormone testosterone. These compounds slowly release hormone into the bloodstream over time. The length of time that an implant releases hormone is known as the payout period. As mentioned in last month's article, different implants are formulated to have different payout periods. In order for an implant to pay for itself and have the greatest ROI, the implant needs to match up with the number of days on feed and stage

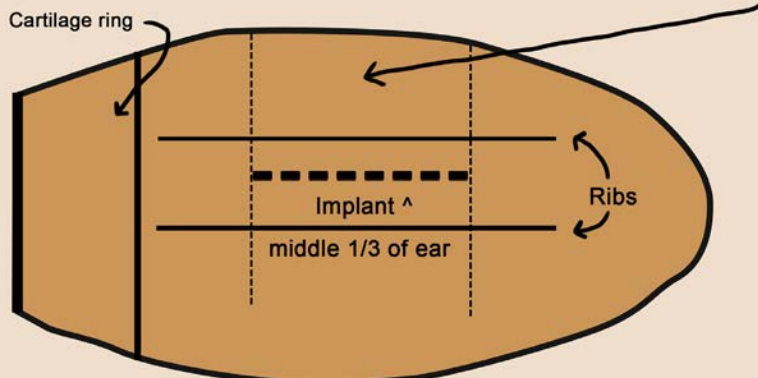
of production.

In order to determine which implant should be given and when, work backward from the day the cattle should be sent to slaughter or sold. If your implant is going to run out prior to the cattle being sold, consider re-implanting. It is common for cattle to receive 1 to 3 implants in their lifetime. Choosing the correct implant is a step in the right direction; however, the labeled payout period can be reduced if the implant is not administered appropriately.

Implanting procedures are extremely important in order to maintain efficacy of the implant. If implants are placed improperly or become infected, they will not release hormones as they were designed, which can greatly affect the potency. Infected implant sites can cause expelled implants or a quicker than normal payout resulting in bullers. Bullers can also be caused by implants that are crushed. To help prevent these issues, implants should be given with the gun designed for that implant, and guns should be kept in good repair with sharp needles. Implants should be placed in a clean, dry ear. If the calf's ear is caked in mud and/or manure, the ear needs to be cleaned using a solution of Nolvasan® water and a scrub

## Approved Location for Implant Administration

If the middle of the ear has been damaged, place implant on the top of the ear.



If the tip of the ear is missing, place implant in the outer one-half of the remaining ear.





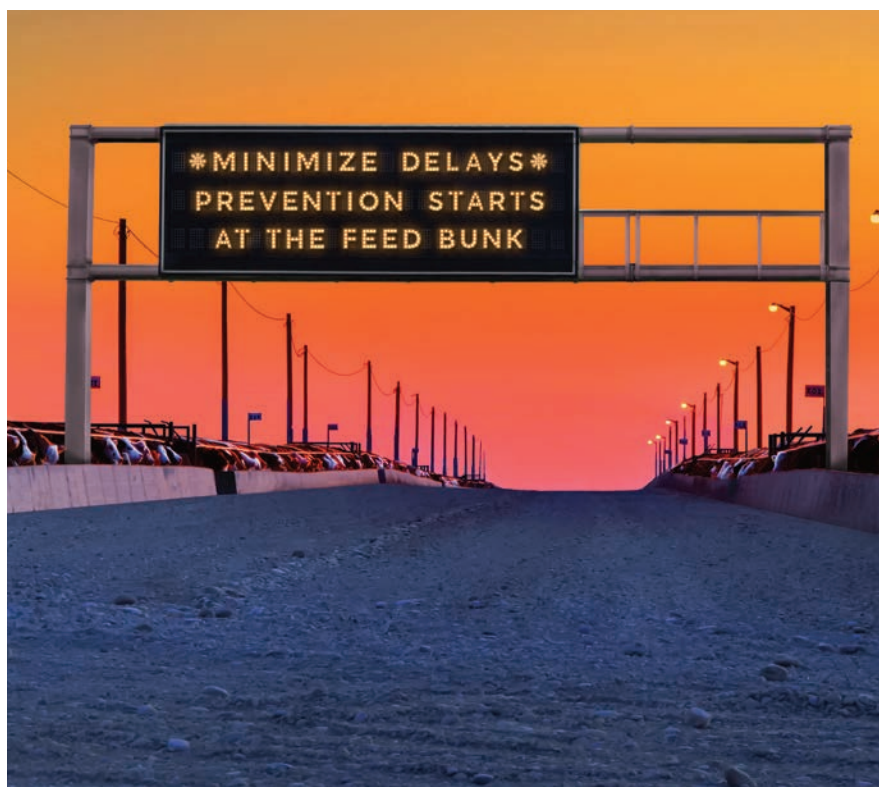
# Implant

brush or currycomb chute-side. Upon determining that the ear is clean, the implant should be placed in the middle third of the ear, about halfway up from the tip to the head. Implants should be placed directly under the skin, taking care to avoid placing the implant in the actual cartilage of the ear. Once you withdraw the needle, take a moment to put pressure on the puncture site to help close up the hole. It's also good practice to feel the implant site to make sure that the implant was placed properly and no pellets were crushed.

The implant needle should be disinfected between each calf. This can be done by keeping a pan, such as a paint pan, with a sponge soaked in Nolvasan® disinfectant chute-side. After each calf is implanted simply swipe the needle across the sponge to disinfect. This will help reduce the chances of infection of the implant.

In conclusion, choosing the appropriate implant for your operation and utilizing proper techniques when administering an implant will help maximize implant return. Contact a consultant at Great Plains Livestock Consulting, Inc. for a customized implant program that works for your operation

For more information, visit [www.gplc-inc.com](http://www.gplc-inc.com).



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# Pressure Is On During Lame Duck Congressional Session

The makeup of the House and Senate will look different come January 2019, and Colin Woodall, senior vice president of government affairs for the National Cattlemen's Beef Association says he doesn't expect much legislation to move in the next few years.

"The big picture reaction, we're not really surprised on what happened on election night. We were prepared for this. We anticipated this as one of the potential outcomes, and we will have to figure out how to retool in a few ways to operate in a split Congress with a Republican Senate and Democratic House," he said. "The one thing people need to understand is just because there's a change doesn't mean we are under water in cattlemen's priorities."

Woodall said there will be plenty of opportunities to work with

Democratic members of the house who are friendly to cattlemen's causes. "We have quite a few of those who will be willing to step up and help us," he said.

That said, he believes the new Congress will be all about gridlock and doesn't expect much legislation to move. The House will likely spend a great deal of time on congressional oversight of the Trump administration, and anything the House does pass will likely not be something the Senate is interested in carrying forward.

"We are of the opinion that a Congress that doesn't do much is actually a good Congress," Woodall said when it comes to agriculture and the cattle industry. "We don't need a lot of bills coming at us."

In the mean time, Woodall said the lame duck session will be critical to moving some important

pieces of legislation through Congress.

"If history is any indicator, it will be a race to the finish line to get as much done as possible," he said relative to a lame duck Congress. "For us, the focus is on the Farm Bill. The good news is the Collin Peterson (D-Minn.), ranking democrat on the House ag committee, has also said he wants to get it done. That's good news for everybody."

Peterson supports Food and Mouth Disease vaccine banks, a cause important to NCBA.

In addition to the Farm Bill, Woodall suspects an appropriations bill will be rushed through, and that includes items regarding ELD and fake meat.

"Outside of that, I doubt anything gets done between now and the end of 2018."

**FL**

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# PACKER TALKS TRANSPARENCY, TRUST AND DEMAND DRIVERS

Beef packers bridge the gap between producers and consumers, but even “the largest packer in the world” is nothing without its suppliers, John Gerber said.

Stating the obvious to 200 cattlemen at the Certified Angus Beef® (CAB®) brand’s Feeding Quality Forum, the longtime procurement head for Tyson Fresh Meats set the tone. Every link in the supply chain from ranch to consumer has a role to play.

“We do billions of dollars of business on a handshake—this is the only industry that can do that—and I hope that never changes,” Gerber said.

The best way to ensure those traditional building blocks of trust and loyalty are continued communication and collaboration, with an even greater effort at transparency, he added: “We’re going to be wide open.”

Relationships with suppliers met demand for “more CAB-type

cattle” in just six months when a major retailer called for so much more in 2016 that the Tyson team first wondered if it would take two or three years, Gerber said.

“That ability to give consumers what they demand is important to all of us,” he said, explaining why five of six company plants turned away from Holsteins, and bids are down for Select grade beef.

“Very few consumers want Selects anymore,” Gerber said.

What they do want, the whole world knows about in short order these days, thanks to technology, said Kevin Hueser, Tyson vice president of beef pricing.

Consumers have always controlled purchasing decisions.

“Did they like the product—what they knew about it? Prior to 2010, they transferred that information word-of-mouth to a pretty small circle of friends,” Hueser said.

As the seller, we controlled the product, made what we wanted



Gerber



Hueser

and told them what we wanted them to know,” he added. “Well, what’s changed? Our relationship: the balance of power shifted toward consumers.”

They still control the buying decisions, but also user-generated information on platforms like Snapchat, Facebook and Pinterest.

“The amount of information they generate, whether they like it, don’t like it, the experience, have they heard something bad about it or something good about it—and don’t forget most consumers are at least two generations removed from a farm,” Hueser said. “They don’t know where food comes





from; they only know what they see on TV, and what they know is what they share.”

Consumers do read labels, have demanded some ingredients or additives be listed.

“They want to know what’s in the product they’re consuming,” he said. “As sellers, we still control the product or service, but we’re catering to a much different consumer.”

In terms of premium products, Hueser said those definitions are changing in consumer eyes, too. Marbling in beef may have been the most important trait decades ago, and it may be still. But now, premium beef means marbling plus information.

“It’s not just about fancy or expensive,” he said. “What about the people who produce it, the people who sell it, what does it mean to me, what does it mean to them? How are the animals raised, is the environment being taken into consideration?”

That’s why Tyson continues to launch consumer-facing initiatives to reduce the supply chains’ impact on the environment and water and ensure humane animal care, Gerber and Hueser said. The company has pledged to reduce water usage 13% by 2020, and greenhouse gas emissions 30% by 2030.

By the first day of 2019, the Tyson supply chain will be 100% Beef Quality Assurance (BQA) certified, they noted. A very large customer’s promise to its customers helped drive that initiative.

“We also need to do it because it is the right thing to do,” Hueser said. “You’ve been in business a long time; you know mistreating animals is not profitable. Nor is it morally right. Tell the story.

“Not everyone out there wants to see cattle production be successful,” he said. “Unless we’re transparent, unless we talk about the good things we’re doing and the way our product is raised, others will tell those stories and we’re going to lose that battle.”

In August, Tyson became the first packer licensed with Kansas-based Progressive Beef LLC, which operates a feedyard program focused on cattle care, food safety and sustainability, all USDA audited. Hueser said the packer aims to purchase much of its beef through that channel as relationships grow.

“It’s not going to happen in six months, or maybe even three years,

but we’re going to get there.”

That forward-looking promise applies to the blockchain system of traceability and information sharing up and down the supply lines, too, he added.

“We need traceability to inform consumers and to protect our livelihood,” Hueser said. “We have to get there.”

FL



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1 Production Best Practices (PBP) to Aid in the Control of Foodborne Pathogens in Groups of Cattle. Beef Industry Food Safety Council Subcommittee on Pre-Harvest. Spring 2015. Accessed March 19, 2015.  
2 Tabé ES, Oloya J, Doelcott DK, Bauer ML, Gibbs PS, Khaitsa ML. Comparative effect of direct-fed microbials on fecal shedding of *Escherichia coli* O157:H7 and *Salmonella* in naturally infected feedlot cattle. J. Food Prot. May 2008; 3(71): 539-544.  
3 Lallemand Animal Nutrition. Unpublished. United States. 1996.  
4 Hutcheson D and Lallemand Animal Nutrition. Unpublished. United States. 1986.

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**BRIEF SUMMARY:** For full prescribing information, see package insert.

**INDICATION:** RESFLOR GOLD® is indicated for treatment of bovine respiratory disease (BRD) associated with *Mannheimia haemolytica*, *Pasteurella multocida*, *Histophilus somni*, and *Mycoplasma bovis*, and control of BRD-associated pyrexia in beef and non-lactating dairy cattle.

**CONTRAINDICATIONS:** Do not use in animals that have shown hypersensitivity to florfenicol or flunixin.

**WARNINGS: NOT FOR HUMAN USE. KEEP OUT OF REACH OF CHILDREN.** This product contains material that can be irritating to skin and eyes. Avoid direct contact with skin, eyes, and clothing. In case of accidental eye exposure, flush with water for 15 minutes. In case of accidental skin exposure, wash with soap and water. Remove contaminated clothing. Consult a physician if irritation persists. Accidental injection of this product may cause local irritation. Consult a physician immediately. The Material Safety Data Sheet (MSDS) contains more detailed occupational safety information.

For customer service or to obtain a copy of the MSDS, call 1-800-211-3573. For technical assistance or to report suspected adverse reactions, call 1-800-219-9286.

Not for use in animals intended for breeding purposes. The effects of florfenicol on bovine reproductive performance, pregnancy, and lactation have not been determined. Toxicity studies in dogs, rats, and mice have associated the use of florfenicol with testicular degeneration and atrophy. NSAIDs are known to have potential effects on both parturition and the estrous cycle. There may be a delay in the onset of estrus if flunixin is administered during the prostaglandin phase of the estrous cycle. The effects of flunixin on imminent parturition have not been evaluated in a controlled study. NSAIDs are known to have the potential to delay parturition through a tocolytic effect.

RESFLOR GOLD®, when administered as directed, may induce a transient reaction at the site of injection and underlying tissues that may result in trim loss of edible tissue at slaughter.

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**ADVERSE REACTIONS:** Transient inappetence, diarrhea, decreased water consumption, and injection site swelling have been associated with the use of florfenicol in cattle. In addition, anaphylaxis and collapse have been reported post-approval with the use of another formulation of florfenicol in cattle.

In cattle, rare instances of anaphylactic-like reactions, some of which have been fatal, have been reported, primarily following intravenous use of flunixin meglumine.

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# Lower Heifer Costs NOT FERTILITY

*It's a great time to own cows, but only if you have a competitive cost structure with the right genetics and management to compete in today's marketplace, Rick Funston said.*

The reproductive physiologist with the University of Nebraska-North Platte addressed 200 cattlemen at the Feeding Quality Forum this summer in Sioux City, Iowa.

While input costs should be minimized in times like these, "breakeven at best" for many, he said, it won't pay to compromise fertility in the process.

"Fertility is the most important trait in beef production, especially in the cow-calf sector, but all the way to the plate," Funston said. "If we don't have a live calf, we don't have anything for the consumer."

That's why he focuses much of his work on replacement female development.

"It's a huge financial cost before she produces a weaned calf," Funston said. "We have to look at low-input development so we don't have exorbitant costs for a female that's difficult to get rebred."

Relatively cheaper feed such as corn residue may bring slower gains, but he noted that's often no problem for five-weight weaned heifers that only need to gain 250 pounds.

When the optimum percentage get bred and move on to better nutrition on summer grass, they respond more favorably than their peers developed to a higher weight on better feed. The slower-start heifers rebred at a higher rate and stay in the herd longer because their diets fluctuate less than heifers given every early feed advantage.

"You feed them up on whatever your byproduct is, get them all pregnant and say, 'Oh, by the way, you are never going to see that again.' A lot of our work," Funston said, "is focused on let's treat that heifer like she is going to be treated as a cow."

Aiming for 95% or more bred is folly, he added. "If I can get that, am I really selecting for the more fertile ones?" Better to get cattle to rebreed a few points lower than that, but on low-cost feed such as corn stalks.

Data on early-born steers has shown their advantage from feedyard to packinghouse and beef quality grade, but recent data also shows heifers born in the first 21 days of a calving season are heavier at weaning, gain at the average rate after that and begin cycling before the breeding season. They have a higher pregnancy rate, more in the first 21 days, breed back sooner and wean a heavier calf than average.

Unfortunately, many producers cull the early-born heifers for being too big, not realizing they are simply older.

"This is a mistake," Funston said, urging adoption of some quick visual tool such as notching ears of those early heifers. "Get rid of those that are born late."

Heifers most likely to settle the first time and then rebreed on time are more likely to stay in the herd long enough to make a profit. **FL**



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<sup>1</sup> Exhibits bactericidal activity against some strains of *Mannheimia haemolytica* and *Histophilus somni*.

<sup>2</sup> The correlation between *in vitro* susceptibility data and clinical effectiveness is unknown.



# 3 Nutrition Tips to

**T**he cattle industry has breeding gold standards 85 days to rebreed, a 60-day calving window and cows in body condition score (BCS) 6, to name a few. But beating the average and holding your operation to a higher standard isn't just another bullet point on a list of goals; it's a philosophy with tangible, long-term benefits.

"Above average results mean more dollars in a producer's pocket," says Elizabeth Backes, Ph.D. and cattle nutritionist at Purina Animal Nutrition. "More cows bred will translate to more calves born, which means more calves weaned and more pounds to sell. If producers can get more calves on the ground, that's more dollars in their pocket."

One way to achieve better-than-average breeding results is by focusing on nutrition. Here are three nutrition tips to beat the average:

## Mineral as the Foundation

"The foundation of any cattle nutrition program is mineral," says Backes. "Providing supplements and mineral help maintain a consistent body condition score year-round for greater breeding success."

Cows managed for optimal body condition at calving (6 BCS) rebreed with conception rates of 88 percent or greater. Minerals help repair a cow's reproductive tract after calving and prepare for breeding. If her tract is not fully repaired, a cow may have challenges being rebred or may not breed back at all.

Additionally, nutrition can impact multiple generations of the herd. Dam nutrition can impact future replacement heifer fertility. At any given time, a productive beef cow is eating for two or three. She is likely bred, carrying a fetus and may still be nursing a calf. The nutrients the calf receives in utero and at side

Minerals help repair a cow's reproductive tract after calving and prepare her for breeding.

# Improve Your Breeding Program

can impact its reproductive abilities.

"Don't make the mistake of thinking your forages will provide all of the minerals your cattle need to thrive," says Backes. "If you're not providing a quality mineral year-round, you're leaving breeding success to chance."

## Record and Monitor BCS

If you don't collect body condition scores (BCS) regularly, it's time to start. Collect scores 60 days before calving, at calving/pre-breeding and at weaning. It's most important to score 60 days before calving because the condition

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in which a cow calves impacts how quickly she will return to estrus.

"A good body condition score can decrease the postpartum interval so cows get bred earlier in the breeding season," says Backes. "Cows bred earlier in the season have calves born early in the

calving window, which results in more weight at weaning. And, when a calf gains between 2.25-2.5 pounds per day, every heat cycle is worth about 50 pounds."

A body condition score of 6 is ideal, and every point matters. Research shows that when cows calve with a body condition score of 6, 98 percent showed estrus by day 40 of the breeding window and 90 percent were confirmed pregnant by day 40.1 The same research showed a drop in BCS to 5 resulted in only 80 percent in estrus and 65 percent confirmed pregnant by day 40. At BCS 4, only 56 percent were in estrus and 43 percent were confirmed pregnant.

#### Act on BCS, Forage Conditions

Turning valuable BCS data into action is key. Monitor scores regularly so you can adjust nutrition plans in real-time.

Don't forget to keep an eye on forage quality. When forage quality

is less than ideal, consider supplementing before cows start to lose condition. Once cows lose condition, it can be expensive to gain back. A proactive approach to supplementation is best.

"Cattle supplements with intake control properties can provide nutrients to complement your forage and maintain cow body condition through all seasons," says Backes. "If cows need more nutrients, they'll consume more supplement. If cows are getting the nutrition they need from forages, they'll consume less."

Backes' biggest takeaway? Never let your cows have a bad day. "Set cows up for success by providing them with quality mineral and protein supplements," says Backes. "A good, year-round nutrition program supports improved breeding rates."

Visit [purinamills.com/breeding](http://purinamills.com/breeding) to learn more about better-than-average breeding results.





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# GENETIC POTENTIAL

## *Angus Link brings buyers and sellers together through the power of information*

There was a time when a set of calves of similar size and similar color brought the same amount, but now we're seeing more emphasis on specification feeder cattle and documenting those differences. That was the message from Dan Moser, president of Angus Genetics Inc. regarding how technology can document differences in cattle, and how producers can reap the reward of having cattle with more gain and marbling potential.

With such a high percentage of fat cattle sold on the grid, feeder buyers often purchase calves based on historical success, vaccination programs and other factors. Sometimes their decision to sell on a grid is based on their

guess of the potential to grade, the feeding program, or even a hope or a prayer. But a recently introduced program geared for commercial producers with Angus genetics can put a number on the genetic potential of feeder cattle to perform in the feedlot and on the rail.

Angus Link, introduced in the summer of 2018 gives feeder buyers a score, or report card if you will, with which to estimate the genetic potential of feedlot performance on a set of calves. Commercial producers turn in data from their bull battery and cow herd from which the score is derived. From there, calves are enrolled in the program and can be marketed with the data in a variety of ways, including the AngusLink website if the rancher chooses to make the information about his calves public.

"For the feeder, it's a way to have another piece of information about the cattle you could potentially buy," said Chris Engel, director of the program. "It's a way to manage risk. It highlights cattle that have the inherent genetic ability to perform and meet marketing objectives. Now feeders have the ability to measure genetic performance potential in the calves they buy."

### The Score

Three scores are given to each set of calves enrolled in the program. These scores are based on the bull and cow data provided by the producer. The foundation of the scores are the American Angus Association's dollar value indexes known as \$B (beef value); \$F (feedlot value) and \$G (grid value.)


So what do each of these mean, and how do they contribute to the genetic potential in the feedlot? The beef score predicts the genetic potential for feedlot performance and carcass value by looking at EPDs, according to the Association. Carcass weight, barbing and feed efficiency are all considered. The feedlot performance score is the group potential for postweaning performance, based on EPDs for average daily gain and dry matter intake. The third and final score, the grid value, predicts performance potential for carcass grid merit taking into account EPDs for marbling, fat and ribeye area.

Each score is between 0 and 200, with 100 being the industry average of each score. Cattle feeders can then select a group of calves based on the scores that are most important to their feeding program.

### How It Works

Specifications on enrolling in the program are available at AngusLink.com, and include percentages of the bull battery must be registered, with at least 50% of those being registered Angus. Information on the cow herd is also part of the process. For enrollment information, or to see what feeder cattle are for sale and enrolled in the program, visit [www.AngusLink.com](http://www.AngusLink.com).

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# Blockchain Technology For Beef

The IBM brand isn't often associated with the cattle business. But that may change, thanks to the tech giant's IBM Food Trust and its use of blockchain. That's just what it sounds like: blocks of information that form a chain, linked via Internet to allow information sharing that is seamless, efficient and secure.

Its primary application is between partners across an industry striving to achieve improved transparency, traceability, sustainability — and ultimately even profitability.

Nigel Gopie, marketing leader for the IBM initiative, told 200 cattlemen at the late-summer Feeding Quality Forum in Sioux City, Iowa, the system offers trust and transparency in places where it either doesn't exist or could be improved.

"In the food industry, in particular," Gopie said, "there are a lot of concerns about food safety, food fraud, sustainability, and others. We believe that, with blockchain, we can bring light to problems that have plagued us for centuries."

Take food safety, for example.

With blockchain, the source of contamination could be pinpointed easily — no more long-lasting scares like the one earlier this year where consumers were told to avoid romaine lettuce for months.

"With blockchain, we're able to solve problems that we never could solve before," Gopie said.

The benefits of information sharing works both directions.

"I could learn more about your



## Acceptance of Blockchain in the Food Industry

Acceptance and widespread use of blockchain in the cattle industry is in the infant stages right now, but the term is something that ranchers should start learning about. Major food manufacturers are taking notice, and Walmart will require

blockchain use with certain food products in 2019.

After a food safety scare with romaine lettuce kept customers away from the leafy greens for an extended period of time, the food giant conducted multiple blockchain pilot projects to see if the information chain could reduce the time it takes to identify the source of a food safety outbreak. The results? Without blockchain, it took six days, 18 hours, and 26 minutes to trace mangoes back to its original farm. With blockchain — 22 seconds.

That caught the retailer's attention in a big way. During an outbreak of disease or

contamination, six days is an eternity. So by this time next year, Walmart and Sam's Club will ask suppliers of leafy greens like romaine lettuce and spinach to implement food traceability via blockchain technology.

Does that mean super grocers like Walmart will be requesting the beef industry to do the same? It's hard to say. Tracking leafy greens from the field to the shelf is not as complex as a 1,200 pound steer that takes 18 months to reach the meat case. However as early as 2016, the giant retailer was working with officials in Beijing to track Chinese pork in pilot projects.

Some Wyoming ranchers are banking on consumers' interest in the history of the meat on their plate, and they're investing in blockchain technology. Six multi-generational Wyoming ranches have partnered to form BeefChain™, an effort to use blockchain technology to track cattle from the farm to the plate. These six ranches have tagged almost 1,600 calves that will be marketed as Wyoming Certified Beef in

the fall of 2019.

According to BeefChain's website, using blockchain technology has two objectives. First, it brings technology to the rancher in order to enhance traceability and prove humane handling. Second, it creates an end-to-end supply chain solution dubbed "Rancher to Retail" through BeefChain's investment in feedlot and processing operations. These operations will allow BeefChain to offer exclusive, long-term relationships with buyers across the globe, ultimately offering their certified beef at a premium.

Several notable individuals are involved in the project, including Wyoming state senator Ogden Driskill and state representative Tyler Lindholm, as well as partnerships with the University of Wyoming and individuals with major food industry experience.

Want a closer look?  
Visit [www.beefchain.com](http://www.beefchain.com)



# BeefChain





organization by sharing data, I can learn more about my organization, but also together, we can learn a whole lot more” he said “What we believe in is, the whole is greater than the sum of the parts.”

While the audience of quality-focused cattlemen was intrigued, many had the same concern, voiced in a question: Is it secure? Gopie assured them it is.

“With blockchain, your data belongs to you,” he said. “We believe your data does not belong to the solution, nor does it belong to your transaction partners. And so, your data is held in secure environments and it’s only shared when you want to share it. It’s encrypted and no one can get access to that data unless you permission it.”

He added cattlemen have flexibility when it comes to sharing, too.

“You don’t have to permission all of your data — you can share pieces of data, you can share all of your data, and you can share data with me or your transaction partners one month, but then change that

permissioning so we share different data or no data at all the following month,” Gopie said.

And what about liability? Would a rancher or feeder be responsible if E. coli was traced back to his operation? What would that look like?

Gopie said blockchain is about fact finding, not fault finding. And beyond that, it’s important to remember an outbreak may not be related to time on the hoof anyway.

“It could’ve been any point during the supply chain, but by having the visibility, you’re able to help figure out where different paths cross, and then you’re able to identify the problem,” he said. “So, it may not be on a farm at all. However, if it is on your farm, wouldn’t you want to know? Secondly, if it was not on your farm, you’d also want to share that information. You would be able to say, ‘I understand it was Nigel’s farm that had that problem and we’re all there to help and ensure that doesn’t happen again. But also, my stuff is safe.’”

That’s only one part of the equation. In a much bigger sense, blockchain’s application can allow a new and better way for consumers to feel connected to their food from pasture to plate.

“A lot of us folks who live in a city love the idea of understanding

where our food comes from, seeing pictures of where our cattle are raised. I think that sort of connection allows us to feel closer with the food that we’re eating, realize that the men and women who are raising these products really care about them, and it’s the same thing that they would feed their families at home,” Gopie said. “And so, it provides us with a little more trust about the entire system by allowing that connection to take place.” **FL**



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# DEVELOPING YOUR HIRING MANUAL

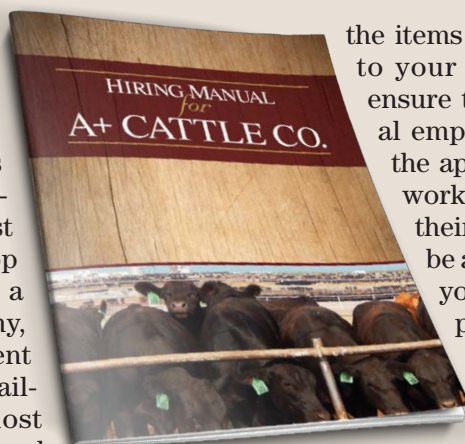
When asked about the biggest challenges in feeding cattle for a living, markets and marketing decisions are almost always at the top of that list. With a booming economy, low unemployment and a lack of available workers, most would say the second toughest challenge is finding and keeping good people. This will not change for quite some time, if ever, so our best strategy is to develop a complete plan for hiring and managing labor.

Let's assume that we already have essential documents including an employee handbook, job descriptions, a standard job application form, disciplinary reports and standard operating procedures. If we don't have them, we need to develop them very soon. In today's litigious environment, they are legally essential as well as a key part of a professional and thorough employee management program.

Providing a professional, streamlined and thorough hiring process ensures efficiency and effectiveness, as well as a welcoming and thoughtful experience for candidates. Developing a Hiring Manual and using it consistently is a great way to accomplish these objectives.

## Here are some of the essential elements of a Hiring Manual:

- Your profile of the "Ideal" candidate based on the traits of the best employees you have had over the years.
- A list of the items that are essential for the best skills fit, job fit and company fit. These are



the items that are unique to your operation that ensure that the eventual employee will have the appropriate skills, work effectively with their coworkers and be a good match for your overall company culture.

- A detailed listing of your recruiting strategy, where you need to advertise, the wording of the ads, who will respond to contacts initially via the phone or e-mail, your main objectives during the first contact with candidates, etc.
- Your strategy for reviewing potential candidates such as a thorough review of their job application form and resume, questions to ask their references, what factors or information makes them eligible for an interview, etc.
- The strategy for interviewing. This should include a list of the specific questions you will ask, who will be involved in the interviews, the number of interviews you will do, where they will occur, and a reminder about the questions that cannot be asked during this process.
- Pre-hire testing. This testing can be as simple as asking a mechanic candidate to explain how they would repair something that you are currently working on in the shop or having them weld a couple pieces of scrap metal together. You could have a potential office assistant type a standard paragraph, create a basic spreadsheet with some data fields and numbers you provide, do some simple math

for a close-out sheet or compare some invoices for inconsistencies. Equipment operators can back a truck into a dock, use a loader to move some hay bales around, or run other equipment that they say they have extensive experience. The key is to have them do things they would actually do in their job.

- Your selection criteria. What skills or traits are essential for them to be hired? Which elements of their job application form, résumé, interview, and pre-hire testing have the greatest influence on your final decision? How will you quantify company fit? What intangibles do you see that make a difference for some candidates?
- Onboarding. What are the initial steps that you will take with a new employee from the moment you let them know they are hired? How will you help them get acquainted with the workplace before their first day of work? Who will train them and what are the first stages of that process?

These are all essential elements of a thorough Hiring Manual that will provide great benefits for everyone involved in the process.

For more specific information about creating a Hiring Manual, go to [feedlotmagazine.com/hiringmanual.pdf](http://feedlotmagazine.com/hiringmanual.pdf) to download a document that includes more details on each area, additional advice and suggestions.

*Don Tyler is founder of Tyler & Associates Management Coaching. For additional assistance in your employee management and family business challenges, Don can be reached at [dhtyler@frontiernet.net](mailto:dhtyler@frontiernet.net) or by calling 765-490-0353.*

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## K-State vet urges livestock producers to be on the lookout for mycotoxins

**Fall weather may have created risk to animal feed.**

A Kansas State University veterinarian is urging the state's producers to be especially diligent about monitoring for mycotoxins in livestock feed this winter on the heels of weather conditions that promoted their growth this fall.

Toxicologist Steve Ensley said Kansas' summer drought conditions led to a heightened risk of aflatoxin in the state's grain crop,

while wet conditions during the 2018 harvest also made that grain susceptible to fumonisin. The risk is beyond the state lines as several other states experienced a summer drought followed by a wet fall.

"This year we have already had some death losses associated with mycotoxins in pigs and horses and so we've measured just a very few samples of corn and found very high concentrations of fumonisin and aflatoxin," Ensley said. "I'm

very concerned that it may be a bigger health issue statewide than the localized cases we've seen so far."


The fall weather patterns in Kansas were conducive to a buildup of mycotoxins in feedstuffs, particularly harvested grain and livestock feed, Ensley said. It simply means that livestock producers should be on the lookout for feed that may contain unsafe concentrations of mycotoxins, or mold toxins.

"These molds are present in agricultural environments all the time, but when they get on the right substrate with the right temperature and humidity, then they grow and produce a toxin," Ensley said. "They can be there and not produce



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a toxin or be there and produce a toxin like we are seeing this year.

"They are not infectious in nature. It's a toxin that gets in the feed, and then the animal has to consume the feed at the right concentration to get ill."

Different species show different symptoms, including damage to the animals' liver, kidney, brain or other organs. The disease is not transferrable to humans.

In addition to aflatoxin and fumonisin, Ensley said that other mycotoxins of concern in Kansas this year include vomitoxin and zearalenone. He also noted that dried distiller's grains, a by-product of corn ethanol production, can concentrate mycotoxins.

Ensley said that collecting a reliable sample of grain is key to detecting mycotoxins in an operation.

"The best time to sample is anytime you move grain from the field to the bin, or from the bin to

feeding," he said. "Anytime that grain is moving and you can get multiple samples along that line, that's the best way to obtain a random sample."

Ensley said samples that test

positive for a mycotoxin can sometimes be diluted to a safe level, except for aflatoxin, a carcinogen that is regulated by the U.S. Food and Drug Administration. **FL**

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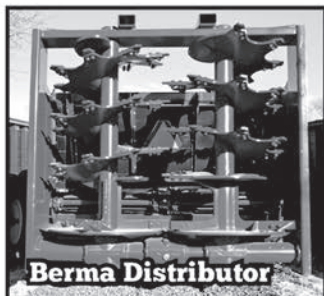
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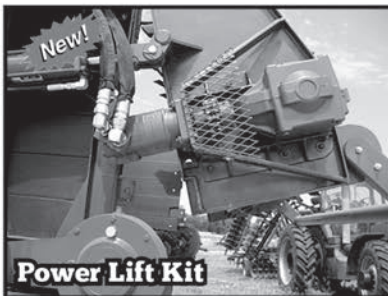
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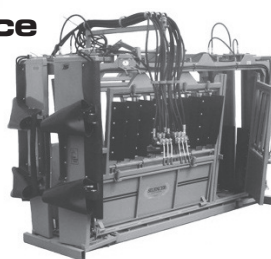


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