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Cover photo by Amy Spillman

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The Other Side of Trade

Trade is good for the beef industry, and export demand is one of the key reasons economists see optimism for 2020. However, trade works both ways, and a major beef exporter was granted access to the U.S. market last month. Beef exports from Brazil have not been allowed in the United States since 2017, when Sonny Perdue

suspended all imports of fresh beef from the country. On February 21, the suspension was lifted after an audit of Brazil's inspection system.

Perdue has conducted several meetings with Brazil's Ministry of Agriculture, Livestock and Supply (MAPA) since early last year. A veterinary team from the U.S. was in Brazil to inspect beef and pork slaughterhouses this past June. However, cattle groups are not a fan of Perdue's decision.

"NCBA strongly supports science-based trade and the Trump Administration's efforts to enforce science-based trade with all trade partners. But to be clear, NCBA has serious concerns about the re-entry of Brazilian beef to the U.S. market," said Kent Bacus, NCBA's senior director of international trade and market access.

"Given Brazil's history of foot-and-mouth disease (FMD) and its track record of repeated food safety violations at ports-of-entry, you can rest assured that NCBA will keep an eagle eye focus on all developments with Brazil and we expect nothing less than the highest level of scrutiny from USDA

and customs officials," Bacus said. "Should Brazil continue to have food safety or animal health issues, we expect the U.S. government, including Capitol Hill, to take all necessary and immediate action to protect U.S. consumers and U.S. beef producers."

Bacus also addressed concerns about "Product of USA" labels, and restated NCBA believes in voluntary origin labels with verified source claims.

Whereas NCBA pledged a watchful eye on the food safety side of the issue, R-CALF USA's CEO Bill Bullard issued a statement that he believes lifting the suspension is a deliberate act by the government and beef packers to destabilize the U. S. cattle industry. Bullard also used the opportunity to once again endorse Mandatory Country-of-Origin Labeling.

Time will tell as these imports begin hitting U.S. markets. Balance of trade is important in all businesses, but not at the expense of food safety. The Brazilian import issue needs to be closely watched on many fronts.

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MINDFUL MANAGEMENT

Reimagining Liver Health in Beef Cattle

Undetectable diseases are hard to cure.

You can't look at a pen of feedyard cattle and know which ones have liver abscesses. Even technologies like ultrasound or blood tests don't uncover it.

"It's just impossible to detect that in a live animal," said Scott Laudert, who studied the condition for years in his long-term role as a ruminant nutritionist with Elanco. "It's a silent disease."

He presented, "Liver abscesses: New thinking on an old topic," at the Feeding Quality Forum, in Amarillo, Texas, in 2019. Laudert, now retired, discussed the challenge, management practices and areas of needed research.

"It's estimated that the annual liver and visceral loss to the packer is in excess of \$60 million," he said. The livers themselves are only worth a few dollars, so the main cost is trimming adjacent tissue and the time and labor that takes.

The Elanco Liver Check Program data from 2014 to 2018 shows that 18% of fed steers experience abscesses. That's higher on Holsteins, at 49%, with 29% severe.

"Minor abscesses don't affect the performance," Laudert said. "The liver is a very resilient organ in the body. Those small abscesses, it can just work right around them,

regenerate itself where they might be taking up space and the cattle will perform just normally."

Of the cattle affected, perhaps a third will fall into the "severe" category, he said. The data say that's when feed intake typically drops 5%, with daily gains and carcass weight falling by up to 10%.

The animals themselves might not even feel the disease at work in their bodies.

A recent Colorado study showed no difference in eye temperature, hair cortisol levels or mobility scores as cattle with abscesses exited the chute, compared to those without. Additional study is needed, but in this case, the research suggests "liver abscesses are not causing any welfare or wellbeing issues with cattle in the feedlot," he said.

Yet, it's a shared concern for both cattlemen and consumers as antibiotics are used to prevent and treat the problem today.

"This is not something we can take lightly," commented John Stika, president of Certified Angus Beef LLC. "As we are committed to making sure human and livestock health concerns are addressed simultaneously, this is a place we need to look to make improvements as an industry. But it's not as easy as turning off the switch. If tylosin is

not available tomorrow, cattlemen don't have another option."

The beef community can't compromise animal care, so the balance lies in finding new solutions, he said.

How, why and what to do

Grain-finished cattle often experience a buildup of lactic acid and volatile fatty acids (VFAs), lowering the rumen PH. The resulting acidosis keeps the good bacteria from growing while damaging cells in the rumen wall.

"Bacteria will begin to attack the inner portion of the rumen wall and gain access to the liver," Laudert said. Moreover, the rumen-wall abscesses open the blood stream to those bacteria, which the liver then must filter out.

Two main, virulent bacterial culprits flourish in the lactic-acid-filled environment. "So we know which two bacteria we need to deal with," he said. "We just need to figure out how to deal with them."

Since 1973, that primary source of control has come through the antibiotic tylosin, marketed as Tylan.

If it were taken off the market tomorrow, liver abscesses in feedyard cattle would undoubtedly increase, Laudert said.

Tylan is effective, but as antibiotic-resistance concerns and conversations continue, its future is not

assured, so research for different solutions is necessary.

“This is one of those problems we thought we’d solved, but in the era of antimicrobial resistance, it’s probably time to re-solve it,” Stika said. “If you’re only relying on tylosin today, I think you’re on borrowed time.”

Today, Elanco is working to keep herd health products available to cattle feeders, but looking to the future, half of its food animal research and development budget is allocated to finding alternatives to shared class antibiotics.

Other options may include everything from new products like “essential oils,” to vaccinations and new feeding management strategies.

“Cattle are generally predisposed to development of abscesses very early in the feeding period,” Laudert said. “If you’re going to control liver abscesses, you need to start day one or just as soon as possible or the train will have left the station and a lot of your efforts will be to no avail.”

That could mean including tylosin in warmup rations, but tapering off and not feeding it the last few weeks before harvest, he said. Bunk management makes a difference, too: limit-feeding and slick-bunk management may contribute to the challenge.

“They need to be managed so they don’t get too hungry, don’t overeat and don’t produce a lot of lactic acid in their rumen,” Laudert said. “Anytime we have cattle that are backed up waiting for the feed truck to come along is another opportunity for acidosis to occur.”

Different classes of cattle and springtime finishing may also factor in.

Cattle bred for higher feed intake and capacity to gain tend to see higher incidences, as do those harvested in March through May.

“I call that the spring feeding frenzy,” he said, when daylight and temperatures increase. “We see this in wild animals. We see it in beef cattle. Pretty much any kind

of animals increase their intake during the spring, and I believe that’s causing the abscess differences. So if some sort of control measure can be applied, that would be the time to do it.”

Laudert said there’s work going on at universities and in industry that could unlock solutions to this longstanding challenge.

“If we can come up with an

option that will reduce lactic acid production and enhance lactic acid utilization in the rumen, then we can control those bacteria,” he said. “It’s going to take some outside-the-box thinking among feedyard managers and nutritionists and veterinarians.”

Undetectable diseases are hard to cure... but perhaps not impossible. **FL**

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Water Management Tips

Water is a precious resource and all living things depend on it for survival. Livestock production practices are being scrutinized by some media outlets making false claims with exaggerated research often paid for by special interests' groups. However, it's important to note that as the world population continues to grow and demand on natural resources expands, fresh water is expected to become more and more limited. In fact, according to the International Water Management Institute, it's estimated that 64% of the world's population could live in a water deprived basin by the year 2025, compared to 38% in 2009. As environmentally responsible stewards of land and livestock, we must continually look for ways to increase efficiency in our industry and do more with less. Water is no exception.

There is a strong positive correlation between water consumption and dry matter intake. If cattle are not drinking, they are not eating and therefore performance and health will be sacrificed. Cattle will obviously utilize water more effectively in the liquid state than the solid. While water temperature has been found to have an impact on consumption, this does not always correlate to a production response. In a recent study conducted in Miles City, MT cows with

access to warm water drank 30% more than those with access to cold water (water temp 88°F vs 47°F). Although this resulted in more stable rumen temperatures, there were no differences in neutral detergent fiber (NDF) disappearance or change in cow body condition scores (BCS) between treatments. During periods of extreme cold in the feedlot, it will likely be more beneficial to increase water temperature in starting/receiving cattle compared to larger cattle that have been on feed and immunity is not compromised. Always be sure an electric current is not present in heated tanks.

Water quality can be easily overlooked in an operation, but it will have economic impacts on both performance and overall cattle health. Cattle consume water from both surface and ground sources, so it is important to consider both as sources of potential contaminants. *Table 1* outlines several substances that could be potentially toxic to beef cattle, as well as provides recommended upper limits in drinking water.

Other contaminants such as bacteria, microorganisms, algae, and pesticides can also affect water quality causing changes in odor, appearance and taste. Contaminants may also interfere with mineral absorption in the animal due to antagonistic affects which can

lead to nutritional deficiencies. Low water intake leads to low feed intake

which can alter cattle weight gain and compromise animal health. *Table 2* illustrates these points; yearling steers consuming rural water lower in total dissolved solids (TDS) and sulfur had higher average daily gain (ADG), ate more feed, and were more efficient than cattle consuming well water and pond water with higher levels of contaminants. If irrigation equipment is being used to water cattle being wintered on corn stalks or wheat, be sure to let water run for a few minutes to clear out any drip oil that might be present before filling tanks. When hauling water, always be sure transport tanks are clean and do not have residual fertilizer or other substances present.

Water requirements of a beef animal can be influenced by several factors such as stage of production, weight and class of animal, environmental temperature, and physical activity. Water needs will change throughout the year. According to a report by University of Nebraska in 2011, both minimum temperature and temperature-humidity index are good predictors of expected water intake. Summarized data in this report showed that cattle finished during winter months consumed 87.3% less water than cattle finished in the summer. *Table 3* illustrates water requirements of beef cattle according to weight class and stage of production. Lactating cows require more water than nonlactating, due to a portion of a lactating cows water requirement goes toward milk production. Cattle weight influences water

Table 1. Safe Upper Limit of Substances Potentially Toxic to Beef Cattle

Substance	Safe Upper Limit mg/L (ppm)
Nitrate Nitrogen	100
Nitrate Ion	443
Sodium Nitrate	607
Arsenic	0.05
Chloride	1500
Lead	0.015
Sulfate	500
Total Dissolved Solids	2500
pH	Range 5.5 to 8.5

Source: Gadberry, S. University of Arkansas. FSA3021-PD-2-2016RV. NASEM, 2016.

Table 2. Impacts of water quality on growing yearling steers

	Rural Water	Well Water	Pond Water
ADG, lbs/day	1.38	1.02	1.02
DMI, lbs/day	17.7	16.5	16.8
Gain/Feed	0.078	0.061	0.061
Water Intake, gal/day	12.6	10.9	11.1
Morbidity, %	0	25	15

Source: Patterson, et al. SDSU. Beef 2003-15

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Table 3. Approximate Total Daily Water Intake of Beef Cattle

Weight Lb.	Gallons per day at 40° F	Gallons per day at 50° F	Gallons per day at 60° F	Gallons per day at 70° F	Gallons per day at 80° F	Gallons per day at 90° F
Growing Heifers, Steers, Bulls						
400	4.0	4.3	5.0	5.8	6.7	9.5
600	5.3	5.8	6.6	7.8	8.9	12.7
800	6.3	6.8	7.9	9.2	10.6	15.0
Finishing Cattle						
600	6.0	6.5	7.4	8.7	10.0	14.3
800	7.3	7.9	9.1	10.7	12.3	17.4
1,000	8.7	9.4	10.8	12.6	14.5	20.6
Wintering Beef Cows						
900	6.7	7.2	8.3	9.7		
1,100	6.0	6.5	7.4	8.7		
Lactating Cows						
900	11.4	12.6	14.5	16.9	17.9	18.2
Mature Bulls						
1,400	8.0	8.6	9.9	11.7	13.4	19.0
1,600+	8.7	9.4	10.8	12.6	14.5	20.6

Source: 2016 National Research Council Nutrient Requirements of Beef Cattle, Eighth Revised Edition, 2016.

intake. As cattle weights increase, water intake increases as well. Cattle diet can influence water intake and requirements. Feed ingredients high in moisture such as silages, wet byproducts and growing pasture forages can decrease water intake requirements. Diets high in

protein, salts, mineral and diuretic substances can increase daily water requirements.

Water quality and quantity are equally important and key to ensuring water consumption meets requirements. Always be sure plenty of space is available at the water

trough for feedlot cattle. It is important to remember that calves need at least 1 linear inch of space per head and cows need at least 3 linear inches. Consider doubling trough space during periods of extreme heat by placing tarps in feed bunks and filling with water, or simply add additional portable water tanks to pens. Water pressure can also be a factor to consider. During the summer months, gallons per minute of flow to the water tank can become essential to ensure that requirements are being met. If confinement facilities are designed correctly, cattle fed under confinement should be in a cooler environment than their counterparts in outside pens during the summer, resulting in less water consumed. When starting light calves on feed, make sure troughs are not too high and they can easily reach the water available to them.

Another important consideration is testing your water. If you have never tested your water in the past, I would recommend pulling a water sample and sending it off to a lab to have a water profile analyzed. Most labs that analyze feed and forage ingredients can test water samples as well. These tests are relatively inexpensive (\$40-50) and can be a tool for determining underlying problems that you may be experiencing and may help lead to less problems in the future. **FL**

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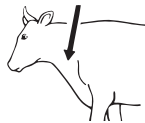
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Body Weight (lb)	Dose Volume (mL)
110	2
220	4
330	6
440	8
550	10
660	12
770	14
880	16
990	18
1100	20

Animals should be appropriately restrained to achieve the proper route of administration. Use sterile equipment. Inject under the skin in front of the shoulder (see illustration).



The Safety Data Sheet (SDS) contains more detailed occupational safety information. To report suspected adverse drug events, for technical assistance, or to obtain a copy of the SDS, contact Boehringer Ingelheim Animal Health USA Inc. at 1-888-637-4251. For additional information about adverse drug experience reporting for animal drugs, contact FDA at 1-888-FDA-VETS, or online at www.fda.gov/reportanimalae.

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Supporting Normal with Probiotics

Stress: a condition or feeling experienced when a person perceives that demands exceed the personal and social resources the individual is able to mobilize. On the list of situations that cause us negative stress, or distress, are financial problems and work difficulties. While these are situations to which most can relate, perhaps it's more relevant to consider those situations that cause stress among producers. Things like financial issues, fear of losing the farm or ranch, and farm or business problems have the greatest impact on the mental health of farmers, according to the American Farm Bureau.

Stress and being in the feeder cattle business are typically synonymous. Decisions on marketing, health and nutrition programs all revolve around reducing morbidity and mortality while increasing efficiency and producing a safe and wholesome product. But what if, instead, we focused on normal? What if we made choices that result in the production of "normal" animals?

There is a large and continuously growing body of evidence that effective probiotics support all the normal functions of the rumen and post-rumen intestinal tract, including digestive, absorptive, barrier, and immune functions. Effective probiotics increase the likelihood of the animals in our care being normal. Thinking about commercial beef-producing operations, as an example, the following would be the functional characteristics of "normal" cattle:

- Steers and heifers that eat, drink, and grow at expected rates
- Steers and heifers that not only survive, but thrive in the production environment
- Steers and heifers with a well-functioning, stable rumen and post-rumen intestinal tract
- Steers and heifers that get what

they need from their feed

- Steers and heifers that shed fewer food-borne pathogens

As a beef producer, what would feel better than an entire lot of normal steers and heifers? Having a high percentage of normal animals is certainly dependent on many factors, including the availability of normal feed and good management systems and practices that limit stressors in the environment. The value of using an effective probiotic is to increase the likelihood of individual animals getting what they need from their feed. This gives them the greatest chance of allocating those resources for immune-mediated defense, maintenance of energy balance, and putting meat on their bones; that is to say, behaving like normal cattle. Effective probiotic products contain a combination of strains of microorganisms that function across a wide range of modes of action within the ingested feed, in the rumen, and throughout the intestinal tract. These modes of action support all normal rumen and post-rumen intestinal functions: digestion, absorption, protection, and immunity.

We contend that having a high percentage of "normal" animals in your pastures or yards would positively impact your peace-of-mind and significantly reduce perceived and real stress. While we can always provide myriad return-on-investment calculations based on the commonly measured variables of our industry, we're at a loss for what value we should assign to a good night's sleep or the time spent at the ballgame with the family! Perhaps a normal life is simply invaluable.

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¹ Sifferman RL, Wolff WA, Holste JE, et al. Field efficacy evaluation of gamithromycin for treatment of bovine respiratory disease in cattle at feedlots. Intern J Appl Res Vet Med. 2011;9(2):171-180.
² ZACTRAN product label.
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Maximum Profit from Reproductive Performance

“We need to reframe how we think about the profitability of production,” says Jordan Thomas, Missouri State Extension beef reproduction specialist. “If we recreated the beef industry from the ground up, how we manage the cow/calf sector would likely look very different. In a perfect world, we would know an internal ranking of the entire herd based on profitability.”

Thomas wants producers to rethink their operations with a business mindset. He presented his ideas to the Three-State Beef Conference in January. The conference is held annually in Greenfield, Iowa, Savannah, Missouri, and Syracuse, Nebraska.

“We need to think more about profitability than just about productivity.” That means looking at the direct profitability of individual cows instead of just performance or some indirect indicator of potential performance. “Too often we’re hitting the bullseye on the wrong target.”

Thomas is quick to add genetics and performance matter, as that affects the quality and value of the calf produced. “But management can be just as important. I can mismanage a genetically elite cow and not have a profitable animal at the end of the day. With proper reproductive management, I can make the most of the genetics I have to work with, even if they are yet not top notch.”

For Thomas, the heifer is key. Selecting replacement heifers is choosing profitable cows, and a key component of a profitable cow is how long it is in the herd. Stayability means more years to depreciate the investment.

“If a cow only breeds for two or three seasons, it’s likely a net loss,” says Thomas.

Instead of measuring success

by looking at number of calves weaned and average weaning weight, Thomas proposes producers look at the total value of calves at weaning compared to the cost of cows exposed.

“The total value of a calf at weaning minus the direct cost of the cow will give you your gross margin,” he explains.

Heifer Selection

Heifers selected for the herd must, first of all, be sound, with good health and disposition. They should have a low likelihood of calving difficulty, and genetic merit for profitable traits.

From there, timing matters.

“We really ought to think of replacement heifer selection occurring at preg check, not at weaning,” says Thomas. “We tend to keep the highest quality heifers and put them in a breeding program. Instead we should be choosing the best of those that get bred. Early conceiving heifers are a profitable investment. Late conceiving heifers are a losing proposition.”

The likelihood of a heifer making the cut and conceiving early starts with when the heifer herself was born. Heifer calves born early in the breeding season are more likely to cycle early, breed early, and calve early. Those born and bred later have little if any opportunity to rebreed the next year.

Thomas says reproduction management has a snowball effect, and it is important to establish a positive trajectory.

A heifer who is born early, and breeds early, will most likely continue to do so throughout her productive lifespan, and thus produce a series of calves that are older and heavier at weaning.

A heifer set on a negative path of late breeding

and smaller calves at weaning will continue to be less productive. She will cost more money year after year, as she falls out of the herd faster.

Culling Mature Cows

Culling mature cows also requires a look at the timeliness of breeding.

“Not just if, but when a cow becomes pregnant is the primary driver of revenue produced,” says Thomas.

“From a business standpoint, we should really be projecting how much profit an individual cow will produce,” Thomas says. That calculation needs to include the value and size at weaning of the calf she is expected to produce minus the overhead and feed costs of maintaining her.

If she’s not profitable, she ought to go to town. “Not selling a low-margin cow does the same thing on your balance sheet as buying her again,” says Thomas. “And owning more cows that lose money just helps you lose more money faster.”

Thomas adds it is important for producers to work both sides of the balance sheet, and to make good use of their resources and existing equipment. He says surveys out of Kansas show the most profitable producers employ a dual approach of cutting costs and increasing revenue, vs. going to extreme with one or the other.

Like equipment and facilities, breeding animals are an investment and a depreciable asset, and every producer needs to get the most he can from the dollars he has on the table, and in the pasture.




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Manganese.....10 mg/mL
Selenium.....5 mg/mL
Copper.....5 mg/mL

OTHER SUBSTANCES:

Chlorocresol 0.1% w/v (as preservative).

DOSAGE RECOMMENDATIONS:

CALVES: Up to 1 year 1 mL/per 100 lbs. bodyweight
CATTLE: From 1-2 years 1 mL/per 150 lbs. bodyweight
CATTLE: Over 2 years 1 mL/per 200 lbs. bodyweight

PRECAUTION:

Selenium and copper are toxic if administered in excess.

Always follow recommended label dose.
Do not overdose.

It is recommended that accurate body weight is determined prior to treatment.

Do not use concurrently with other injectable selenium and copper products.

Do not use concurrently with selenium or copper boluses.

Do not use in emaciated cattle with a BCS of 1 in dairy or 1-3 in beef.

Consult your veterinarian.

CAUTION:

Slight local reaction may occur for about 30 seconds after injection. A slight swelling may be observed at injection site for a few days after administration. Use standard aseptic procedures during administration of injections to reduce the risk of injection site abscesses or lesions.

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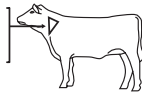
This product is only for use in cattle.

MULTIMIN® 90 is to be given subcutaneously (under the skin) ONLY.

It is recommended to administer the product in accordance with Beef Quality Assurance (BQA) guidelines. Minimum distance between injection sites for the MULTIMIN® 90 product and other injection sites should be at least 4 inches.

Inject under the loose skin of the middle of the side of the neck. Max volume per injection site is 7 ml.

Subcutaneous injection in middle of side of neck.



Store Between 15°C and 30°C (59°F and 86°F).

SUPPLEMENTATION PROGRAM

BULLS	3 times per year
BEEF COWS	4 weeks before breeding 4 weeks before calving
DAIRY COWS	4 weeks before calving 4 weeks before insemination at dry-off
CALVES	at birth at 3 months and/or weaning
HEIFERS	every 3 months – especially 4 weeks before breeding

(program gives planned dates that can be varied to suit management programs)

DOSAGE TABLE

ANIMAL WEIGHT (lbs)	CATTLE		
	CALVES UP TO 1 YEAR 1 ml/100 lb BW	1 - 2 YEARS 1 ml/150 lb BW	> 2 YEARS 1 ml/200 lb BW
50	0.5 ml	-	-
100	1 ml	-	-
150	1.5 ml	-	-
200	2 ml	-	-
300	3 ml	-	-
400	4 ml	-	-
500	5 ml	-	-
600	6 ml	-	-
700	7 ml	-	-
800	-	5.3 ml	-
900	-	6 ml	-
1000	-	6.6 ml	5 ml
1100	-	-	5.5 ml
1200	-	-	6 ml
1300	-	-	6.5 ml
1400	-	-	7 ml

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OUTLOOK IS BRIGHT FOR 2020



Beef demand is strong and with U.S. cattle numbers plateauing, prices are likely to be stronger in the year ahead as consumers at home and abroad support industry profitability. That was the message delivered today during the popular CattleFax outlook session, held as part of the 2020 Cattle Industry Convention in San Antonio, Texas.

Weather is expected to play a supporting role for agriculture during the year ahead, according to Dr. Art Douglas, professor emeritus at Creighton University. He said that following repeated El Niño events during the past five years, the U.S. will shift to a La Niña pattern, which will shift much of the nation outside of the northwest and southeastern portions of the country toward conditions slightly warmer and drier than last year, which will be favorable for planting and growing conditions during the spring and summer.

CattleFax Vice President of Research and Risk Management

Services Mike Murphy predicted that corn and soybean acres will increase during the year ahead, with corn plantings rising 4 million acres to 94 million acres and soybean acreage rising 7 million acres to reach 83 million acres. He predicted 2020 spot corn prices to trade in a range of \$3.50 to \$4.00 per bushel, down 15-20 cents per bushel from 2019, unless weather issues become a significant factor. He noted, however, that trade could present an upside to the projected prices, particularly in light of the recently signed U.S./China trade agreement.

Trade also will play a significant role in beef and cattle markets, according to CattleFax Vice President of Industry Relations and Analysis Kevin Good, who said he expects higher total animal protein production to be offset by strong demand and increasing exports. During the year ahead, Good said record-large U.S. beef production will reach 27.7 billion pounds. However, he projected that increases in beef

exports and decreases in beef imports will result in per-capita beef supplies of 58.4 pounds, an increase of just 0.4 pounds over 2019 levels.

“With strong demand for U.S. beef at home and rising demand overseas, the modest increases in supply will be more than offset by a growing consumer appetite for our product,” said Good, who projected all-fresh retail prices will rise to reach an average of \$5.87 per pound during the year ahead, an increase of 5 cents per pound over 2019. “Higher wholesale beef values are a reflection of improving domestic and global beef demand,” Good noted, pointing out that CattleFax projects composite cutout prices will rise \$3 during the year ahead to reach \$222 per hundredweight.”

Growing demand and increasing beef prices at the consumer level will be supportive of cattle prices, with leverage beginning to shift away from the packing sector as more shackle space becomes available during the year ahead. Good said CattleFax projects fed steer

prices to average \$120 per hundred-weight during 2020, an increase of \$3 from the previous year. Through the year, he noted downside risk to the \$108 level, with resistance at the top near the \$130 level. Calf prices are also expected to move higher in the year ahead, with 550-lb. steer prices trading in a range of \$155 to \$180, averaging \$170, up \$6 per hundredweight from 2019 levels. Feeder prices will also rise, with 750-lb. steers trading from \$140 to \$160, with a yearly average of \$150, also \$6 per hundredweight higher than last year's average.

Good noted that additional supplies of utility cows, the product of several years of aggressive expansion, are likely to challenge the cull cow market. "However, increased demand for lean trim and a decline in the availability of imported grass-fed trim from Australia and New Zealand will be supportive of cow prices," he said. He projected utility cow prices should range from the low \$70 level to a fall low near \$55, while averaging near \$65 per hundredweight for the year, an increase of \$5 per hundredweight over 2019 levels.

CattleFax CEO Randy Blach closed the session highlighting the strong demand that is highly favorable to the entire industry. He noted that there is significant outside interest in U.S. protein production, which is also highly supportive and a positive sign for the future.

"The days of boom and bust in our industry are behind us," said Blach. "Thanks to strong demand at home and abroad, we're likely to see far less volatility in the market during 2020 than we saw last year."

Blach noted that global demand

for all proteins is strong, with beef being a major beneficiary of that demand.

"Rising demand has meant more dollars flowing into the industry, which adds to the profitability of all segments of our business," said Blach, who noted that although the leverage has been largely held by the packing sector, that too would begin to shift during the year ahead, with more dollars flowing back into the live cattle segments."

"That investment should begin to incentivize increases in shackles space during the years ahead," Blach said. "In turn, as supplies begin to flatten out, packing margins have likely peaked and we'll begin to see margins at the packing sector

begin to narrow as we move through 2020."

However, Blach pointed out that although the market outlook is positive during the year ahead, the U.S. beef industry needs to be vigilant and maintain a competitive posture.

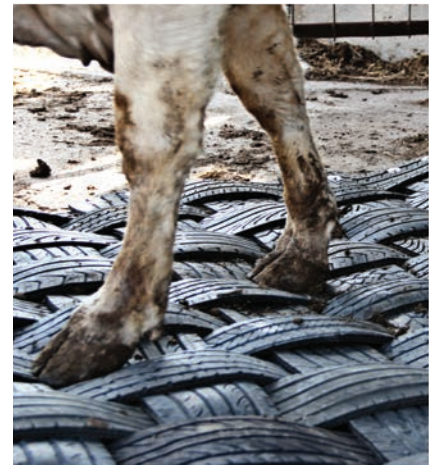
"There is strong demand for our product, but that's

the result of the fact that our business has paid attention to market signals and we've been producing a consistent, quality product that has gained a greater piece of that retail dollar. We need to protect that," said Blach. "Cattle must continue to be better over time. We must pay attention to what the consumer is telling us. That means conversations about topics like traceability and sustainability only become more important as time goes on. We have to listen to the consumer and respond with action to meet their needs and demands if we're going to continue to be successful in a hypercompetitive global protein market."



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INDICATIONS FOR USE

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Gastrointestinal Roundworms	Lungworms
<i>Bunostomum phlebotomum</i> – Adults and L ₁	<i>Dictyoaculus viviparus</i> – Adults
<i>Cooperia oncophora</i> – Adults and L ₁	
<i>Cooperia punctata</i> – Adults and L ₁	
<i>Cooperia surrabadai</i> – Adults and L ₁	
<i>Haemonchus placei</i> – Adults	Grubs
<i>Oesophagostomum radiatum</i> – Adults	<i>Hypoderma bovis</i>
<i>Ostertagia lyrata</i> – Adults	
<i>Ostertagia ostertagi</i> – Adults, L ₁ and inhibited L ₂	
<i>Trichostrongylus axei</i> – Adults and L ₁	Mites
<i>Trichostrongylus colubriformis</i> – Adults	<i>Sarcoptes scabiei</i> var. <i>bovis</i>

Parasites	Durations of Persistent Effectiveness
Gastrointestinal Roundworms	
<i>Bunostomum phlebotomum</i>	150 days
<i>Cooperia oncophora</i>	100 days
<i>Cooperia punctata</i>	100 days
<i>Haemonchus placei</i>	120 days
<i>Oesophagostomum radiatum</i>	120 days
<i>Ostertagia lyrata</i>	120 days
<i>Ostertagia ostertagi</i>	120 days
<i>Trichostrongylus axei</i>	100 days
Lungworms	
<i>Dictyoaculus viviparus</i>	150 days

DOSAGE AND ADMINISTRATION

LONGRANGE® (eprinomectin) should be given only by subcutaneous injection in front of the shoulder at the recommended dosage level of 1 mg eprinomectin per kg body weight (1 mL per 110 lb body weight).

WARNINGS AND PRECAUTIONS

Withdrawal Periods and Residue Warnings

Animals intended for human consumption must not be slaughtered within 48 days of the last treatment. This drug product is not approved for use in female dairy cattle 20 months of age or older, including dry dairy cows. Use in these cattle may cause drug residues in milk and/or in calves born to these cows. A withdrawal period has not been established for pre-ruminating calves. Do not use in calves to be processed for veal.

Animal Safety Warnings and Precautions

The product is likely to cause tissue damage at the site of injection, including possible granulomas and necrosis. These reactions have disappeared without treatment. Local tissue reaction may result in trim loss of edible tissue at slaughter. Observe cattle for injection site reactions. If injection site reactions are suspected, consult your veterinarian. This product is not for intravenous or intramuscular use. Protect product from light. LONGRANGE® (eprinomectin) has been developed specifically for use in cattle only. This product should not be used in other animal species.

When to Treat Cattle with Grubs

LONGRANGE effectively controls all stages of cattle grubs. However, proper timing of treatment is important. For the most effective results, cattle should be treated as soon as possible after the end of the heel fly (warble fly) season.

Environmental Hazards

Not for use in cattle managed in feedlots or under intensive rotational grazing because the environmental impact has not been evaluated for these scenarios.

Other Warnings: Underdosing and/or subtherapeutic concentrations of extended-release anthelmintic products may encourage the development of parasite resistance. It is recommended that parasite resistance be monitored following the use of any anthelmintic with the use of a fecal egg count reduction test program.

TARGET ANIMAL SAFETY

Clinical studies have demonstrated the wide margin of safety of LONGRANGE® (eprinomectin). Overdosing at 3 to 5 times the recommended dose resulted in a statistically significant reduction in average weight gain when compared to the group tested at label dose. Treatment-related lesions observed in most cattle administered the product included swelling, hyperemia, or necrosis in the subcutaneous tissue of the skin. The administration of LONGRANGE at 3 times the recommended therapeutic dose had no adverse reproductive effects on beef cows at all stages of breeding or pregnancy or on their calves. Not for use in bulls, as reproductive safety testing has not been conducted in males intended for breeding or actively breeding. Not for use in calves less than 3 months of age because safety testing has not been conducted in calves less than 3 months of age.

STORAGE

Store at 77° F (25° C) with excursions between 59° and 86° F (15° and 30° C). Protect from light. Made in Canada. Manufactured for Merial, Inc., Duluth, GA, USA. *The Cattle Head Logo and *LONGRANGE are registered trademarks of Merial, Inc. ©2015 Merial, Inc. All rights reserved. 1050-2889-06, Rev. 2/2015, 8LON016C

Following Ag Labor Law Rules

BY TERRI QUECK-MATZIE

Agriculture relies on a dependable labor force. For many, that means nonimmigrant and seasonal labor. For others, regular employees work the sometimes irregular hours agriculture demands.

This is nothing new. But some of the rules governing utilization of the labor force are. A recent webinar from the National Agricultural Law Center highlighted changes that could impact your farm or feedlot.

Many of those changes are the result of an administrative guidance issued by the Department of Labor in October 2019. In this case, the law has not changed, but the government's direction on how to interpret it has.

One of the changes in the guidance, according to Brandon Davis, a partner in ag law firm Phelps Dunbar, is the definition of ag labor used by the USDA, particularly as it relates to overtime.

According to the Fair Labor Standards Act, most farm work is exempt from overtime pay. But work done on the farm that does not directly relate to ag production may not be.

For instance, harvesting, planting, and cultivating are considered farm labor. Processing and hauling may not be. As a general rule, hauling by a farmer or a direct employee is permitted. Hauling performed by independent contractors is not.

Davis says employers need to ensure their terminology is tailored to agency definitions.

Another issue under scrutiny is proof the applying entity is indeed a farm. He says tax filings and property tax records, or copies of a lease with a description of the premises, can be used as verification.

Seasonal Labor

There are also changes to the

procedures for hiring nonimmigrant seasonal labor.

Rising productivity, increased competition and a downward trend in the supply of domestic labor has made the nonimmigrant workforce more important than ever to ag business.

Using the H-2A program, employers can bring in workers from another country to perform temporary or seasonal ag labor.

First, the employer must obtain a labor certification from the Department of Labor, then an approved petition from the DHS United States Citizenship and Immigration Service for a specific number of workers under H-2A visa classification.

The certifications give permission to bring in a specific number of workers for a specific time and a specific rate of pay. The rate of pay varies state by state. It also specifies the type of recruitment that will be used. Employers must offer U.S. workers an opportunity to compete for the jobs.

Employers can be subject to an audit, where compliance with housing according to OSHA standards, and wage rates and personnel practices are key, and all paperwork must be consistent. Applications must line up with what happens on the ground.

Application is now made through the FLAG, or Foreign Labor Application Gateway, a fully automated system provided by the Department of Labor. The system can be accessed at flag.dol.gov. One of the changes from the old system is that the state workforce development agencies are no longer a part of the process. Davis says timing can be a concern with FLAG. The new system takes longer to work through than in the past, so employers will want to start early.



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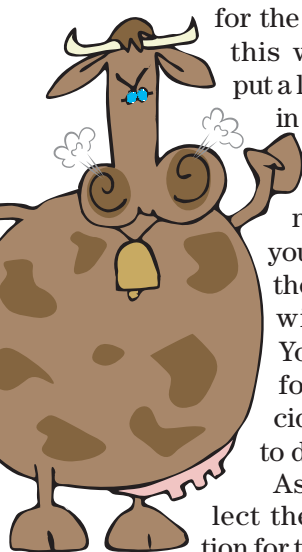
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SYNANTHIC RESIDUE WARNINGS: Cattle must not be slaughtered until seven days after treatment. Because a withdrawal time in milk has not been established, do not use in female dairy cattle of breeding age.

Documenting Employee Performance

Let's consider a situation where an employee's behavior has been less than desirable. Their performance is getting progressively worse over time. They've been late several times in the last few weeks,



for the third time this week they put a load of feed in the wrong bunk, and their foreman told you yesterday they're done with them. You and the foreman decide it's time to dismiss.

As you collect the information for the employee's termination, you realize there's no documentation for their pattern of poor behavior and performance. There are a few timecard records and a couple of texts between them and their foreman, but nothing that proves a history of insubordination.

If your first thought about documentation is when you're considering termination, you're in trouble.

There are two possible strategies. Take more time and generate the needed documentation to ensure your termination is legally defensible—or fire them and take your chances.

You realize that if you keep them for another few weeks, they could make a lot of expensive mistakes or their carelessness could injure an employee. If you fire them now without proper documentation, their lawyer can fully fund his next elk hunting trip.

What to Document

Let's take a closer look at the information that protects us when we need to terminate an employee for performance or behavioral issues. One of the best lessons in

what to document is to keep track of what you wish you had in previous situations where additional documentation would have been helpful. There is no lesson more valuable than the tuition you paid for your past oversights.

In addition to those lessons, here are some important types of information to record, being sure to record the date and additional details for each:

- Reasons of absence and tardiness.
- Content of conversations about performance that led up to more formal disciplinary actions.
- Damage to vehicles or equipment.
- Inappropriate attitudes and behaviors toward management or coworkers.
- Acts of insubordination.
- Inappropriate written or verbal communications such as texts, e-mails, voice mails, written notes, etc.
- Any conversations about or evidence of their improper handling of animals.

Additional Information

When you need to provide documentation for termination, there are a variety of ways to add proof to your claim. Consider any records that substantiate your position such as feed records showing the wrong feed was put in a bunk, delivery times, inaccuracies in amounts, texts of instructions to shovel out the bunk, etc. Sections of job descriptions or operating procedures compared to actual actions, showing the inconsistency between your clearly defined expectations and their performance. Records of training they attended or were provided that ensures they should know how to do each job. Copies of sections of your employee handbook which state specific behaviors that are unacceptable or lists of actions that will result in

termination. Performance reviews or disciplinary reports that show incorrect actions or behaviors have been discussed.

Appropriate Forms of Documentation

Documentation can be provided in a variety of media. Texts, e-mails or voice mails between a foreman and employee that confirm a situation was discussed and provides a time stamp for when it was discussed. Pictures of notes that the employee wrote, their damage to vehicles or other proof that the situation occurred. Videos of their equipment operation or activities with animals. Social media posts about their activities, comments about employees or management, or other evidence of inappropriate behaviors while they are supposed to be working. Doctor's notes that prove an employee was healthy enough to return to work, but still continued a pattern of absence and tardiness.

Legal Considerations

I'm not an attorney so cannot provide legal advice, so consult your labor attorney for additional specifics when considering a difficult termination. Since state laws and definitions vary, do an online search for your state's definition of "insubordination" and "misconduct" so that you are certain your expectations and documentation meet those definitions.

Finally, though these strategies are provided to help prevent legal ramifications for your business, they also establish fairness and equity for how your employees are treated. They deserve to be treated equitably even when their level of performance is frustrating and fails to meet your expectations.

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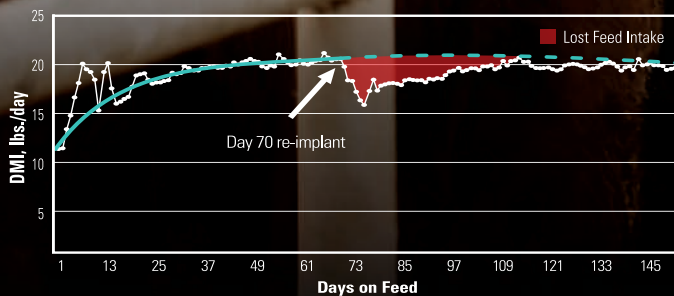
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IMPORTANT SAFETY INFORMATION: No withdrawal period is required when used according to labeling. Do not use in calves to be processed for veal. A withdrawal period has not been established for this product in pre-ruminating calves. Do not use in lactating dairy cows or in animals intended for subsequent breeding. Use in these cattle may cause drug residues in milk and/or in calves born to these cows. Administer implant subcutaneously in the ear only. Any other location is in violation of Federal Law. Do not attempt salvage of implanted site for human or animal food. For complete information, refer to product labels.

1. Study Number HR-2S: Evaluation of Implants Containing Reduced-Dose Combinations of Trenbolone Acetate and Estradiol on Performance and Carcass Merit of Finishing Steers.
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Bang's Vaccination: Is It Still Required?

Often called Bang's disease, brucellosis is the most common cause of abortion in cattle worldwide, except where it has been controlled or eradicated. The primary way this disease is spread is via infected fetuses, fetal membranes, and discharges from infected females. Brucellosis affected about 25% of cattle in the U.S. before disease control programs and use of vaccination. Because of its threat to human health, a rigorous program to eliminate brucellosis in cattle was begun as soon as a vaccine was

developed. Vaccination is not 100% effective, so a test-and-slaughter program was also used.

In recent decades brucellosis hasn't caused concern except in states surrounding Yellowstone National Park in the Greater Yellowstone Area (GYA). Brucellosis continues to be a challenge for Idaho, Montana and Wyoming; the disease exists in elk and bison in the park, and they come out of the park and mingle with cattle.

These states have Designated Surveillance Areas (DSA) where

the disease is in wildlife, and in cattle in recent years. Idaho, Wyoming and Montana have rules for livestock which include surveillance testing and vaccination, cattle identification, etc. Elk in certain areas are also monitored, to determine level of infection in herds.

Dr. Debra Lawrence, Idaho State Department of Agriculture Veterinary Medical Officer, says vaccination mainly prevents abortions, minimizing spread. "Vaccination does not prevent a cow from becoming infected by contacting infected tissues from non-vaccinated animals such as elk. If a vaccinated cow is exposed to brucellosis, her body will be infected, but she's much less likely to abort and spread infection," she says.

Female cattle in Idaho that will be breeding, grazing or used for dairy must be vaccinated. "Most of our neighboring states require vaccination, though producers

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east of the Mississippi don't worry about brucellosis, and most states don't require vaccination," says Lawrence.

Dr. Jim Logan, Wyoming State Veterinarian, says Idaho, Wyoming and Montana have good control programs and have worked on this for many years. "In Wyoming we went brucellosis-class-free in 1985. We did not find another case until 1988, but had a few cattle test positive in recent years. Montana has also had some positive tests."

"We have to make sure we're not letting brucellosis out of our DSA, to affect another producer—whether in our own state or somewhere else. If we can assure everyone that we're clean, we have open marketability," he says.

Though some heifers from these states go to feedlots, destined for

slaughter (not breeding), the only safe thing is to have them all vaccinated as calves, or at least identified. "It depends on the state they are going to, in terms of what's required. If heifers are going for feeding and are less than 12 months of age, most states accept them, but veterinarians who are writing health certificates should call the states of destination, to know what they require. As long as animals leaving Wyoming's DSA have met our requirements, they can go, but they also have to meet the

requirements of the state of destination," he says.

In some instances, heifers purchased for feedlots were eventually sold for breeding. "This makes other states a bit nervous about accepting unvaccinated heifers without a test. This is up to the state of destination, but there have been situations where heifers that came out of a DSA went to a feedlot but didn't stay there—and this can put producers at risk."

Many states don't require that cattle coming into their state be

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Bang's Vaccination... from previous page
 vaccinated, but some require tests if cattle are coming from Idaho, Wyoming or Montana, especially if coming out of a DSA. "Brucellosis potentially has significant

economic impacts to producers and trade," says Lawrence. "Fortunately, since 2002 no infected cattle from Idaho have moved interstate. A diagnosis in exported cattle could have an immediate

impact with domestic or international trading partners."

Idaho requires intact adult cattle from the DSA be tested for brucellosis if they change ownership or leave the DSA, unless going to slaughter where they will be tested. "Brucellosis cases in cattle in Idaho in recent years have all been traced to elk exposure. We've not had any cattle-to-cattle cases." Brucellosis will continue to be a problem as long as it exists in elk and bison. There's no effective way to eliminate the disease in wildlife.

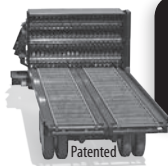
Dr. Keith Roehr, Colorado State Veterinarian, says his state no longer requires vaccination since it simply reduces incidence of abortion and outbreaks. "There was acknowledgment, however, that in areas of wildlife exposure there's good reason for cattle imported into those areas to be vaccinated. Two states in the GYA allow for adult vaccination upon arrival," he says.



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1. Freedom of Information Summary (NADA 95-735).

2. Elanco Animal Health. Data on file.

3. McDougald LR Biol Coccidia 1982 373 (v1.0)

4. Long PL et al J Parasitol 1982 363 (v1.0)

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