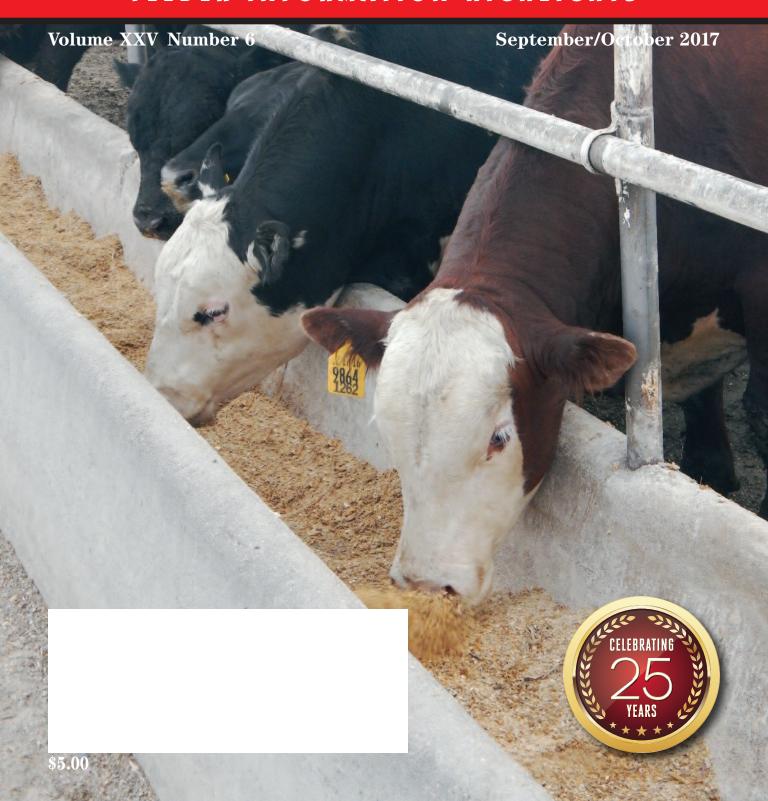


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HONORING LEE BORCK

At the recent Feeding Quality Forum, Lee Borck was honored for his contributions to the cattle feeding industry. Lee's innovative ideas and willingness to take risk paved the way for many marketing arrangements that still hold today.

Growing up on the family's homestead near Blue Rapids, Kan., Lee was mentored by a father who farmed through the Great Depression.

"He was very conservative, but the best businessman I was ever around in my life. I learned a lot more from my dad than I did going to college, as much as I love K-State," Borck says. He earned his degree in ag economics in 1970 and recently served on the boards for Kansas State University Foundation and Kansas Bioscience Authority. He's also chairman and founding shareholder of American State Bank in Great Bend, Kan.

Cattle feeders know Borck as current chairman of both Innovative Livestock Services and The Beef Marketing Group Cooperative, but he's also served as president of the Kansas Livestock Association and of CattleFax.

His first job was as a loan officer with the Farm Credit System's Production Credit Association (PCA) in Larned, Kan., before he started down the path of being a cattle feeder in that community. One thing he learned from looking over loans at PCA, however: "the mistakes people made in the way they looked at their business plan and not thinking far enough out in front."

Borck bought into Ward Feedlot at Larned in 1978. Interest would soon climb to 18% as the young feeder built on lots of small deals and fought a 50-cent regional discount versus western Kansas. By 1988, he'd had more than enough of that and called several area feedlots with plans that became The Beef Marketing Group (BMG)Cooperative.

"Well, you could either have capital or you could have cooperation," Borck says. "We didn't have any capital, but we decided to try to pool our cattle together. And it was the Capper-Volstead Act at its finest, negotiating price together without having restriction of

trade from competitors."

Excel, the Cargill forerunner, opened by paying "the cartel," as detractors called it, 50 cents a hundred more than the western Kansas price on 50,000 Holsteins in 1988. The competition took notice.

"It wasn't very popular," Borck says. "That wasn't the way that you were supposed to do business. I didn't know that. You're supposed to sell your own cattle. You aren't supposed to sell someone else's cattle. And it worked well for us."

BMG members used faxes to share packer bids in 1993, and also began a marketing relationship with IBP, now Tyson, that's still in effect, getting past the controversies of captive supply and using others cash bids for a base.

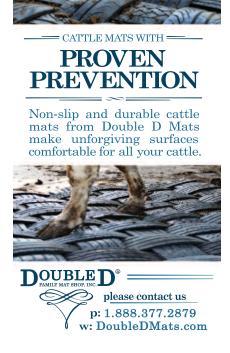
"We traded cattle every day of the week or you would sit there and argue all week long over 25 cents a hundred," Borck recalls. "And it just appeared that there was so much more benefit out of spending time figuring how to be a better cattle feeder and do what we did in a more efficient way."

Part of the deal with IBP was the right to harvest data on all cattle. BMG's first 500,000 carcass and closeout records formed the foundation of Vet Life's Benchmark program, but BMG members keep learning from data today.

"Information has been a huge part of my career," he notes. "I wasn't really a feedyard manager but I knew how to massage numbers a little bit and figure out what they said"—with the help of partners and consultants.

"Anybody that tells you I did it my way and it didn't take anybody else, they're not being very truthful with you. My partners are, behind my family, the dearest thing I've got. And they deserve every bit as much credit as what I do for any successes."

FEED•LOT congratulates Lee on a great career and was proud to be one of the honoring partners at the Feeding Quality Forum.





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Understanding **TOE ABSCESSES**

Although it may not get as much publicity as respiratory disease, feedlot lameness can take the profit out of a calf quickly if not treated appropriately. In fact, it is estimated that 70% of all railers were culled due to lameness. Lame feedlot cattle that recover grow slower than others, and need additional time to reach slaughter weight compared to their pen mates.

One underdiagnosed ailment, according to A.J. Tarpoff, DVM, Extension Veterinarian with Kansas State University, is toe abscesses. Also known as toe tip necrosis or P3 (third Phalangeal bone) necrosis, toe abscesses can occur on any foot but are more common on rear feet.

Abrasive damage to the toe tip can damage the white line, opening the claw to bacteria, dirt and manure. Dale Miskimins, DVM, South Dakota State University, reported animals may be moderately to severely lame, depending on the extent of the infection into the sensitive tissues of the foot.

"Untreated cattle may develop

joint infections and ascending leg infections, which significantly limits productivity and the likelihood of recovery," he said.

Initially cattle may appear stiff and show signs

of shifting lameness, Tarpoff said. With little to no signs of swelling, the source of the lameness can be difficult to pinpoint. Often actual inspection of the foot is necessary to discover the problem.

Hands On Treatment

"Know what you're dealing with," said C.A. Owen, DVM, who practices in Winner, South Dakota, and works with backgrounding yards. He said don't assume it's foot rot and just give antibiotics. That could allow a condition to progress further, to the point an animal may not be helped or salvaged. If it's a toe abscess, additional treatment is necessary.

"Put the calf in the chute and use a rope to tie up the foot. Find out what toe is affected with hoof



South Dakota State University photo

testers. If it's bad enough, you can see the separation between the sole and the hoof wall. Sometimes the feet will be pancake flat - so ground off, it looks like you hit them with a belt sander."

Miskimins said it's important that those treating a toe abscess know what they are doing. "They need training. They need to understand the anatomy of the foot. People can cause more damage if they don't know what they are doing."

Training programs are available. Miskimins recommended the Hoof Trimmers Association website (www.hooftrimmers.org/) as well as schools by Karl Burgi (karl burgi.com) to teach owners, handlers and hospital crews proper



techniques. Until the hospital crew is educated, he recommended consulting a veterinarian.

Once a diagnosis of toe abscess is reached, Owen suggests nipping the toe back with hoof nippers.

"Sometimes you can see the puss or see gas escape via bubbles. Also look at the other foot. About half the time, there is a toe affected on the other side. Hoof testers will tell you what's going on," he said.

Owen does not recommend using a grinder.

"We found it plugs up the abscess and doesn't let the foot drain. We've had the best luck with trimming the toes back, and then treating with an antibiotic."

Relief is often evident within hours if the case was caught early enough. If the infection spread to the bone and joint, treatment is often not successful.

"In the ones we see, about 40% end up as railers. The fall out rate is pretty high on these cattle, especially if you're not watching for them," said Owen. Sometimes pen riders assume the lameness is a hip injury due to processing and will miss an early toe abscess.

"Detecting them early is key."

Prevention

"We see it start at sale barns or receiving pens," said Owen. Facilities that use sand for traction, combined with wild cattle and handlers with sorting sticks are almost asking for a problem.

"There are certain sale barns we've learned to stay away from. But others, we talk to them about the problems we have with their cattle, and most are receptive. They are using corn stalks for traction instead of sand, and they're slowing their guys down a little bit."

Rubber mats where cattle enter the ring also help.

The same principles apply at the feed yard. Proper cattle handling techniques and backing off a bit if cattle are nervous helps.

"Give those cattle some space.

In receiving or processing areas, add rubber mats and try to eliminate the corners cattle go around. Slipping and sliding around a corner can damage the toe. You'll see an outside toe affected, and often the inside toe on the other side is too from rounding the corner too fast," Owen explained.

Rough, frozen ground around feed bunks can also damage the toe.

Owen advised to blade off sharp edges when possible in winter.

Another prevention technique: refusing lame cattle. Although Owen said it's not popular, refusing to accept lame cattle is an option for purchasers. "We don't have a problem sending them back. They have such a high likelihood of being railers, and they darn sure are going to fall behind their pen mates."



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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 Pro-Harvest, Spring 2015, Accessed March 19, 2015.
- 2 Tabe ES, Oloya J, Doetkott DK, Bauer ML, Gibbs PS, Khaitsa ML. Comparative effect of direct-fed microbials on fecal sheddin
- 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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Exports are key to the profitability of U.S. beef, with \$6.3 billion of beef sold to foreign consumers in 2016. But the first two quarters of 2017 have brought disruptions to the global beef complex, and the U.S. role in the worldwide marketplace. Some changes are good. Some not so much.

First the good news. After a 13-year absence, Chinese markets are once again open to American beef. A small shipment from Nebraska on June 14 opened the gate, with industry experts optimistic about future volume. China is a major importer of beef, and while

the U.S. will vie for position with other beef-producing countries like Brazil, which gained Chinese market access in 2015, it is a key market, and U.S. producers are up for the competition.

The Rabobank Quarterly Q2 report says early sales will likely feature variety meats while promotion and consumer education develop a taste for grain-fed beef. China has a developed distribution network, including a growing e-commerce market, and millennials are tuned to a global perspective.

In Beijing to formally greet the beef on arrival, NCBA President Craig Uden said, "I just can't expound enough to producers how vast a market it is and how many things in China are changing. I mean, changing before our eyes. We see a lot of young people that are really controlling a lot of dollars and they want change, and we need to be in this market having access to this type of population base."

According to Rabobank, China's total beef imports represented 15 percent of consumption in 2016 and are estimated to hit 20 percent, 2 million metric tons, by 2020.

The acceptance of U.S. beef in China is part of a larger trade deal between the two nations and there are restrictions, like strict traceability requirements, no artificial implants, and all beef must be tested for Ractopamine upon arrival. In addition, all USDA-inspected plants must meet China's inspection requirements.

Even without the Chinese deal, U.S. beef exports are on the rise. Rabobank's Q2 report puts export volume at 10.7 percent for the first four months of the year, the first time ever to exceed 10 percent. With exports generally greater the second half of the year, the report estimates exports for 2017 to reach 11.4 percent.

That number could increase even more, given the position of other worldwide top beef producers.

Weather has caused supply shortages in Australia. According to Rabobank, April slaughter numbers were down 25 percent year over year, due in part to hurricane Debbie, and May slaughter was down 5 percent following decreased production during April. But Australia is far from being down and out. Slaughter weights have increased to a 40-year high of 299kg,





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Exports Stay Strong... from previous page and exports to Japan and China are up 20 and 8 percent respectively. Exports to the Middle East are up 30 percent from this time last year.

Brazil is facing its own dilemmas. Politics and questionable beef inspection practices are putting Brazilian beef in the news and eroding consumer confidence. Rabobank cites a 10 percent decline in exports the first five months of the year compared to 2016 due to restrictions placed by many international markets. May began to rebound, 28 percent above April, but still 10 percent below May 2016.

In India, the political fight continues over the Hindu-backed ban on the trade of cattle for slaughter.

Going solo

U.S. producers are not immune to the effects of politics on their export potential. The U.S. withdrawal from the Trans-Pacific Partnership may have been welcome news for some, but most of agriculture was not thrilled.

The 11 remaining nations are now involved in as many as 27 separate trade negotiations, many aimed at reducing import tariffs the U.S. continues to face. Talks are in progress, but indications are competitors are gaining market share.

Within weeks of the U.S. withdrawal, Japan offered the EU, which is not a member of TPP, similar access to what the U.S. had negotiated. The EU is also moving forward with deals with Vietnam and Malaysia. According to the Rabobank report, first quarter exports from the EU are up 20 percent from last year. Notable increases were to Hong Kong, the Philippines, the Middle East and Africa.

Too much of a good thing

U.S. exports to Japan have triggered a safeguard tariff increase on frozen imports. Japan maintains separate quarterly import safeguards on chilled and frozen beef, and imports of frozen beef are allowed to increase by 17 percent

compared to the corresponding quarter of the previous year. The duty increases from 38.5 percent to 50 percent when imports exceed the safeguard volume.

According to U.S. Meat Export Federation (USMEF) data, first quarter U.S. beef sales to Japan increased 42 percent over 2016. But, 2016 imports were lower than previous years, thus the increase was, in part, the result of rebuilding inventories.

The U.S. and Japan are operating under a 1994 agreement, and in recent trade agreements with beef-supplying countries, Japan has abandoned the quarterly quota approach to implementing annual safeguards, which are much less likely to be triggered by import fluctuations.

The impact of the increased imports likely had little effect on Japanese domestic producers, but the impact of the tariff increase will be felt throughout the U.S.

"We're very disappointed to learn that the tariff on frozen beef



imports to Japan will increase from 38.5 percent to 50 percent until April 2018," says NCBA's Uden. "Japan is the top export market for U.S. beef in both volume and value, and anything that restricts our sales to Japan will have a negative impact on America's ranching families and our Japanese consumers." U.S. beef exports to Japan were valued at \$1.5 billion in 2016.

Australia may gain the greatest advantage from the Japanese tariff increase. While U.S. beef is subject to the elevated tariff, the tariff on Australian beef will remain at 27.2 percent as established in the Japan-Australia Economic Partnership Agreement (JAEPA).

The 50 percent tariff applies to frozen imports from suppliers that do not have an economic partnership agreement (EPA) with Japan, mainly the U.S., Canada and New Zealand.

"This unfortunate development underscores the urgent need for a bilateral trade agreement with Japan absent the Trans-Pacific Partnership," adds Uden.

NCBA, the North American Meat Institute, and the USMEF continue to plug holes and promote positive movement where they can. A July 27 letter was sent to USDA Secretary Sonny Perdue and U.S. Trade Representative Robert Lighthizer preparing for an August meeting with South Korea to discuss the Korea-U.S. Free Trade Agreement (KORUS).

KORUS has been a positive for U.S. producers, and industry leaders would like to keep it that way. Annual sales to South Korea jumped from \$582 million in 2012 to \$1.06 billion in 2016, an 82 percent increase, making South Korea the second largest export market for U.S. beef. The pact includes a scheduled reduction of South Korea's 40 percent tariff.

Meanwhile, domestic demand for beef is staying strong, especially for high-quality middle meats and ground beef. And despite all the forces at play, exports have posted double-digit gains every month since last August, according to Rabobank, spurred primarily by Asian demand.



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BY MIRANDA REIMAN

PRIME: PROFITABLE AND POSSIBLE



Some think a dramatic increase in Prime grading beef spells oversupply. When will packers have enough?

"I can tell you, we haven't reached that point today," says Steve Williams, head of procurement for JBS USA. "I don't see a time in my lifetime when Prime's not a big premium. I just don't see it."

Supply of the uppermost tier of beef has doubled in recent years, with up to 6% of the nation's fed cattle harvest grading Prime. That has opened new doors, says Mark McCully, vice president of supply for the Certified Angus Beef® (CAB®) brand.

"In a lot of cases, supply has fueled the demand, which in turn has given producers incentive to produce more," he says.

For the last decade, the average annual spread between Select and Prime ranged from \$25 to \$50/cwt., and about \$35 for 2016.

"The last five years our percent Prime has doubled, and those spreads have stayed the same...the demand is there," Williams says, fending off myths that it might be simply a factor of cattle numbers: "Weights are up, beef production hasn't tailed off."

Bringing in his colleague in sales helps explain.

"In years past, consistency of supply has been hit or miss," says Chris Ross, program director for JBS USA. "Whether cost of gain is up or market factors due to weather—it's been a tough deal to get a consistent supply of Prime. Now, we're seeing that turn around and it's an upward trend, which really helps us from the sales side."

In the last five years, weekly Prime production on a carcassweight basis rose 8.9 million pounds, from 13.7 million per week in 2012 to 22.6 million in 2016.

"It's given us a great opportunity to expand our customer base and really supply that demand," Ross says.

Cattlemen like Jerry Kusser, of Highmore, S.D., are seeing years of focus pay off.

"We wanted to know if we were going in the right direction and which ones made the most money," the rancher says of carcass data collection that goes back to the 1980s. He credits that, heavy use of artificial insemination and strict genetic selection for cowherd function and end-product merit for stellar grading ability.

Last year, 88% of his 458 steers qualified for CAB and CAB Prime, including 68% of that highest grade. The average hot carcass weight was 925 pounds.

"Prime cattle were once considered almost outliers that you couldn't predict," McCully says. "But the

data we have and the progress we've made on genetics and understanding marbling deposition today has really proven that's not true."

In the Angus breed, there is a clear upward trend in the average expected progeny difference (EPD) for marbling. From 1972 to 2014, that EPD increased from -0.20 to 0.60, or 80% of a quality grade.

"Genetics would be the most important thing, and then environment goes on top. If genetics are the building blocks, the environment would be the next step," Williams says.

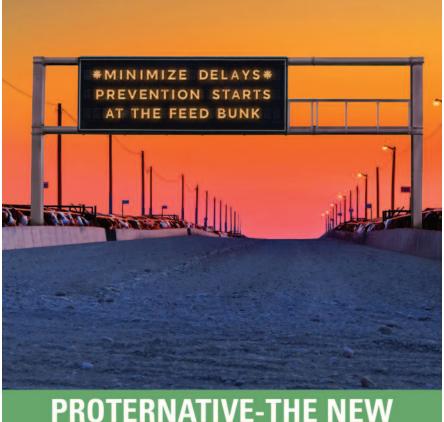
Drought-inspired culling has "amplified" the quality trend, Mc-Cully says. "The oldest genetics were eliminated, then replaced with young, current genetics that have far more Angus influence and carcass merit."

Wider use of DNA testing in both the seedstock and commercial sectors helps speed progress.

"We have a lot of selection tools with our genetics today that weren't available even five years ago," says Kansas cattleman Berry Bortz, who feeds calves from his own herd in a home feedyard near Preston, Kan.. "We can make progress today faster than we've ever been able to make it before."

Producers can make that directional change, while also improving





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Prime... from previous page

cowherd function and performance.

"There's a lot of rhetoric in the industry that says these cattle aren't as good maternally," says Lee Leachman, Fort Collins, Colo., Kusser's genetic supplier. "We don't think that's right. The mistake a lot of people make is that they've seen some of the high-marbling cattle that created females that lacked adaptability in their environment, because they were bigger and heavier milking than what people wanted."

There is such diversity among Angus cattle that high-marbling, lower-input genetics are out there now, he says, and the same can be said for better ribeye and dressing percentage.

"You can find them and use them. Certainly the database and the EPDs and DNA tests now make all that easier," Leachman says.

To those like Mike Drury, western region president of Newport Meats, that's good to hear.

"On the East and West Coast, it's all about product and service differentiation," says Drury, Irvine, Calif. "Wanting to play at that high level, and then having inconsistency in there, your risk-reward for the operator is very high."

Colorado State University research shows, on average, just 3% of Prime middle meats are unacceptable to the consumer, compared to 34% for Select-grading cuts.

Cattlemen initiate that consumer-satisfaction chain.

"We are 100% reliant on what they do," Drury says. "I would just say don't waiver from the quality, because at the end of the day, that's all we have. No shortcuts."

That's motivation enough for cattlemen like Gerry Shinn of Jackson, Mo., to keep trying to beat their own grading records.

"That's why the premium is there. There's a few times when it will narrow down a bit, but day in and day out, it's always there," he says. "I've just observed that it's never difficult to sell a Prime."

NEW PRODUCTS

CattlActive

There are numerous factors that play into the acidosis equation but there is one key element they all have in common–stress. Most highrisk cattle are already in the early stages of ruminal acidosis by the time they reach your operation. High-risk cattle are susceptible to developing shipping fever and experiencing elevated rates of shrink. If they survive these events, acidosis creates the difficult challenge of restarting feed and water intake.

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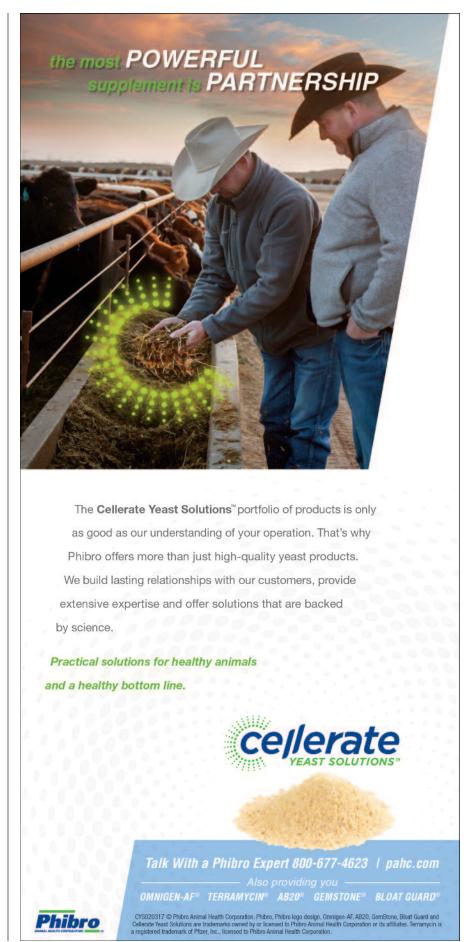
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By providing a clearer picture of lung health and the severity of BRD, Whisper will help producers – in coordination with a veterinarian – develop smarter treatment plans, improve animal well-being and increase herd health.

Contact your Merck Animal Health rep for more info.



PRODUCT INFORMATION

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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 1-900-219-9286.

Not for use in animals intended for breeding purposes. The effects of florforicol 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 resticular 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 prostagliandin 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 tocalytic 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.

RESIDUE WARNINGS: Animals intended for human consumption must not be slaughtered within 38 days of treatment. Do not use in female dairy cattle 20 months of age or older. Use of florfenicol in this class of cattle may cause milk residues. A withdrawal period has not been established in pre-ruminating calves. Do not use in realwas to be moressed for varial.

ADVERSE REACTIONS: Transient inappetence, diarrhea, decreased water consumption, and injection site swelling have been associated with the use of lorfenicol 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 flurixin meglumine.

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May 2009
US 3448 IV

Budget spreadsheets available for small grain, fall stocker cattle

Stocker budgets have

expenses, such αs

calf cost, grazing cost,

feed and veterinary

expenses and

calculates a projected

total return for calves.

break-even prices and

a sensitivity table.

Budget spreadsheets are available for wheat growers and stocker cattle operators planning fall operations, according to a Texas A&M AgriLife Extension Service specialist.

"This time of year wheat and stocker operators are planning and organizing their activities for the coming months," said Jerry Comforth, AgriLife Extension economist in College Station. "Many are putting their plans together and these spreadsheets can assist with identifying and detailing the expenses of their operations."

Producers can tailor spread-

sheets to their operations, he said. For example, one enterprise may be on bottomland and another on terraced land with different expenses. Each of these operations can be separated into

single tab entries. Each tab will calculate per acre and total enterprise costs from information entered for seed, fertilizer, chemicals, fuel, repairs and other costs.

Stocker budgets have expenses, such as calf cost, grazing cost, feed and veterinary expenses. Each tab also calculates a projected total return for a crop or a set of stockers, break-even prices and a sensitivity table.

"You can also do the same thing with any small grain crop," Cornforth said. "A lot of farmers will be putting in small grains for grazing this fall or trying out a different small grain. These budget spreadsheets can help them estimate expenses and returns for these crops."

For stocker operations, Cornforth

said, separate tabs can be used for each weight class or grazing period to establish projected expenses and returns for different groups of cattle.

"The copy function on the spreadsheet gives flexibility to model your operation into the spreadsheet," he said.

The spreadsheets, Build Your Own Budgets, are available at http://bit.ly/2mugoLH. More than 200 enterprise budgets for major crops and alternative production systems are available for the 12 AgriLife Extension districts across

the state. There are also 40 livestock budgets.

Cornforth said the spreadsheets serve as a good risk management tool, allowing farmers and ranchers to evaluate potential changes to their

operations based on a number of factors affecting profit or loss.

"Producers can make changes to revenue or cost estimates and quickly see the impact on the potential profit or loss for a crop or stocker enterprise," he said. "These spreadsheets give a producer the ability to evaluate many 'what if' scenarios quickly, hopefully allowing them to achieve better returns and reduce the overall risk to the operation. Budgets can be used throughout the growing season to keep tabs on production costs with profit/loss estimates being recalculated as costs change."

A Machinery Cost Estimator spreadsheet is also available to help calculate and keep track of equipment costs.



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NOT FOR HUMAN USE. KEEP OUT OF REACH OF CHILDREN. This product contains material that can be irritating to skin and eyes. Animals intended for human consumption must not be slaughtered within 38 days of treatment. This 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 in preruminating calves. Do not use in calves to be processed for veal. Do not use in animals that have shown hypersensitivity to florfenicol or flunixin. Not for use in animals intended for breeding purposes. The effects of florfenicol and flunixin on bovine reproductive performance, pregnancy, and lactation have not been determined. When administered according to the label directions, RESFLOR GOLD may induce a transient local reaction in the subcutaneous and underlying muscle tissue. Brief summary available on adjacent page.

MANAGEMENT

BY TERRI QUECK-MATZIE

reating cattle with antibiotics is often necessary. However, amid pressure from outsiders with what is

sometimes limited understanding, producers are examining traditional protocols and the science behind disease control.

"We have a great opportunity here to improve antibiotic stewardship," says Dr. Bob Smith, DVM, chairman of the NCBA Cattle Health and Well-being Committee and editor of Bovine Practitioner. "The noise is high, and it's a tough issue. The landscape is changing."

Smith addressed the issues of antimicrobial resistance (AMR), including antibiotic resistance, in a Check Off funded webinar on August 10. AMR is the resistance of a microbe to medication that was once effective in treating or preventing an infection caused by that microbe.

In cattle, like humans, bacteria changes as it is exposed to drugs designed to kill it, and the medication eventually becomes ineffective. Smith says misuse and over use are accelerating the problem.

In humans, studies have indicated as many as 50 percent of prescribed bacteria-fighting drugs may not be necessary and are leading to the development of superbugs that are virtually untreatable.

"There are no new antibiotics in the pipeline; what we have is what we have," says Smith. Sustaining the usefulness of those drugs is key to prevention, control and treatment of infectious disease, in



cattle, as well as humans.

"Bacteria activate survival mechanisms when threatened," explains Smith. "The more exposure there is, the more chance there is for AMR."



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Some cells are able to change the cell wall structure to be less permeable. Others degrade enzymes and produce alternative proteins. Some even create resistant genes and are able to share them with other bacteria that are not of the same species.

Despite the groaning that has accompanied the Veterinary Feed Directive that went into effect January 1, Smith says working with government agencies to mitigate overuse of antibiotics is in producers' best interest.

The goal is judicious use, so producers can continue to use antibiotics, and they will continue to be effective.

To help alleviate the problem, producers should be selective about treating animals, rather than always mass treating as a pre-emptive measure, according to

Smith. Metaphylactic treatment on select groups of cattle can be a judicious use of the product, depending on the history and condition of the cattle. However, blanket-treating every pen regardless of status is not. Administering antibiotics to animals that are not sick can set them up for a more resistant infection down the road.

Along with avoiding unnecessary use, it is crucial to make sure the drug is the correct one for the affected organ and is given in the right dose.

An animal's weight is the crucial factor for determining dosage. Smith cautions against mass treating a pen of calves based on average weight. Studies have shown in such cases, calves on the lighter end of the spectrum had a higher rate of morbidity in reaction to a proportionately large dose on antibiotic.

Treatment also needs to be for the right duration of time. Make sure to allow drugs time to work.

"It's sometimes better to wait to re-treat," says Smith. "It you don't like the outcome, give it time to work." He cites studies that show better response to some drugs

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MANAGEMENT



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BRIEF SUMMARY:

Before using Baytril¹⁰ 100, please consult the product insert, a summary of which follows:

CAUTION:

Federal (U.S.A.) law restricts this drug to use by or on the order of

a licensed veterinarian. Federal (U.S.A.) law prohibits the extra-label use of this drug in food-producing animals

To assure responsible antimicrobial drug use, enrofloxacin should only be used as a second-line drug for colibacillosis in swine following consideration of other therapeutic options.

INDICATIONS:

Cattle - Single-Dose Therapy: Baytril® 100 is indicated for the treatment of bovine respiratory disease (BRD) associated with Mannheima haemolytica, Pasteurella multocida, Histophilus somniand Mycoplasma bovis in beef and non-lactating dairy cattle; and for the control of BRD in beef and non-lactating dairy cattle at high risk of developing BRD associated with M. haemolytica, P. multocida, H. somni and M. bovis.

Cattle - Multiple-Day Therapy: Baytril¹⁰ 100 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.

Swine: Baytril® 100 is indicated for the treatment and control of Swine respiratory disease (SRD) associated with Actinobacillus pleuropneumoniae, Pasteurella multocida, Haemophilus parasuis, Streptococcus suis, Bordetella bronchiseptica and Mycoplasma hyopneumoniae. Baytril® 100 is indicated for the control of colibacillosis in groups or pens of weaned pigs where colibacillosis associated with Escherichia coli has been diagnosed.

Use within 30 days of first puncture and puncture a maximum of 30 times with a needle or 4 times with a dosage delivery device. Any product remaining beyond these parameters should be discarded.

RESIDUE WARNINGS:

Cattle: Animals intended for human consumption must not be slaughtered within 28 days from the last treatment. This product is not approved for 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 this product in pre-ruminating calves. Do not use in calves to be processed for year

Swine: Animals intended for human consumption must not be slaughtered within 5 days of receiving a single-injection dose.

HUMAN WARNINGS:

HUMAN WARNINGS:

For use in animals only. Keep out of the reach of children. Avoid contact with eyes. In case of contact, immediately flush eyes with copious amounts of water for 15 minutes. In case of dermal contact, wash skin with soap and water. Consult a physician if irritation persists following ocular or dermal exposures. Individuals with a history of hypersensitivity to quinolones should avoid this product. In humans, there is a risk of user photosensitization within a few hours after excessive exposure to quinolones. If excessive accidental exposure occurs, avoid direct sunlight. For customer service or to obtain product information, including a Safety Data Sheet, call 1-800-633-3796. For medical emergencies or to report adverse reactions, call 1-800-422-9874

PRECAUTIONS:

The effects of enrofloxacin on cattle or swine reproductive performance, pregnancy and lactation have not been adequately determined.

The long-term effects on articular joint cartilage have not been determined in pigs above market weight.

Subcutaneous injection in cattle and swine, or inframuscular injection in swine, can cause a transient local tissue reaction that may result in trim loss of edible tissue at slaughter.

Baytril® 100 contains different excipients than other Baytril® products. The safety and efficacy of this formulation in species other than cattle and swine have not been determined.

Quinolone-class drugs should be used with caution in animals with known or suspected Central Nervous System (CNS) disorders. In such animals, quinolones have, in rare instances, been associated with CNS stimulation which may lead to convulsive seizures. Quinolone-class drugs have been shown to produce erosions of cartilage of weightbearing joints and other sig ins of arthropathy in immature animals of various species. See Animal Safety section for additional information

ADVERSE REACTIONS:

No adverse reactions were observed during clinical trials

ANIMAL SAFETY:

In feeder calves, clinical signs including depression, incoordination, muscle fasciculation and inappetance have been observed at higher than approved label dosages. In swine subcutaneous safety studies. incidental lameness of short duration and musculoskeletal stiffness have been observed at higher than approved label dosages.

In swine intramuscular safety studies, transient decreases in and water consumption were observed after each treatment. Mild. transient, post-treatment injection site swellings were observed in pigs receiving the 37.5 mg/kg BW dose. Injection site inflammation was found on post-mortem examination in all enrofloxacin-treated groups.

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Get Smart... from previous page

seven days after treatment than three or five days.

Be sure to administer the drugs correctly, by verifying the proper injection site and dose volume for the site. Different tissues, such as muscle or subcutaneous, absorb the antibiotics at different rates.

Smith also says to "Know when to quit. Recognize when you're not making progress."

Keeping good records of antibiotic use is essential. Besides avoiding overtreatment, good records can help the veterinarian and producer analyze treatment effectiveness and identify disease trends.

Beyond treating sick animals, Smith puts emphasis on preventative health. He recommends routine surgeries like castration and disbudding be done at an early age when studies have proven it is less stressful; and "good, old animal husbandry" - reducing stressful situations in general. Avoid overcrowding in pens and practice lowstress weaning.

Identifying sick animals needing treatment can be a challenge, particularly in a disease's early stages. To more effectively sort calves according to health, Smith says there are new tools coming on the market.

A simple machine that measures the animal's white blood cell count takes producer diagnosis beyond "looking at their eyes and taking a rectal temp."

Also coming is a tag that tracks a calf as it moves to the water tank or feed bunk, movements that can indicate a calf may be sick up to 18 hours sooner than a pen rider's keen eve.

The affordability of such devices for routine use is yet to be determined.

Smith stresses producers need to rely on their veterinarians for helping developing protocols and providing on-site training in disease identification and treatment.

Just as the reaction to human

AMR involves monitoring, research and education, so too should beef's response, says Smith. He says beef producers should adhere to two acronyms: ABL and ABC.



ABL = Always Be Learning

Beef Quality Assurance addresses the issue with online resources and antibiotic use guidelines. White papers on the subject are available on animalagricutlure.org and the seventh annual NIAA Antibiotic Fall Symposium is scheduled for late October.

Smith also stresses the importance of producers sharing best practices with one another.



ABC = Always Be Connecting

Antibiotic resistance is getting everyone's attention, and aside from herd health effects, animal agriculture has to comply with consumer expectations. Smith says producers and vets should always be looking for opportunities to share accurate information. Civic events, 4-H & FFA, social media, even one-on-one conversations on airplanes or in grocery stores provide a chance to offer real conversation vs. the typical sound bite.

AMR is a difficult problem with far-reaching implications, and solutions require innovation, open minds, and producers, retailers, communicators, scientists and government agencies working together.

"Collaboration is key," says Smith, "if we are to advance our goals of animal health and food safety." **FL**



The question to ask is how fast does the treatment kill BRD-causing bacteria.

Single-dose Baytril® 100 (enrofloxacin) Injectable delivers effective, therapeutic levels of drug in the lung tissues in 1-2 hours*1 and kills 97% of BRD-causing bacteria in 1-2 hours.*23 The sooner bacteria are killed, the faster a calf will feel better and get back to work eating and gaining weight. You know the drill. You turn to the one you trust.

*The clinical significance of in vitro data has not been demonstrated. Federal law restricts this drug to use by or on the order of a licensed veterinarian. Extra-label use of this product in food-producing animals is prohibited.

¹Davis JL, Foster DM, Papich MG. (2007). Pharmacokinetics and tissue distribution of enrofloxacin and its active

metabolite ciprofloxacin in calves. *J Vet Pharmacol Ther*. 30(6):564-571. Blondeau JM, Borsos S, Blondeau LD, et al. (2005). The killing of clinical isolates of *Mannheimia haemolytica* (MH)

*Blondeau JM, Borsos S, Bfondeau LD, et al. (2005). The killing of clinical isolates of Mannheimia haemolytica (MH) by enrofloxacin (ENR) using minimum inhibitory and mutant prevention drug concentrations and over a range of bacterial inocula. In: ASM Conference on Pasteurellaceae; 23-26 October 2005; Kohala Coast, Big Island, Hawaii: American Society of Microbiology; Abstract B12.
*Blondeau JM, Borsos SD, Hesje CH, et al. Comparative killing of bovine isolates of Mannheimia haemolytica by enrofloxacin, florfenicol, tilmicosin and tulathromycin using the measured minimum inhibitory concentration (MIC) and mutant prevention concentration (MPC) drug values. In: International Meeting of Emerging Diseases and Surveillance (IMED); Vienna, Austria: International Society for Infectious Diseases. February 23-25, 2007. Figures 8-10. Figures 8-10.

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Baytril[®] 100 (enrofloxacin)

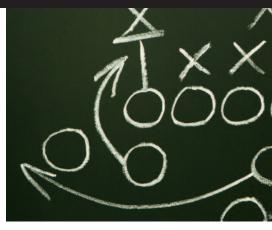




earning requires a mindset that is open to correction, coaching and personal change. That last requirement can be quite a stumbling block for some individuals. I am often asked by my clients to spend time with an employee who says they want to learn new skills or take on more responsibility, but rarely take their supervisor's advice and instruction. They may even challenge their supervisor's authority.

After a few minutes to get to know the person and build trust and rapport, I will ask them about what is going on in their head when their boss is providing coaching and instruction. Specifically, I'll ask, "When your supervisor is giving you instructions or providing some coaching, what are the specific things you are thinking about?" Quite often this type of person will say, "Well...I hear what they are saying but the first thing that comes to mind is that I've seen them do things wrong and make mistakes, so I don't see why I should pay attention to them." Further conversation often reveals that this is their attitude to all instruction. All they need to do is think of any time that the supervisor was inconsistent in how they did the task, and the employee convinces themselves that they don't have to heed their advice or instruction.

This person justifies their unwillingness to change by requiring that a coach or instructor be perfectly



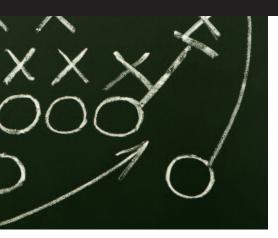
consistent to be a credible teacher. It is a firewall they have created to ensure that they never have to change, because few people are qualified to teach them.

Their attitude is self-defeating. They will never grow, never advance and never be given more responsibility because they will not make the required personal changes.

YOUR STRATEGY

When managing this type of attitude about personal change, your strategy can include several possible actions.





Find out if they want to grow and how they expect that growth to occur. Ask them, "What are your personal goals? Where do you see yourself in 5 years? Do you expect to have more responsibilities in your job two years from now? What is your plan to accomplish these things?" Listen for specific goals they want to accomplish and what they are willing to do to achieve them.

Make them aware that they are the barrier to their own growth. Give examples of their own reaction to coaching and the impact that their inappropriate response had on their supervisor and on your impression of them. Share examples of former employees (without naming names) that you feel had significant potential that was not utilized because they chose to be uncoachable.

Explain that growth requires change that will be uncomfortable. If they only want to make improvements that are easy, they will never reach their potential. Perhaps you can share personal examples of changes you had to make, or that the business had to adapt to, to keep maintaining growth and profitability.

Explain that if their response to correction and coaching is retaliation or disinterest, they are wasting their supervisor's time and your time, and if this continues you will invest in someone else. Your coaching time is limited and needs to be efficient and worthwhile. The time you spend has to be invested

in individuals that truly want to grow and who appreciate the investment made in them.

Emphasize that the coaching process requires more effort from the trainee than the coach. You don't have time to spoon-feed them everything they need for their personal growth. The trainee must clearly show that they are heeding your advice, changing their behaviors, improving their performance and enhancing their skills. If not, the coach's time should be used with someone else.

Set clear expectations and timelines for their growth. Get a commitment from them that they desire to grow, and are willing to do their part in that growth.

Don Tyler is founder of Tyler & Associates Management Coaching and President of Good Day's Work LLC, which provides ag-specific safety training www.GoodDaysWork.ag He can be reached at dhtyler@frontiernet.net or by calling 765-490-0353.



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In an ideal world, every bale of summer hay was harvested perfectly resulting in large quantities of bright green, high-quality hay. Designing cattle diets can be easy under those conditions.

Unfortunately, conditions are far from ideal in much of the northern plains this year. Hay will be short and producers will be forced to use some feedstuffs that may be unconventional or less than ideal.

So how do we make use of those feeds?

The good news is some quality issues can be fixed with proper supplementation.

Ruminants have the unique ability to make use of relatively poorquality feeds, as long as we provide the right supplements for the rumen microbes.

When relying on supplements to provide nutrients forages lack, the key is knowing the kind and amount of supplementation your cattle require.

To illustrate the point, Table 1 shows the amount of feed required for drylotted 800 pound yearling heifers gaining 1.3 pounds using poor, average or high-quality grass hay, plus supplements.

Hay Quality

The expected performance and costs per day are relatively similar between the three kinds of hay. However, the supplements required to achieve those results are quite different.

Poor quality hay requires almost twice the dried distillers grains (DDGS) as average hay, while the higher protein hay achieved the same performance target with only a small quantity of corn grain.

Sampling & Testing

Relying on book values can be extremely risky, especially during challenging growing conditions.

Table 1. Heifer diets using three different kinds of grass hay.

	Poor Quality Hay	Average Quality Hay	High Quality Hay
NE _g , Mcal	20	24	26
CP, %	6.5	8.5	13
Hay, Ibs	20	22	23
DDGS, lbs	4	2.25	_
Corn, lbs	_	_	1
ADG, lbs	1.3	1.3	1.3
Feed Cost per day, \$*	\$1.19	\$1.21	\$1.20

^{*}Assumes hay at \$100 per ton, DDGS at \$96 per ton, and corn at \$3.00 per bushel

Plants under drought stress mature more quickly than normal, resulting in more rapid declines in hay quality. The same scenario can play out when salvaging a small grain crop for forage.

As the plant begins to produce heads, the quality and feeding value of the feed decreases rapidly. The only way to know exactly what you have is to collect a representative sample and have it analyzed.

View Forage Hay Sampling Method at this link: www.youtube. com/watch?v=uQT8w7bHfuA.

Problems That Limit (or Prevent) Feed Usefulness

Some issues simply can't be solved with a supplement.

Feeds can contain harmful compounds or other issues that either limit the amount that can be used or in extreme cases prevent the feed from being used at all.

Nitrate Concerns

Nitrate concerns immediately come to mind during drought.

Salvaged small grain crops harvested for hay are notorious for accumulating nitrates, but weeds such as kochia or pigweed can as well.

The usefulness of feeds containing

nitrates depends upon the concentration of nitrates.

The only way to know for certain is to have these feeds tested. Producers can find more in-depth information on making use of feeds that contain nitrates by reading Nitrate Poisoning of Livestock: Causes & Prevention which can be found at this link: *igrow.org/up/resources/02-2041-2012.pdf*.



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Ugly Feeds... from previous page

Other Problems

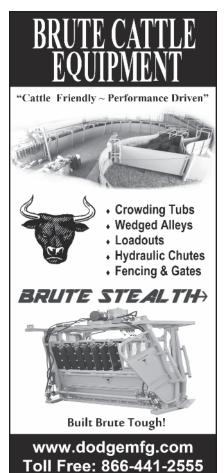
Other problems arise from where the crop grew or how it was harvested.

Ditch hay can be a useful feedstuff, but can contain a great deal of foreign material. This could cause problems with hardware disease in cattle.

Prior pesticide applications can also limit the usefulness of a feed. Ash content is often overlooked. Researchers in North Dakota reported ash content in ditch hay samples as high as 37 percent. This represents an extreme case but illustrates that conditions along the road side can affect the usefulness of the feed.

The Bottom Line

Feed does not have to be perfect to be useful. The key to making smart feeding decisions is knowing what the imperfections are and adjusting accordingly.



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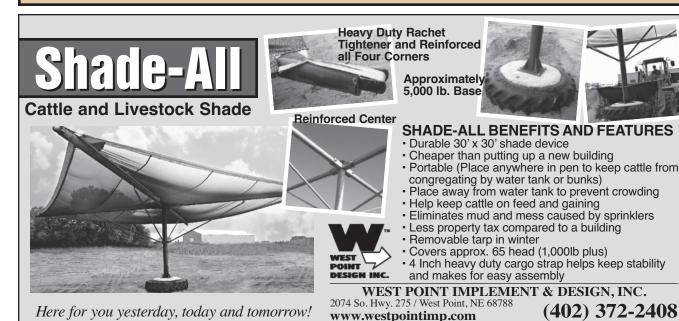
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