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SEPTEMBER 2017 • VOLUME 21 | ISSUE 2

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- Create Your Marketing Plan
- 10 Tips for Adding Market Value
- How to Keep Kids Safe on the Farm



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VIEW FROM THE BLOCK

The market is holding L pretty good despite the fact that the fat cattle trade is acting like it wants to fall out of bed. Ample amounts of feed all across the country are providing plenty for calves to eat. Folks have made a little mon-

ey, and I expect buyers will continue to purchase calves as long as fall runs are light — at least through the next 30 days.

We have plenty on our minds in light of the news in recent weeks. From China to Japan to Hurricane Harvey, it's still undecided where the beef market will end up. However, I think we need to stay cautious on how these events might impact our business. With plenty of cattle on feed - 20,000 to 30,000 head more than last year — if we stump our toe just a little bit, it could get pretty bad. We haven't been very cautious. A lot of people are buying cattle going into a time when it's historically not



a good time to market them. It is pretty easy for cattle marketing to become not current. This weighs on my mind and is about half dangerous. You sure need to pay attention to the details. At some

point, if the wrong scenario happens, it could get ugly. The market is teetering on the edge of that now.

With weaning season upon us, it's important to remember the value of cattle health. Preconditioning programs will pay off for those folks that do their homework and spend the extra time and money to keep their calves healthy.

The weather has been anything but typical. We've had a phenomenal summer, and these late-season nights are even bring out the jackets at my house. Get out and enjoy these days. Keep a rockin'.

Good luck and God bless.

Jackie



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INSIDE THIS ISSUE

About the Cover

Get geared up for the fall feeder calf marketing season. Tips and strategies inside this issue. — *Cover design by Joann Pipkin.*

Features

- 12 Certified Healthy
- 20 Proper Timing Knocks Out Internal Parasites
- 26 How to Get Safe on 4 Wheels
- 30 Put On Your Buyer Hat
- 34 10 Tips for Adding Market Value
- 36 Genetics Add Value
- 38 Can Do Cover Crop
- 40 No More Statistics
- 42 Safety First
- 46 Against the Odds
- 50 BRD: Solving a Complex Puzzle

In Every Issue

- 3 View from the Block
- 6 On Target with Justin Sexten
- 7 Beef in Brief
- 8 Health Watch with Dr. David Rethorst
- 10 Next Generation with Darren Frye
- 58 Event Roundup
- 60 Market Watch



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We have used exceptional sires in each breed stressing balanced EPDs, meaningful pedigrees and only use sons of proven sires. They come from some of the best breeders and sales in Oklahoma, Missouri and Kansas and have generally been the top selling bulls in these sales.

Crossbreeding is the only way I know in which you can get something for nothing, and it is called heterosis or hybrid vigor.

3-BREED, CROSSBRED HEIFERS FOR SALE IN MAY

Heifers to calve in September and October, and they will be black, black with some white, or Charolais-influenced, mostly smokes with some yellows. They are sired by outstanding sons of the most preferred sires in each breed.

• Our current Angus herd sires are outstanding sons of A A R Ten X 7008 S A, Sitz Upward 307 R, and SS Objective T510 026. Ten X has been the dominant sire in the breed the past two years with a wide margin in calf registrations, and Sitz Upward was the registration leader in 2013 and remains one of the breed's foremost sires. S S Objective is one of the all-time leaders with the widest EPD birth weight to yearling weight spread of any of the Top 50 Angus Sires and has had great maternal influence being the breed's number two Pathfinder Sire.

• Our Simmental and SimAngus bulls are equally impressive and were bred by the Irvine Ranch, Manhattan, KS, which has consistently had the highest or second highest indexing herd in the USA in recent years according to the American Simmental Association. These bulls have an allpurpose index of 160 placing them in the top 5% of their breed. Not to be outdone, our Charolais bulls have a Terminal Sire index ranking them in the top 10% of their breed.

• Our heifer bulls are SimAngus and have a remarkable set of EPDs that rank them in the top 1% for birth weight, top 2% for direct calving ease, and top 1% in all purpose index. Their pedigrees include S A V Final Answer, Mytty In Focus, and S S Objective, along with other great sires in both breeds. All are homozygous black and homozygous polled.

• Since the inception of EPDs we have stressed balance and consistently selected for docility. Our goal has never changed and remains a live calf, born unassisted, that will have superior growth before and after weaning, that can be worked with acceptable effort and will ultimately produce a desirable product.



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ON TARGET Beef Lessons, Dairy Conceptions

Make sure your calves never have a bad day

Story By Justin Sexten

You've heard that the key to beef quality could lie in making sure a calf never has a bad day. A paper in the Journal of Dairy Science adds validity. And, before you quit reading because the work didn't come from the beef side, think for a minute about the dairy cow. She's a model of uniform genetics and focused selection with little nutritional limit to gene expression. She can serve as a great model to evaluate environment for all cows, independent of genetics and nutritional resources.

Contrast that to the beef cow with variable genetics selected for multiple traits and often limited by her nutritional environment. These diverse conditions are why the debate rages on about ideal cow size and milk production level.

The dairy researchers in Florida and Colorado set out to see

how the season of a heifer's conception influences her later productive life. As you look at a pen of replacement beef heifers and judge their genetics, individual performance and disposition, this dairy study adds another variable. We often evaluate the expression of traits without considering the cause of the expression, but this work highlights the environment's role.

This fall, many of you will look at that heifer pen and try to decide whether to keep or cull some late-born females. We know the early-born heifer is more productive over a lifetime, but now we see that could be partly because she was conceived during a time of less environmental stress.

Dairy Herd Improvement Association records across 12 years on more than 667,000 lactations were used to evaluate the influence of season of conception on subsequent productivity. This could make you think about fetal programming or gestational nutrition and the importance of maternal diet on quality. But laying that aside, this research demonstrates that the season and environmental conditions at conception will influence milk production, reproductive efficiency and herd longevity.

These dairy scientists concluded that cows conceived during the summer heat — July to September — were less productive than those conceived in the winter — December to February.

Heifers conceived during the winters were younger at first calving by nine days. In a beef production system, shortening days to first calving may not be possible due to group management, but this data suggests the dairy heifers conceived during cooler temperatures were either earlier to puberty or more reproductively efficient.

The cool heifers not only calved sooner, but also returned to estrus after their first calf earlier than those conceived during summer. The interval to first re-breeding were six and four days shorter after the first and second calf, respectively, but season of conception didn't affect reproductive performance of older cows.

Quicker returns to estrus following calving translated into a comparable reduction in days to conception for first- and second-calf heifers. These reproductive benefits were realized despite a 3.5 percent increase in first-lactation milk production by heifers conceived in winter. That increase moderated as heifers aged, but the second- and third-parity cows conceived in the winter produced about 1 percent more milk throughout lactation.

Heifers conceived in winter were 1.15 times more likely to make it to the second calving and not be culled for reproductive failure. Remember, that's in addition to greater milk production.

How can we incorporate this into a beef production system where local environment and the goal of a set calving season drive decisions? Gone now is the chance to modify the 2017 breeding plan to avoid the worst summer heat, but the **CONTINUED ON NEXT PAGE**



BEEF IN BRIEF

Larry Jackson Honored by Missouri 4-H

JRS Field Representative Larry Jackson, Reeds, Missouri, was recently inducted into the Missouri 4-H Hall of Fame for outstanding achievements and contributions to Missouri 4-H. Jackson was nominated by Jasper County. He was inducted during an Aug. 19 ceremony at State Fair Comunity College in Sedalia.

MU Keeps Reproduction Unit at Vet School

The Missouri Cattlemen's Association (MCA) was a vocal opponent of a University of Missouri (MU) decision announced in June to eliminate the reproduction (theriogenology) specialty section from the veterinary teaching hospital. This week, MCA members had reason to celebrate as their voices were heard with the decision to cut the program being rescinded.

MCA Executive Vice President Mike Deering said this section is responsible for teaching skills like pregnancy diagnosis, breeding management, bull breeding soundness examination and more.

"At a time when we have a shortage of large animal veterinarians coupled with the industry investing heavily in whole herd reproduction management, this program is critical to the training of future cattle veterinarians. The interim dean recognized this immediately, and we back her decision," said Deering.

—Source: MCA Prime Cuts

Property Rights Battle Continues

On Aug. 15, the Missouri Public Service Commission (PSC) denied Clean Line Energy Partner's proposed power line, the "Grain Belt Express," that would carry wind power via high-voltage power lines across the state. This denial marks the second rejection in just two years. The Missouri Cattlemen's Association (MCA) was quick to praise the PSC decision.

The company is made up of private investors based in Texas who want to sell electricity generated by Kansas wind farms to East Coast buyers. Deering said the Grain Belt Express project is a private marketing venture and the company should work with private landowners, who voluntarily opt to sell property, rather that condemning private property under the guise of a public utility.

"Eminent domain is a tricky issue," said Mike Deering, MCA executive vice president. "We do not believe eminent domain was ever intended to be a green light for any private entity to be able to take private property from a landowner. It was really intended to be used sparingly for public utilities, roads and schools that provide a direct benefit to the citizens of Missouri."

—Source: MCA Prime Cuts

BEEF LESSONS • FROM PREVIOUS PAGE

decision on whether to retain a heifer conceived during last summer's heat is imminent.

To review, beef cattle research showed many years ago that heifers born early in the calving season are more productive. Years later and thanks to our colleagues in dairy science, we discover productivity could be related to the weather not only at birth but at conception.

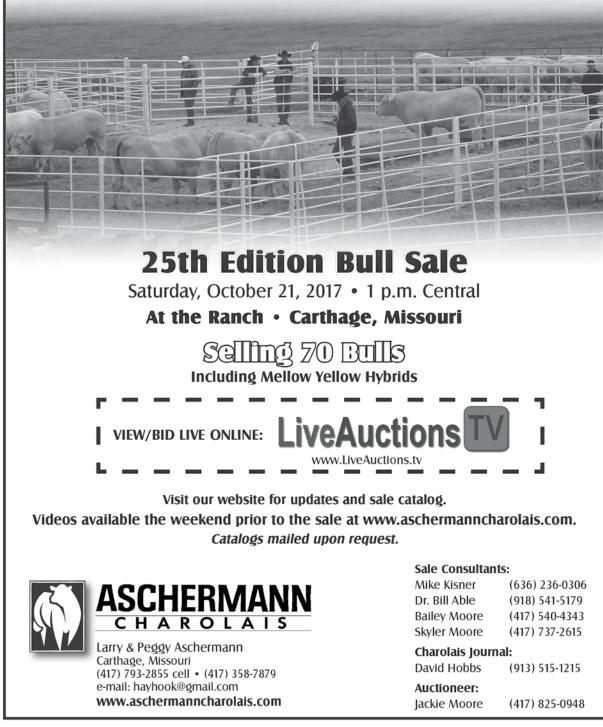
We continue to learn more each day about how the environment influences the genetic framework we develop. While we might not understand how it can influence each gene, we do know that overcoming a genetic deficit is a challenge. Now that you have something else to think about when building your herd, keep in mind that simple approach to beating average quality: do all you can to ensure each calf never has a bad day.

—Justin Sexten is director of supply development for Certified Angus Beef

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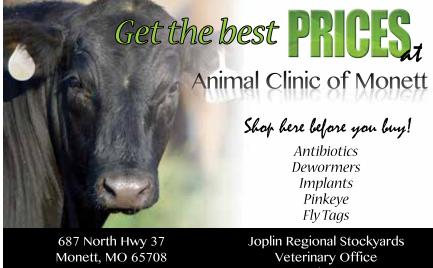
HEALTH WATCH

Creating Value How does animal health impact feeder calves at marketing time?

Story By Dr. David Rethorst for Cattlemen's New

Tight margins, combined in calves at their operations. with the societal pressures of transparency, sustainability, judicious use of antibiotics, and antibiotic resistance are changing the attitude of many feedyard operations regarding the value of purchased calves. Buyers are less willing to accept the risk of the morbidity and mortality associated with respiratory disease

With some antibiotics costing approximately \$25 per treatment, buyers would rather put that money, plus the money saved by reducing the labor costs of treating calves and the reduction in morbidity and mortality, toward the purchase price of the calves. In this scenario, feedlots do not want the unweaned calf



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	2011	1777
Introduction to feedbunk	81%	65%
Respiratory vaccination 2 weeks prior to weaning	85%	66%
Respiratory vaccination at weaning	80%	51%
Weaned 4 weeks prior to shipment	79%	67%
Castrated/dehorned 4 weeks prior to shipment	91%	65%
Internal parasite control prior to shipment	71%	37%

that is not castrated or vaccinated.

Preconditioned calves — castrated, vaccinated, dewormed and weaned 45 days before marketing

— have for years been recognized as having been a part of a sound animal husbandry practice for a number of years. Yet, the adoption of preconditioning has been less than optimal because of economics. Questions come from both cow-calf producers and feedyard operators. Cow-calf producers feel they need more premium to make the practice worthwhile while feedyard operators, until recent years, do not feel the additional premium is justified.

2011

1999

National Animal Health Monitoring System (NAHMS) data published by the United States Department of Agricul-

ture indicate this trend is changing. The table above shows information found in the 2011 NAHMS Feedyard Report comparing survey results on various components of preconditioning from the 1999 NAHMS report to the 2011 NAHMS report. The response rates are percentage of feedyard operators that deem these practices as effective in preventing shipping stress in calves.

The 2011 NAHMS report also indicated that 69 percent of feedyard operators surveyed believe information on pre-arrival processing (vaccinations, implants, deworming history and mineral supplementation) to be "very important." An additional 24 percent find this information "somewhat important." When asked how often this information is received, 35 percent responded "always" while an additional 58 percent responded "sometimes."

This is an information gap that needs to be filled. This gap has been created as feedyard operators struggle to find answers to why respiratory disease incidence continues to creep up and what can be done to reverse the trend. Feedyard operators want to reduce respiratory incluence and reduce antibiotic use. They want a calf with a properly prepared immune system and many of them are willing to pay for it. A feedyard survey published in 2012 indi-

CONTINUED ON NEXT PAGE

SEPTEMBER 2017 8

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CREATING VALUE • FROM PREVIOUS PAGE

cates that calves going through a preconditioning program that includes weaning, respiratory disease vaccination, clostridial vaccination and parasite control are worth, on average, an additional \$7.28 per hundred pounds to the feedyard.

An 11-year case study evaluating the profitability of preconditioning found that preconditioning was profitable each of the 11 years, returning an average of \$80.70 per calf per year to labor and management. When the records for one particular year were broken out, it was found that 63 percent of the profit was due to additional weight sold while 37 percent was due to market advantage for preconditioning health. The owner's goal was to sell a high-quality calf while improving the profitability of his operation. These calves were fed to gain 2.5 to 3 pounds per head per day. They were carrying some flesh when sold. They most likely didn't bring the highest price per hundred pounds the day they were sold, yet the bottom line

showed more profit for the cow-calf operator than if the calves had been sold right off the cow.

A number of calves enter the market channels each year that have received respiratory vaccines on the farm or ranch of origin but have not been weaned or bunk broke. These calves are pulled off of the cow and "weaned" in the trailer on the way to the sale barn. I prefer to call these calves "prevaccinated" rather than preconditioned as they have not been

JRS Welcomes Colby Flatt



DAbilene, Texas, and raised in Eula, Texas, Colby Flatt worked on family ranch raising purebred Simmental cattle. Colby has rodeod and

Dorn

in

exhibited cattle. He attended Cisco Junior College and Tarleton State University in Stephenville, Texas.

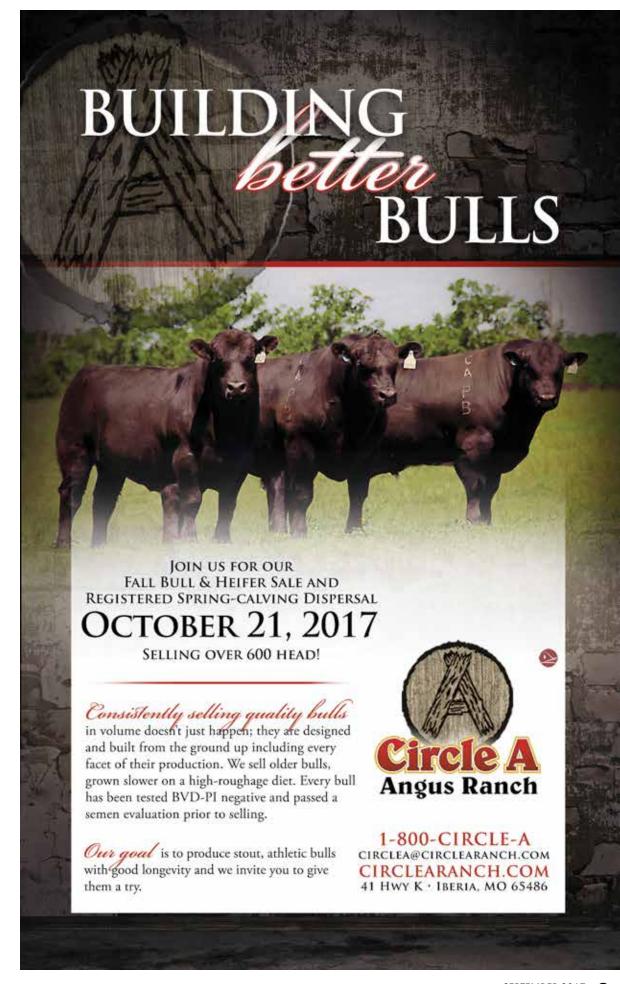
Colby has worked in and around the animal health industry his entire life. He and wife, Tiffany, have been married since 1999. They have two children, Dalton, 17, and Evan, 14. Tiffany is the K-8 principal in Altamont, Kansas, and the Flatts have lived in Liberty, Kansas, for 16 years. Dalton is involved in livestock judging and showing cattle while Evan has aspirations of being the next John Smith, the head wrestling coach at Oklahoma State University. Colby and Tiffany enjoy spending spare time on the water pulling their kids behind the boat. Colby looks forward to his new role at JRS as video sale manager where he hopes to bring his passion and integrity for the cattle business to your operation. Contact Colby by phone at 620-870-9100 or via email at Colby@ joplinstockyards.com.

thru the full preconditioning protocol. While these calves represent less risk in the feedyard than the unweaned, unvaccinated calf, they certainly are not as predictable as the truly preconditioned calf. It is still a step in the right direction.

In addition to preconditioning or prevaccinating, addressing basic animal husbandry practices such as nutrition, low-stress handling and biosecurity will improve the function of the calf's immune system at the feedyard.

If you want to create more value for your calves, then learn to market them, not just sell them. Help the buyer create more value with these calves by marketing a calf that meets their expectations, a healthy calf at low risk of becoming sick and requiring treatment with an antibiotic. Marketing can be a symbiotic relationship.

—Dr. David Rethorst is a veterinary practitioner and consultant, Beef Health Solutions, Wamego, Kansas.



NEXT GENERATION

The Right Farm Culture

Developing it as part of your legacy

Story By Darren Frye for Cattlemen's News

When it comes to managing employees in a farm operation, frustrations can be commonplace. That's understandable every human being, including ourselves, is complex. Communication in itself can be a challenge as well.

Though all of this is true, you can shape the working environment on your farm to help achieve the results you want for your operation. It starts with a commitment to intentionally create and direct the culture that you want to be part of your farm.

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Every farm operation — and every business, for that matter — has a unique culture or environment that's developed. Two choices exist when it comes to how culture happens on your farm. The first is to just let it unfold — however it will.

The second is to work to set certain standards — how we behave, how we speak to each other, how we interview a potential employee, how we solve problems,

how we learn new things — in a particular way. The challenge is to foster the right envi-

ronment to achieve the goals we have for our farm.

What's your choice?

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Doug Williams • (336)745-5252

codygariss@gmail.com

whipowill@yadtel.net

Chances are that if you choose the first option I described above, you aren't going to like the results very much. When a farm's culture is left up to chance, it can become just about anything. It

certainly won't magically become what you want it to be.

On farms like that, people problems are everywhere, and seem to be non-stop. Often, it's the type of thing that the leader ends up having to deal with, taking their time away from doing the work that's critical to the farm's success. Personally, I don't know of any farm leaders who want to deal with more of these types of problems.

The second option is likely more attractive. It does take more work and intentionality upfront, though. But if you're dedicated to creating an effective, efficient work environment on your farm that runs smoothly, first consider what you want your farm's culture to be, and then implement a plan of action to get it there.

Your farm's culture is truly part of the legacy that you're going to leave when you transition the farm to the next generation. What do you want it to be like?

Consider the culture

The first step is to think about what your farm's culture is like now, and what you want it to be. Here are a few questions to ask yourself:

How well do the people in my operation work as a team?

Do we have the right people working here? Do they work hard and achieve results?

Where do people tend to hit roadblocks in working with each other? How do people treat each other? Does communication flow well?

How can we improve our processes to help simplify and streamline the way we work together?

Think about the type of work that's done on your farm. What sorts of attitudes and behaviors must employees have for the work to go well and smoothly? For example, what sorts of values would employees ideally hold?

The owners or owning family plus other key leaders in the operation might want to sit down together to discuss the values they believe should guide and di-

CONTINUED ON NEXT PAGE

coaster we are all in makes it hard to budget expenses, from year to year. GENETRUST bulls produce the kind of cattle I need to sell at a premium!

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1O SEPTEMBER 2017

ON THE CALENDAR

K-State Beef Stocker Field Day Set for Sept. 21

Stocker, backgrounder budgets and cover crops among topics; register by Sept. 15



is available at www.KSUbeef. org. After Sept. 15, attendees must pay at the event. For more information, contact Lois Schreiner at 785-532-1267 or lschrein@ksu.edu.

-Source: Kansas State University Animal Science. 🔭

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THE RIGHT FARM CULTURE FROM PREVIOUS PAGE

rect the operation. Think about what you value most, as well as what's necessary for the farm to run well. What values should guide the way we work together on the farm? The farm's core values ultimately set the tone for what the culture will be like.

Also, consider the processes and practices you'll put in place to foster the right culture. When it comes to hiring, coaching and firing employees, culture and cultural fit needs to be a big deal. If someone isn't the right fit for the type of culture you're building on your farm, then they're probably not the right employee for you.

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–Darren Frye is President and CEO of Water Street Solutions, a farm consulting firm that helps farmers with the challenges they face in growing and improving their farms. Contact them at waterstreet@waterstreet.org or call (866) 249-2528.

The beef cattle outlook, parasite and fly control options as well as technology applications for beef cattle operations are among topics planned for the 2017 Kansas State University Beef Stocker Field Day on Thursday, Sept. 21.

The day is designed to provide the latest practical information for producers to aid decision-making in the current dynamic beef industry environment.

The event starts with registration and coffee at 9:30 a.m. and the program at 10:15 a.m. A barbecue lunch is provided, and the day ends with an evening social, the "Cutting Bull's Lament 2017" at 5:30 p.m.

Topics on this year's agenda include:

• Beef Cattle Outlook

• Producer Panel: Implementing Cover Crops -How they have helped my operation

• Setting Up Calves for Success This Fall

• A Different Intensive Early Stocking Strategy for Optimized Marketing **Opportunities**

• Proper Dosing at the Chute

 Why Vaccines Sometimes "Seem" to Fail

 Stocker and Backgrounding Budgets

• Cover Crop Decision Tool

The fee to attend the Beef Stocker Field Day is \$25 if paid by Sept. 15. More information and online registration

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MANAGEMENT MATTERS

Certified Healthy

Veterinary certification program helps producers precondition, add value to calves at marketing time

Story By Joann Pipkin, Editor

T's no secret buyers are will-Ling to pay a premium for healthy calves. And, preconditioning programs are designed to help producers do just that — jump-start a calf's health program prior to marketing.

The Missouri Stocker Feeder Quality Assurance (MSFQA) Program is one preconditioning protocol guided by the mittee. He explains, "The

Missouri Veterinary Medical Association (MVMA). Since its inception more than two decades ago, the MSFQA program has worked to provide veterinarians client oversight in bringing value-added preconditioning programs to those farms and ranches.

Jason Nickell, D.V.M., is chair of the MSFQA program com-



bottom line is to provide veterinarians and producers another outlet to not only enhance their own profitability by generating a preconditioned animal and increasing its value, but also to provide the downstream backgrounder, stocker grower, feedyard operator with a lower risk product when it comes to overall bovine health."



To request a sale catalog contact the sale manager: Show Me Cattle Services 417-876-7285 417-827-9391 Missouri has much to gain from producers participating in the program. Nickell says it can help increase the exposure to calves coming out of the state. "Our beef industry is fragmented compared to poultry or swine in that these animals change hands multiple times," he says. "A lot of what drives the repeated purchasing power is how these animals perform at the feedyard level. By producing a healthy product that grows well, exhibits minimal health issues at the feedyard, that's the kind of product that's desirable in order to maximize the rate of return to the cattleman."

Practicing veterinarians must go through a certification program established by the MS-FQA program committee in order to certify the producer client. Animal's are then enrolled in the program and identified through the program's ear tag system before being marketed under the MS-FQA program banner.

More than 1 million tags have been sold since the program's inception, and 425 veterinarians are certified in the MSFQA program.

"There is a strong link of communication between MVMA, their veterinarians, the veterinarian's customer base and livestock markets like Joplin (Regional Stockyards)," Nickell says. "If Joplin is promoting a particular sale or a series of sales with a specific timeframe and that's widely known, then that customer base can work backwards to know when he or she needs to begin that preconditioning program to meet the qualifications of the program while also meeting the established timelines laid out by the livestock market."

Depending on a producer's production system, Nickell says the MSFQA maintains a lot of flexibility in getting an animal vaccinated.

"It's a tiered program spanning from the white tag or lev-

CONTINUED ON NEXT PAGE

CERTIFIED HEALTHY • FROM PREVIOUS PAGE

el 1 up through the blue tag, level 3, and in the middle there's a red tag, level 2," Nickell notes.

A baseline set of vaccinations helps capture all the typical culprits of the four respiratory viruses as well as Mannheimia haemolyitica and other components, he says.

"Within the white tag program or level 1, vaccinations have to be given within 21 days of the sale, but that animal has to be at least 4 months of age at the time of the vaccination program," Nickell says. "As we move up the chain, the requirements become a little more intense."

Capturing the Added Value

The level 2 or red tag program requires animals to be weaned 45 days prior to sale day. "They have to meet those level one requirements, and then a second round of vaccinations must be given within 21 days before the sale," Nickell says.

Level 3, blue tag, is similar to level two. Nickell says this level follows the same guidelines as level two except that the animals must have been tested and verified to be negative for persistent infection of bovine viral diarrhea virus.

"It's disappointing when individuals go through a preconditioning program and don't leverage that added value through targeted sales," Nickell says. "The ability to maximize the value of those calves is lost."

Nickell hopes to help forge a relationship between MVMA and JRS to ultimately help both producers and other segments of the production chain.

Why is 45-day weaning important to feeder calf health?

Story By Glenn Selk

Weaning dates for value-added calf sales will be here soon. Most value-added programs require calves to be weaned at least 45 days prior to sale date. Some cow-calf producers might wonder why the post-weaning period needs to be so lengthy.

Data from Iowa from over a nineyear period in a couple of their feedout tests compared the health status of calves weaned less than 30 days to calves weaned longer than 30 days. Data from more than 2,000 calves were summarized. Calves that had been sent to a feedlot at a time less than 30 days had a higher incidence of bovine respiratory disease (28 percent) compared to calves weaned longer than 30 days (13 percent). The percentage of calves that required three or more treatments also was significantly different (6 percent versus 1 percent) in favor of calves that had been weaned more than 30 days. In fact, the calves weaned less than 30 days were not different in health attributes than calves that were weaned on the way to the feedlot.

A summary of this lengthy study can be found online at http://www.extension.iastate.edu/Pages/ansci/beefreports/asl-1648.pdf. Vac-45 calves apparently have a real health advantage compared to calves weaned for less than a month or those weaned on the way to the livestock market for sale date. Certainly part of the value in value-added calves can be attributed to properly applied vaccinations. However, little doubt exists that a portion of the improved health is due to the length of time between weaning and the movement of calves to the next owner.

—Glenn Selk is Oklahoma State University Emeritus Extension animal scientist.

MVMA's Quality Assurance Program

What Is the Missouri Stocker/Feeder Quality Assurance Program?

The Missouri Stocker Feeder Quality Assurance Program is designed to meet the quality improvement and pre-conditioning needs of producers, feeders, and consumers.

This program educates participants in immunology, animal well-being and the economics of disease. Participation in the program increases producer accountability for quality and safety of the product they sell.

How Does the Program Work?

Veterinarians and producers must be certified. Veterinarians are certified by MVMA MSFQAP Committee members. Producers are certified by their veterinarian. Veterinarians and producers learn how they can influence carcass quality and consumer confidence by monitoring where and when injections are administered.

Once certified, the producer may participate in the program at one of three levels (white, red or blue tag). The three-level approach allows all producers the opportunity to match their level of management and facilities to the level of participation.

Level 1: Show-Me Select (White Tag)

• Participating veterinarians and producers must be certified.

• Calves must be properly identified with an approved ear tag. Tag numbers will be listed on an approved certificate.

• External and internal parasite control is administered.

• Calves will be dehorned and healed. Calves will also be castrated with a knife and healed or verified to be steers.

• Vaccinations: 7-way clostridial, IBR, BVD, PI3, BRSV, Mannheimia haemolytica with leukotoxoid, (Histophilus is optional.)



- Cattle must be born on the producer's farm. A range of birthdates or the birthdate of the oldest calf in the group must be recorded.
- Bull in and out dates will be provided.

• Individual calf treatments will be recorded to include date, product, dosage, route of administration and injection site.

• Vaccinations must be given no younger than four months of age and at least 21 days before sale.

Level 2: Show-Me Superior (Red Tag)

• Weaned 45 days before offering for sale.

• Meet Level 1 requirements - *NOTE:* Initial vaccinations may be given at an age determined by an attending veterinarian.

In addition, a second round of vaccinations must be given using the following guidelines:
A 7-way clostridial as well as a modified live vaccine containing IBR, PI3, BVD and BRSV must be administered;

• Histophilus somni is optional;

• Only one dose of Manheimia heamolytica is required if that dose is administered to calves 5 months of age or older;

• The time frame between initial and second vaccinations must be a minimum of 21 days and all vaccinations must be completed at least seven days prior to sale;

• If a veterinarian determines initial vaccinations should be given to calves less than 4 months of age then second vaccinations must not occur until calves are 5 months of age or older.

Level 3: Show-Me Supreme (Blue Tag)

• Meet Level 1 and Level 2 requirements.

• All cattle must be tested and be negative for persistent BVD infection.

• Genetic information is optional.

For more information, contact your local veterinarian.

HELPING HANDS

Application Deadline Nov. 17 for NRCS Financial Assistance

EQIP helps improve soil, water, air, plants and animals

The U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) announced Nov. 17 as the cut-off date to apply for fiscal year 2018 funds through the Environmental Quality Incentives Program (EQIP).

EQIP allows farmers, ranchers, forestland managers and landowners to conserve natural resources by making available financial assistance to improve soil, water, air, plants, animals and related resources.

"EQIP provides opportunities for financial assistance statewide to applicants who have natural resource problems on their land, including concerns associated with crops, livestock, forest and wildlife," said J.R. Flores, state conservationist.

Applicants can signup for traditional soil and water conservation practices as well as newer practices aimed at increasing habitat for monarch butterflies and those focusing on using adaptable cropping systems that increase resiliency.

Soil health will be a priority again in fiscal year 2018. Along with helping row crop farmers increase organic matter and water-holding capacity, dedicated funding will be available for farmers and ranchers to incorporate pasture practices that improve soil health through greater diversity and less disturbance. Funding will also be available to address resource concerns through agroforestry.

The Nov. 17 application deadline also applies to the following initiatives:

• **On-Farm Energy Initiative** — provides financial assistance for farmers and ranchers to identify ways to conserve energy on their farms through on-farm energy audits, and financial assistance to implement recommendations identified in the energy audits.

• Seasonal High Tunnel Initiative — provides financial assistance, state-wide, for farmers to construct seasonal high tunnels, which extend the growing season for high-value crops in an environmentally safe manner.

• **Organic Initiative** — provides financial assistance, statewide, for farmers to install conservation measures on agricultural operations related to organic production.

• Monarch Butterfly Habitat Development Project — provides financial assistance to help landowners establish milkweed and other plants critical to the iconic monarch butterfly.

• Mississippi River Basin Healthy Watersheds Initiative — provides financial assistance focusing on limiting nutrient and sediment movement occurring on land in the priority watershed areas. The seven Missouri MRBI watersheds are: James Bayou - St. John's Diversion Ditch and Mud Ditch (Mississippi and New Madrid Counties); Upper Buffalo Creek Ditch (Dunklin County); Bear Creek – West Yellow Creek (Linn County); Peno Creek and Spencer Creek (Ralls and Pike counties); Sugar Creek and Mission Creek - Missouri River (Buchanan and Platte counties); North River – (Marion, Ralls, Monroe and Shelby counties); Profits Creek – (Osage, Cole, Maries and Miller counties).

• National Water Quality Initiative — will provide financial and technical

CONTINUED ON NEXT PAGE



NRCS FINANCIAL ASSISTANCE FROM PREVIOUS PAGE

assistance to help farmers and ranchers in three watersheds install conservation practices that manage nutrients, pathogens and sediments. The watersheds include: Upper Troublesome Creek (Knox and Lewis counties); Givins Branch – Niangua River (Webster and Dallas counties); and Basin Fork (Pettis and Johnson counties).

Assistance through Regional Conservation Partnership Program (RCPP) projects will be available, too. Local partners were awarded RCPP funds to deliver conservation projects in specific regions across the state. The Missouri projects are:

1 Cover Crops for Soil Health and Water Quality, in partnership with the Missouri Department of Agriculture;

2 Our Missouri Waters, in partnership with the Missouri Department of Natural Resources;

3 Regional Grassland Bird and Grazing Land Enhancement Initiative, in partnership with the Missouri Department of Conservation;

4Restoring Glade and Woodland Communities for Threatened Species in the Ozarks of Southeast Missouri, in partnership with the Missouri Department of Conservation;

5 Northwest Missouri Urban and Rural Farmers United for Conservation, in partnership with the Jackson County Soil and Water Conservation District;

6Improving Working Lands for Monarch Butterflies, in partnership with the National Fish and Wildlife Federation;

7 Mid-South Graduated Water Stewardship, in partnership with USA Rice;

8Northwest Missouri Partnership for Water Quality, in partnership with Holt County, Missouri, Soil and Water Conservation District;

9Conservation Ranching Program, in partnership with the Missouri Department of Conservation.

NRCS accepts applications for all of its programs on a continual basis, but applications must be filed for these programs by Nov. 17 to be eligible for the next round of funding. Farmers can submit applications at local NRCS offices. NRCS also offers free technical assistance to all Missouri residents.

For more information about NRCS programs and assistance, visit http:// www.mo.nrcs.usda.gov or contact the NRCS office serving your county.

—Source: Missouri Natural Resources Conservation Service.

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PROFIT TIPS

3 Tips for Spring Calving Herds

1 Vaccinate heifers for brucellosis. Vaccinate calves prior to weaning. Calves should be weaned at least 45 days prior to sale, castrated, dehorned, and vaccinated with IBR, BVD, BRSV (a 4- or 5-way viral vaccine), 7-way clostridial vaccine (Blackleg), Pasteurella haemolytica (recently renamed Mannheimia haemolytica) also containing leukotoxoid, Pasteurella multocida, and Haemophilus somnus.

 $2^{\rm Body}$ condition the cows to determine if it is necessary to wean calves early.

3 Plan marketing program for weaned calves.

—Source: University of Arkansas Extension. 🌱

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MINTRATE



PASTURE PLANNING Caution: Johnsongrass Ahead

Know the risks when grazing, haying the forage

The last two or three years inquiries about johnsongrass risks in pastures and hay fields have been increasing in southwest Missouri according to Eldon Cole, livestock specialist, University of Missouri Extension.

"Favorable growing conditions have resulted in johnsongrass spreading at a rapid rate," said Cole. "Johnsongrass has been on the Missouri noxious weed list as long as I can remember."

According to Cole, johnsongrass is more of a concern for row crop farmers. However, effective herbicides help row crop farmers hold it in check.

"We have cautioned livestock owners for years of the risks associated with the forage, whether grazed or put up as hay," said Cole.

Those risks are prussic acid or cyanide poisoning and nitrate.

Each can result in animal death if not caught in the early stages.

"In reality, we've not seen or heard of very many positively diagnosed instances of cattle death from johnsongrass as farmers have learned to manage it," said Cole.

According to Cole, cattle seem to like it, especially when grazed in a tender, palatable leafy stage of growth.

Management practices can lessen the risks associated with johnsongrass. From a grazing standpoint, Cole says to wait until johnsongrass is 18 to 24 inches tall. The prussic acid risk is greatest under that height when naive cattle are hungry and are turned into a pasture with a good bit of johnsongrass in it.

"If you allow cattle to graze johnsongrass as it grows from early spring, they seldom have problems. Drought stress may favor a prussic acid risk," said Cole. "We do caution about grazing it around frost time in the fall. The tall material isn't risky, but the new sprouts could be."

Under grazing situations, if livestock producers want to be less risky when turning into a johnsongrass field, only turn one or two lower value animals in as monitors.

"If they're still alive after 30 to 45 minutes, the grass is probably safe for the rest of the herd. It might also be of value to have your veterinarian on speeddial at turn-in time. If caught quickly, they may save the animal," said Cole.

Prussic acid concern is rarely a problem with hay as it leaves the plant soon after it is cut.

"There is not a reliable field test that is widely used by extension specialists, but some veterinary clinics may use a test kit, but it needs to be done where the johnsongrass is at," said Cole.

Feeds other than johnsongrass — such as shattercane, sorghum-sudans, wild black cherry trees and sorghums — all might have the ability to cause prussic acid poisoning. Cattle, sheep and goats seem more susceptible. It is rarely seen in hogs or horses.

Johnsongrass can accumulate nitrates, especially during drought and when high amounts of commercial fertilizer or animal manure are applied. MU Extension offices and forage testing labs can check plants for that risk.

Unfortunately, nitrates do not reduce in quantity in dry hay whether it is johnsongrass, sudans, sorghum-sudans or some other forages. Nitrates can be lethal but probably are more likely to reduce milk production, cause abortions and lower growth rate.

"Veterinarians can more accurately diagnose nitrate poisoning than prussic acid death. The blood will be a chocolate brown whereas prussic acid poisoning blood will be a bright cherry red. If large amounts of nitrate-containing forage are eaten, death can occur in a few minutes," said Cole.

-Source: MU Extension.





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PASTURE PLANNING

Stockpiling Fescue Helps Extend Grazing

Make the most of cool-season forage

Now is the time to be thinking about stockpiling forage for the winter, said Dirk Philipp, associate professor of animal science, University of Arkansas System Division of Agriculture.

Stockpiling is the practice of accumulating forage growth for later use, he said.

"Stockpiling is done later in the season to take advantage of cooler days to reduce fiber accumula-

tion and promote leaf growth," Philipp said. Since cattle are grazing standing forage, stockpiling can also save producers the costs of harvesting hay.

Philipp said the first step is to select a field for stockpiling and remove the existing stubble height to 3 to 4 inches.

"This can be done with either grazing or haying at the appropriate times so that you can start out with that canopy height," he said.

However, "if you experienced a very hot summer, it is possible that the fescue is brown and dormant," he said. "In this case, it is possible to bush hog the stand to open up the canopy for growth and cut down on dead leaf material, although grazing or haying is preferred."

Philipp recommends fertilizing with 60 pounds of nitrogen per acre on or near Sept. 1.

"Don't wait for rain," he said. "Once fertilized, defer grazing until mid-November."

He also recommends soil sampling on a regular basis to get a handle on what nutrients are missing or available in only limited quantities in the soil.

Grazing management

Once November rolls around and the stockpile is ready to be grazed, Philipp recommends using strip grazing to help stretch the forage to February.

"Run a poly wire across the stockpiled field so that animals have access to just two to three days of forage at a time," he said. "This way you make the most efficient use of the stockpiled fescue without wasting it."

—Source: University of Arkansas Extension.

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TRENDING NOW

Expected Record-High Soybeans

Corn production projected lower than last year

U.S. farmers are expected to produce a record-high soybean crop this year, according to the August Crop Production report issued the USDA's National Agricultural Statistics Service. Up 2 percent from 2016, soybean production is forecast at 4.38 billion bushels, while corn growers are expected to decrease their production by 7 percent from last year, forecast at 14.2 billion bushels.

Up 7 percent from last year, area for soybean harvest is forecast at a record 88.7 million acres with planted area for the nation estimated at a record-high 89.5 million acres, unchanged from the June estimate. Soybean yields are expected to average 49.4 bushels per acre, down 2.7 bushels from last year. Record soybean yields are expected in Missouri as well as Delaware, Georgia, Kentucky, Mississippi, Pennsylvania and South Carolina.

Average corn yield is forecast at 169.5 bushels per acre, down 5.1 bushels from last year. If realized, this will be the third highest yield and production on record for the United States. NASS forecasts record-high yields in Alabama, Louisiana, Michigan, Mississippi, New York, Pennsylvania and South Carolina. Acres planted to corn, at 90.9 million, remain unchanged from NASS' previous estimate.

Wheat production is forecast at 1.74 billion bushels, down 25 percent from 2016. Growers are expected to produce 1.29 billion bushels of winter wheat this year, down 23 percent from last year. Durum wheat production is forecast at 50.5 million bushels, down 51 percent from



Soybean production is forecast at 2 percent higher than 2016. Missouri is one of seven states projected to put a record-yielding crop in the bin. — *Photo by Jillian Campbell for Cattlemen's News.*

last year. All other spring wheat production is forecast at 402 million bushels, down 25 percent from 2016. Based on Aug. 1 conditions, the U.S. all wheat yield is forecast at 45.6 bushels per acre, down 7 bushels from last year. The Crop Production report is published monthly and is available online at www. nass.usda.gov.

-Source: National Agricultural Statistics Service.



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MANAGEMENT MATTERS Remember the Minerals

Consumption is variable; provide constant supply

Story By Dr. Roy Burris

Mineral nutrition of beef cattle is poorly understood, or at least many opinions on the subject exist. After all, we have much to consider: major minerals and trace minerals, different forms and availability of minerals, antagonists, interrelationships and ratios, additives, expensive and cheap minerals, different mineral needs for various classes of cattle and stages of production. We also have Food and Drug Administration (FDA) regulations that govern what we can legally do. The good news is we can still take what we know about mineral nutrition and meet the animals' needs as economically as possible.

First, individual mineral consumption can be quite variable. The biggest thing that affects consumption is the supply. Minerals should be available at all times. It isn't the end of the world if cattle go a few days without minerals, but a pattern of empty feeders will not allow the cows to "level off" their mineral intake. Feeders should be located near shade or water so that cattle will come in contact with minerals frequently. Most mineral supplements are formulated for 2 to 4 ounces of intake and are, of course, best if consumed at that level.

Salt is the primary driver of intake so don't add salt to the feeders. Speaking of feeders, they need to be covered. I heard a presentation recently about looking for the most weather-fast mineral supplements. Supplements were being tested for their stability in open feeders. I have a thought on that, too. Loose minerals are too expensive to feed in open tubs. They should be protected from the weather. Bull-proof feeders, with a flap on top like the one in the picture, work well for this purpose.

Calcium (Ca) and phosphorus (P) are the individual minerals that we think of first. We prefer about a 2-to-1 ratio of Ca to P. Forages are usually high in Ca and need some P added. Phosphorus is expensive and Ca — think limestone rock— is cheap. So, this can add to the cost. However, when feeding grain or grain by-products the opposite is true. Phosphorus is high, and we need to add ground limestone to raise the calcium level.

Trace minerals are important, too — especially Copper (Cu), Selenium (Se), Zinc (Zn) and Manganese (Mn). They should be included at the required levels and in the required form to be most available and beneficial.

FDA regulates how we use mineral supplements and the claims that can be made. For example, a huge difference exists between free-choice and feed-mixing mineral supplements. If directions are given for mixing into a feed, it isn't cleared for free-choice feeding —

meaning the work hasn't been done to prove efficacy or intake. We shouldn't go off-label. We are also governed by the veterinary feed directive (VFD) for antibiotics.

Remember, the FDA regulates label claims that are proposed for products. However, a company can avoid this by naming their mineral supplement as they please. That is a big deal here in the "fescue belt." For example, I could name my mineral supplement "Best Fescue Mineral," which implies that I have a label claim for improved performance when I might not. Look for approved label claims and pay less attention to testimonials and names of products. Naming products suggestive names and calling them "feedmixing" minerals circumvents the process of getting products approved and labeled properly.

Proper mineral supplementation is important for optimum growth, reproduction and immunity of beef cattle.

—Source: Dr. Roy Burris is beef extension professor with the University of Kentucky.



TRENDING NOW

Proper Timing Knocks Out Internal Parasites

Clean-up your herd with fall deworming

Story By Rebecca Mettler for Cattlemen's News

The ultimate goal in parasite control is to create a clean grazing environment in order for cattle to achieve their maximum production potential. While product selection makes a difference, effective parasite control is also heavily dependent on deworming at the correct time.

Don Bliss, director of parasitology for Mid-America AG Research in Madison, Wisconsin, suggests producers deworm cattle in the fall after the pasture is dormant followed up by another application in the spring.

"Cleanup in the fall. The goal is to have your cows wormfree in the winter because you have the highest feed costs and maintenance costs in the winter," Bliss said.

Bliss explained that if producers use a product that works correctly in the fall, the cattle won't encounter new parasites until new spring grass begins to grow. Although a lot of recommendations have been made in the past to deworm at turnout in the spring, Bliss recommends producers wait until after the first three to four weeks of grazing have been completed to do the spring deworming.

"By deworming them at turnout early in the spring, it's a waste of time because if you get all of the worms in the fall, you are deworming already clean animals," he said.

Bliss offers a strategic plan to clean up a pasture, especially if resistance is a problem on the operation. The plan follows the natural life cycle of the parasite. Bliss said the parasites that came from 2017 only have a certain amount of time in spring 2018 to continue their lifecycle. The larvae survive the winter in larvae stage three but die if not ingested up by the cow in the spring.

"If we can stop replacing them, that cleans up the pasture," he said.

Getting cows free of parasites in November and December provides a clean slate for winter. But, the absolute most important factor in fall deworming is to make sure the pasture is dormant. Any hint of green grass means it's an active pasture for parasites.

When springtime rolls around, allowing cattle to graze and

"The goal is to have your cows worm-free in the winter because you have the highest feed costs and maintenance costs in the winter."

–Don Bliss Mid-America Ag Research

"vacuum" up the parasites sets the stage for spring control.

"It takes a cow 40 days to have adult worms to shed eggs," Bliss said. "That means 60 days into the grazing season I'm going to deworm my cows and what's going to happen is that the cows will be clean another 60 days because they won't shed before then."

Fecal samples count

"Fecal exams are the only way you are going to know if your operation has a resistance problem or if you are clean enough," Bliss said.

A producer can determine a lot of important information from a fecal exam, including the types of parasites present in the herd population along with the severity of the resistance problem, if one is present.

Bliss recommends collecting fecal samples from several animals in varying ages in the herd. He stresses the importance of collecting calf fecal samples, too. The calf samples actually tell a more accurate story regarding parasite burden because "cow samples tend to go down as they are exposed to parasites while the calf samples always go up," he said.

Producers can also test out the efficacy of their dewormer by performing fecal egg count reduction tests. Submit samples prior to dewormer application followed by another sample two weeks after application.

Why it matters

The impact of a heavy parasite load is sometimes overlooked when talking about decreased production in the herd. Cattle can appear healthy while carrying a large parasite load, which ultimately decreases performance.

Increased cattle productivity has also created animals that are more easily affected by parasites, which creates a greater economic loss.

"As cattle get better, it causes fewer parasites to cause a problem," Bliss said. "When you are expecting a 5.5 pound gain at a feedyard, you aren't going to do that with a belly full of parasites."

An increased parasite load can also tie up an animal's immune response, which causes the animal to be much more susceptible to other diseases. The heavier the parasite burden, the more suppressed the immune system becomes.

He even goes as far as saying that adding proper deworming practices can contribute to the control of outbreaks of pinkeye and coccidiosis within a herd. Freedom from parasites releases the immune system to effectively fight those infections rather than focusing on the internal parasite problems.

As an example, Bliss suggests that backgrounders administer a fast-acting dewormer like Safeguard to start calves out on the right foot.

20 SEPTEMBER 2017

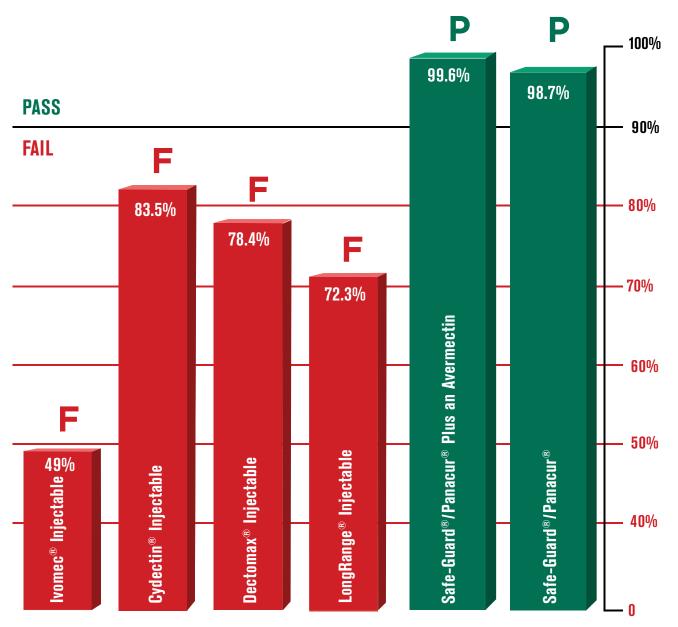


A heavy parasite load can be overlooked. Cattle can appear healthy, while carrying a large parasite load, which ultimately decreases performance. —Photo by Joann Pipkin.

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The FDA has identified growing levels of internal parasites resistant to the Macrocyclic lactones (Avermectin) class of dewormers.¹

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Results from the Merck Animal Health Fecal Egg Count Reduction Test National database² shows several cases of internal parasite resistance and supports concurrent treatment protocol to manage resistant parasites.

The majority opinion among parasitologists attending the FDA public forum on managing resistant parasites was that concurrent treatment of two different classes of anthelmintics is the best way to manage these resistant parasites.

Merck's database supports 2008 USDA National Animal Health Monitoring Study (NAHMS) showing confirmed or suspected resistance in several U.S. states to Macrocyclic lactone (Avermectin) class of dewormers.³

ADD SAFE-GUARD ADD POUNDS

Consult your local veterinarian for assistance in the diagnosis, treatment and control of parasitism.

IMPORTANT SAFETY INFORMATION

Safe-Guard EN-PRO-AL Molasses Block

RESIDUE WARNING: Cattle must not be slaughtered within 11 days following last treatment. A withdrawal period has not been established for this product in preruminating calves. Do not use in calves to be processed for veal.

Safe-Guard Protein Block

RESIDUE WARNING: Cattle must not be slaughtered within 16 days following last treatment. A withdrawal period has not been established for this product in preruminating calves. Do not use in calves to be processed for veal.

Safe-Guard Mineral, feed through products and liquid feed

RESIDUE WARNING: Cattle must not be slaughtered within 13 days following last treatment. For dairy cattle, the milk discard time is zero hours. A withdrawal period has not been established for this product in preruminating calves. Do not use in calves to be processed for veal.

Safe-Guard Drench and Paste

RESIDUE WARNING: Cattle must not be slaughtered within 8 days following last treatment. For dairy cattle, the milk discard time is zero hours. A withdrawal period has not been established for this product in preruminating calves. Do not use in calves to be processed for veal.

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1 FDA Public Resistance Forum-March 2012

2 Tests from 1/1/2008 - 4/12/2016 3 NAHMS 2008

4 Dobson R., Jackson F., Levecke B., Besier B., et al. Guidelines for fecal egg count reduction tests (FEGRT). World Association for the Advancement of Veterinary Parasitology (WAAVP) (2011) Proceedings: 23rd International Conference of the World Association for the Advancement of Veterinary Parasitology

2 Giralda Farms - Madison, NJ 07940 - merck-animal-health-usa.com -800.521.5767 Copyright © 2016 Intervet, Inc. d/b/a Merck Animal health, a subsidiary of Merck & Co., Inc. All rights reserved. 5/16 8V-86-55108



TRENDING NOW

Japan Slaps Tariff on U.S. Beef

Export drop could lower calf prices

apan says "Whoa, go slow" on imports of frozen beef from the United States. To safeguard their own beef farmers, Japan raised tariffs on U.S. beef from 38.5 to 50 percent.

"This increases the price of U.S. beef for Japanese consumers," says Scott Brown, University of Missouri beef economist. "Less foreign consumption increases beef supply here. In turn, that lowers prices all the way back to farms in Missouri." "We have an unexpectedly big supply of beef and a growing U.S. cow herd," Brown says. "Any drop in exports puts pressure on beef prices here."



"Japan is our top beef buyer," Brown adds. "It's a strong

market. Last year they bought \$1.8 billion in beef and beef products."

Foreign trade is important for all Missourians. Agriculture ranks No. 1 as revenue source for the state. Cattle top the list. Last year the revenue for U.S. cows and calves was \$67.8 billion. In comparison, feed grains returned \$56 billion while the soybean crop hit \$39 billion.

> Missouri ranks third state in the nation with 2 million cows. To show the efficiency of Show-Me farmers, calf numbers are second at 1.89 million.

Ten percent of U.S beef goes to export.

Looking for a bright side of the news from Japan, Brown says the tariff bump covers only frozen, not refrigerated, beef.

"Undoubtedly, we will send more nonfrozen beef to Japan. But, they may reach a cap on that market as well."

Nearby Australia appears to benefit from the cap imposed by Japan. However, they do not have a large beef supply. "Droughts cut their beef herds and beef exports," Brown says.

Another plus for U.S. beef producers is our high-quality beef, he says. "Japanese prefer our corn-fed prime-grade beef. Australia doesn't have the corn or beef quality," Brown says.

Australia does have one huge advantage. They recently signed a bilateral trade agreement that reduces the tariff on Australian beef headed to Japan. They face no safeguard cap.

The U.S., on the other hand, cancelled trade talks for greater access under the Trans-Pacific Partnership. If TPP was in place, we would not have hit this import cap and higher tariff.

"It's time to get serious about making our own bilateral trade deal with Japan," Brown says.

The 50 percent tariff started Aug. 1. It ends March 31, 2018.

In other news, a recent report showed growth in consumer spending. While it only rose from 1.2 to 1.6 percent, any increase benefits all U.S. meat producers.

"More domestic consumption will be required if exports fall," Brown says. "Increased demand is needed for our growing meat supplies."

—Source: University of Missouri Cooperative Media Group.



MANAGEMENT MATTERS 4 Profit Tips

Developing a risk management strategy for beef operations

Story By Jay Parsons

Developing risk management strategies for your operation is an important issue to give a little thought to as you go about making decisions. Consider these four main strategies to help you manage risk:

Avoid the risk
Transfer the risk
Control the risk
Accept the risk

Avoid the risk

Avoiding risk is a case of simply not doing the thing that exposes you to the risk. For example, if you want to avoid the risk of retaining heifer calves and trying to get them bred, you can simply not retain them anymore and buy bred heifers that are guaranteed pregnant. Keep in mind, avoiding a risk can sometimes expose you to a greater risk. This certainly might be the case if you suddenly stopped raising your own replacement heifers and started buying them from someone you didn't know.

Transfer the risk

Transferring risk outside your farm or ranch is usually done through insurance or marketing contracts. Insurance contracts provide protection from downside risk in exchange for a premium expense. By paying the premium, you essentially transfer some of the potentially bad outcomes to an insurance company that is better equipped to tolerate the risk. Insurance has the effect of truncating your distribution of possible outcomes on the downside in exchange for subtracting the insurance premium expense from every outcome. Marketing tools like a put option work exactly the same way.

On the other hand, a marketing contract that locks in your price on some or all of your production would have the effect of squeezing your distribution of outcomes into a tighter range of possibilities. You are transferring some of the risk associated with the full range of possibilities to the person you are contracting with in exchange for a risk premium that they collect from you up front by offering you a contract price that is slightly in their favor compared to what they expect the actual price to be at the end of the contract period. The more you lock in, the tighter the range becomes for the outcome. As you lock in more and more, you transfer more of the potential upside and more of the risk premium to the person you are contracting with in exchange for also transferring more of the downside risk to them.

Evaluating insurance and marketing contracts can be frustrating if you only do it after the fact. Once the outcome is determined, it is tempting to declare the decision good or bad based on whether the contract worked in your fa-

vor. That is a bad habit to get into. You should always make a sincere effort to evaluate the insurance or marketing decision at the time you make it in terms of what it costs you in premium compared to the benefit of transferring the risk to a party outside of your farm or ranch.

Control the Risk

Controlling risk is by far the most active form of managing risk. Risk can be controlled by two primary ways. You can either control the probability of the outcomes occurring or control their impact if they do occur. Very seldom can you do both with one tool.

CONTINUED ON PAGE 25





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MANAGEMENT MATTERS

Is She Open?

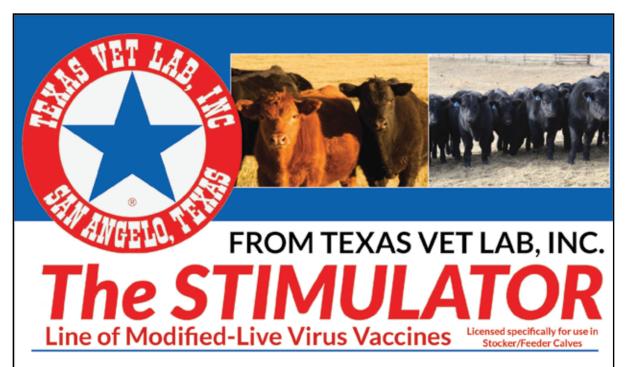
Preg check and cull open replacement heifers

Story By Glenn Selk

Many ranchers choose to breed replacement heifers about a month ahead of the mature cows in the herd. In addition, they like to use a shortened 30- to 60-day breeding season for the replacement heifers. The next logical step is to determine which of these heifers failed to conceive in their first breeding season. This is more important today than ever before.



The bulls were removed from the replacement heifers about 60 days ago, therefore, this would be an ideal time to call and make arrangements with your local large animal veterinarian to have



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those heifers evaluated for pregnancy. After two months of gestation, experienced palpaters should have no difficulty identifying the heifers that are pregnant and those heifers that are not pregnant. Heifers that are determined to be open or not bred after this breeding season should be strong candidates for culling. Removing these heifers immediately after pregnancy checking serves three very economically valuable purposes.

Identifying and culling open heifers early will remove sub-fertile females from the herd. Lifetime cow studies from Montana indicated that properly developed heifers that were exposed to fertile bulls, but did not become pregnant were often sub-fertile compared to the heifers that did conceive. In fact, when the heifers that failed to breed in the first breeding season were followed throughout their lifetimes, they averaged a 55 percent yearly calf crop. Despite the fact that reproduction is not a highly heritable trait, it also makes sense to remove this genetic material from the herd so as to not proliferate females that are difficult to get bred.

Culling open heifers early will reduce summer forage and winter costs. If the rancher waits until next spring to find out which heifers do not calve, the pasture use and winter feed expense will still be lost and no calf is available to eventually help pay the bills. This is money that can better be spent in properly feeding cows that are pregnant and will be producing a salable product the following fall.

Identifying the open heifers shortly after — 60 days — the breeding season is over will allow for marketing the heifers while still young enough to go to a feedlot and be fed for the choice beef market. "B" maturity carcasses — those estimated to be 30 months of age or older — are very unlikely to be graded Choice and cannot be graded Select. In addition, they might not be eligible for some international beef markets. As a result, the heifers that are close to 2 years of age will suffer a price discount. If we wait until next spring to identify which 2-year-olds did not get bred,

CONTINUED ON NEXT PAGE

4 PROFIT TIPS FROM PAGE 23

For example, you can influence the probability of your replacement heifers getting pregnant by maintaining proper nutrition and a number of other things. Is this a good strategy? Probably, but you need to compare the extra expense with the increased pregnancy rate of your heifers to determine the value of this strategy. If you wanted to control the impact of your heifers not getting pregnant, you need to move to a different strategy.

Controlling the impact of risk involves using strategic risk management tools like diversification, keeping extra reserves on hand, and maintaining flexibility to lessen the impact of a bad outcome or increase the impact of a good outcome. For example, exposing extra heifers to breeding will lessen the impact of a poor conception rate. Maintaining the flexibility to buy bred replacement heifers would also lessen the impact without the need to increase the number of heifers you retain. This can also be thought of as diversification in that you have more than one source from which to obtain bred replacement heifers.

Accept the Risk

Risk is usually associated with a potential reward. Sometimes no tools are available to control or transfer risk or the tools are just too expensive to justify using them. In this case, accepting the risk might be the right strategy. Producers speculate on risk all the time. That's where a lot of the profit in farming and ranching exists. However, it should be done with careful evaluation of the potential impacts and your willingness to accept the probability of their occurrence.

Summary

Risk management is an activity that can pay big dividends. Thoughtfully considering and evaluating various risk management strategies as a habit of doing business can lead to a stable and prosperous future for your operation.

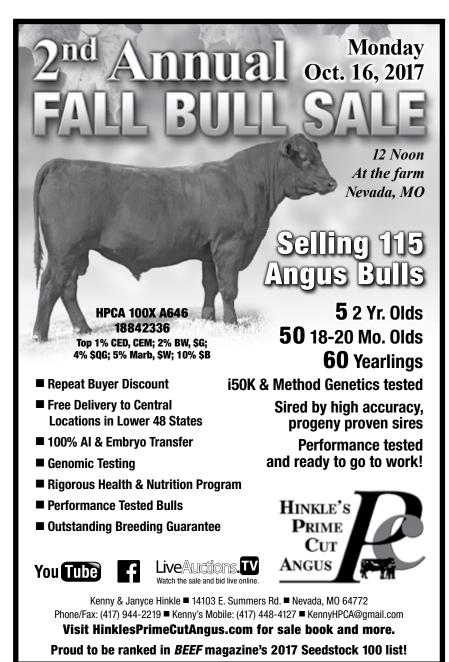
-Source: Jay Parsons is a farm & ranch management specialist at the University of Nebraska-Lincoln.

IS SHE OPEN? FROM PREVIOUS PAGE

then we will be culling a female that will be marketed at a noticeable discount compared to the price/pound that she would have brought this summer as a much younger animal. In today's market, an 850-pound, non-pregnant heifer will bring about \$1.30 per pound or \$1,105 per head. If current prices hold, next spring a twoyear-old 1,000 pound open cow might bring 90 cents per pound or \$900 per head. This calculates to a \$205 per head loss plus the expense of keeping her through the winter.

Certainly the percentage of open heifers will vary from ranch to ranch. Do not be overly concerned, if after a good heifer development program and adequate breeding season, that you find that 10 percent of the heifers still are not bred. Resist the temptation to keep these open heifers and roll them over to a fall-calving herd. These are the very heifers that you want to identify early and remove from the herd. It just makes good economic business sense to identify and cull non-pregnant replacement heifers as soon as possible.

—Source: Glenn Selk is Oklahoma State University Emeritus extension animal scientist.







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MANAGEMENT MATTERS

How to Get Safe on 4 Wheels

Follow safety guidelines when operating ATVs, UTVs on the farm

Story By Jillian Campbell for Cattlemen's News

A ll-terrain and utilityterrain vehicles (ATVs and UTVs) are great pieces of equipment to use around the farm. Both can be effective for travel, checking or herding cattle, or spot-spraying weed growth in pastures. While gaining in popularity on the farm every year, so does the potential for farm accidents involving the four-wheeled farm helpers.

Kenny Bergmannn, corporate sales manager and vice president of S&H Farm Supply, an ATV sales veteran, has learned plenty about farm safety during his employment.

At home, Bergmannn runs a cow-calf and backgrounding operation and enjoys using ATVs to assist him with daily work. Although he's comfortable riding an ATV around his operation, Bergmann understands that age and experience are very important factors to be considered before operating an ATV. Years ago, he witnessed his own children riding an ATV unsupervised, and although no accidents happened, it was a surprise he has not since forgotten.

"The scariest thing in my world is when someone buys a machine and really has no intention of their children or grandchildren riding it, but it just evolves," Bergmann says. "They are fun to ride, and kids get on them. They take off, and they probably don't get much training other than stop and go. Once they learn to operate one, they may begin to do this when no one is watching."

Unfortunately, Bergmann's theory is correct. According to the 2014 Annual Report of ATV-Related Deaths and Injuries, an estimated 26 percent of 93,700 ATV-related accidents in the U.S. involved children younger than 16 years of age.

Bob Schultheis, a University of Missouri Extension natural resource engineer, shares Bergmann's concern. Schul-

26 SEPTEMBER 2017

and utilitytheis has participated in a number of ATV safety schools and lectures. He has even taken his ATV safety discussions into elementary classrooms where he has discovered that children are not just riding ATVs without supervision, but many are even taking them on public roads.

> To combat these concerns, Bergmann recommends using some of the updated safety features on newer ATV models. "A lot of the newer machines have electronic keys so if you know there are going to be riders of different ability, you can put a key limit on how fast the machine will go, which is a really nice feature," says Bergmann.

> Although youth account for many ATV accidents, children and young adults are not the only risks associated with ATV operation. Schultheis and Bergmann both stress how unsafe it is to ride with a passenger on a single-passenger ATV.

> "The biggest danger is multiple riders," he explains. "That is typically where things go wrong most often - when two people ride on a machine made for one. It changes the dynamics of the machine and the balance, and that's when bad things begin to happen."

> Schultheis encourages riders to participate in ATV safety courses to learn these common dangers. In addition to courses offered by University of Missouri Extension, S&H Farm Supply includes a free hands-on safety course for their ATV customers. These courses include an introductory safety video and demonstrative rides through a safety trail, designed to show riders how different terrains can affect ATV operation. To simulate a second rider, weights are added to the ATV. Riders navigate the trail with their own ATVs as they learn more about proper safety and their machines.

"One of my favorite sayings is, 'the right answers don't cost

9 Golden Rules of ATV Safety:

Read the owner's manual to become familiar with how the ATV operates and how to adjust your weight and center of gravity when riding to avoid overturns.

Size the ATV to the age of the rider:

- •Under 70 cc -- 6 years or older
- •70-90 cc -- 12 years or older
- •Over 90 cc -- 16 years or older

Supervise riders younger than 16; ATVs are not toys.

- Always wear a DOT-compliant helmet, goggles, long sleeves, long pants, over-the-ankle boots and gloves.
- 5 Never ride on paved roads except to cross when done safely and permitted by law another vehicle could hit you. ATVs are designed to be operated off-highway.
- Never ride under the influence of alcohol or other drugs.

Never carry a passenger on a single-rider ATV, and no more than one passenger on an ATV specifically designed for two people.

- Ride only on designated trails and at a safe speed.
- **9** Take a hands-on ATV Rider Course

–Source: Bob Schulteis, University of Missouri Extension

extra, they just take time,' and the same is true with safety," Bergmann says.

In addition to his desire for attendance in rider safety education courses, Schultheis shares his safety concerns for the continued selling of threewheel ATVs.

"Although three-wheel ATVs have been banned, there are many still in use," Schulteis says. "Never purchase a used three-wheeler. They are too prone to overturns."

Bergmann and Schultheis agree that ATVs have plenty of safety risks, but they also believe that ATVs, when operated properly, provide countless benefits to farmers.

"One benefit of an ATV is that it offers a new sense of freedom to individuals with limited physical mobility due to an injury or health condition," Schulteis says. "These individuals can use an ATV as a mobility device to enable them to access all areas of the farm, which can increase their abilities to manage their farm operation."

An added benefit is their affordability. "They are less expensive to own than horses, because you don't have to feed them when you're not using them," Schulteis notes. "They are less expensive to operate and maintain for many offroad tasks compared to pickups and tractors."

ATVs can offer countless benefits to farmers who participate in proper safety courses and adhere to the golden rules of ATV safety. For more information on ATV safety, visit http:// atvsafety.org and click on Enroll Now or call 800-877-2887.





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MANAGEMENT MATTERS

Challenges, Opportunities in the World Beef Market

An increasing number of issues, some controversial, seem to be surrounding the global beef market

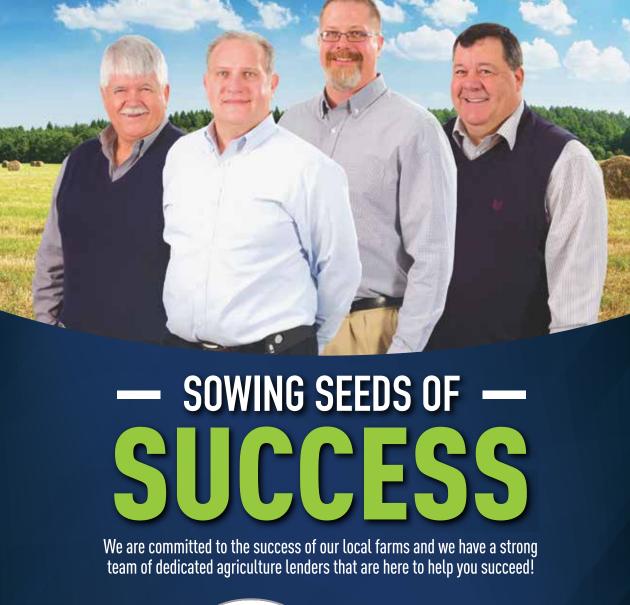
Story By Tim Petry

International beef trade issues continue to be dynamic and are impacting cattle prices in the short and long term. The U.S. is a major producer of beef, pork, chicken and turkey in the world and also a major exporter of those commodities. The U.S. also is a major importer of beef. International trade is increasing in importance to the U.S. beef sector. As new trade issues surface, cattle and beef prices, as well as the competing meats' prices, can be volatile.

An increasing number of issues, some controversial, seem to be surrounding the global beef market. Some provide challenges for beef exporting and importing countries, but also might provide opportunities for countries such as the U.S.

The U.S. is the largest exporter of high-quality beef in the world and the leading exporter of beef on a value basis. The U.S. Department of Agriculture (USDA) has projected that the top four beef volume exporting countries in 2017 in order of importance will be India, Brazil, Australia and the U.S.

It's also predicted that the China/Hong Kong beef market will overtake the U.S. as the world's leading beef importer.





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Important issues with each of these other countries could impact the U.S. cattle market.

India's ranking as the world's leading beef volume exporter is somewhat controversial in itself. The "beef" that is exported is mainly meat from water buffaloes because cows are considered sacred to many people of Hindu faith. Nevertheless, meat from water buffaloes, also referred to as carabeef, is in direct competition with lower-quality, grassfed beef from other countries such as Brazil and Australia.

Some packing plants in India are operated by Muslims, who have had issues with the Hindu-dominated federal government. In May, the Indian government imposed a ban on the sale of cattle and buffaloes at livestock markets for animals to be slaughtered.

In July, India's Supreme Court suspended the ban. Because buffalo meat exports are a lucrative market for India, many expected the ban to be lifted. But the potential prospects for a ban, at least temporarily, caused uncertainty and volatility in the world beef market.

Brazil, the second-leading beef volume exporter, has had its share of turmoil recently as well. A meat inspection bribery scandal involved several meat companies and temporarily reduced beef exports in early 2017.

JBS, with headquarters in Brazil and the world's largest meat company, has been rocked by a political bribery scandal and could be divesting some assets.

One asset for sale is Five Rivers Cattle Feeding, a wholly owned subsidiary of JBS and the largest cattle feeding entity in the world, with headquarters in Greeley, Colorado. Five Rivers owns feedlots in Colorado, Kansas, Oklahoma, Texas, Arizona and Idaho. JBS already announced the pending sale of its 75,000-head feedlot in Alberta, Canada.

In late 2016 bilateral fresh and frozen beef trading between the U.S. and Brazil was approved by both countries. Relatively small amounts of lower-quality beef were imported into the U.S. from Brazil, and

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CHALLENGES FROM PREVIOUS PAGE

some high-quality beef has been shipped from the U.S. to Brazil.

JBS was a major player in these transactions. On June 22, the USDA announced that fresh and frozen beef imports from Brazil were suspended due to food safety concerns. China, a leading beef customer for Brazil, also announced that it was scrutinizing beef from Brazil more closely.

Australia, the third largest beef volume exporter, experienced a severe drought in a major cattle-producing region in 2014 and 2015. Forced herd reduction resulted in increased beef production and exports. A return to more normal rainfall allowed herd rebuilding to begin in 2016 and the lower beef production reduced exports. Interestingly, during the first four months in 2017, the U.S. surpassed Australia to temporarily become the third largest volume beef exporter.

Australia was the largest supplier of beef to the U.S. but has fallen to third place in 2017 behind Canada and New Zealand. Beef imports from Australia were off 39 percent in 2016 from the inflated levels of 2015, and that slower pace is continuing in 2017. The lower production and high beef prices also are causing a lower volume of exports to other countries.

The export market is becoming more and more important for cattle prices in the U.S. After a difficult beef export year in 2015, beef exports were up more than 12.5 percent in 2016 and are forecast by the USDA to be up another 9 percent in 2017. Exports were up about 15 percent the first half of 2017. That was one reason for the cattle price rally into May 2017.

U.S. exports were especially strong to the four major customers: Japan, Mexico, Canada and South Korea. Noteworthy is that the U.S. is in trade negotiations with Japan because the U.S. withdrew from the Trans-Pacific Partnership.

In early July, the European Union and Japan signed an Economic Partner Agreement, which gives favorable access for European beef to Japan. The U.S. also is discussing provisions of the North American Free Trade Agreement with Canada and Mexico. Maintaining the robust beef trade with those top beef customers is important for the U.S.

The major hurdle to resuming U.S. beef exports to China was the political negotiating process. Now that an agreement is in place and beef is allowed to be exported, the size of the Chinese market will need to be determined by the marketplace.

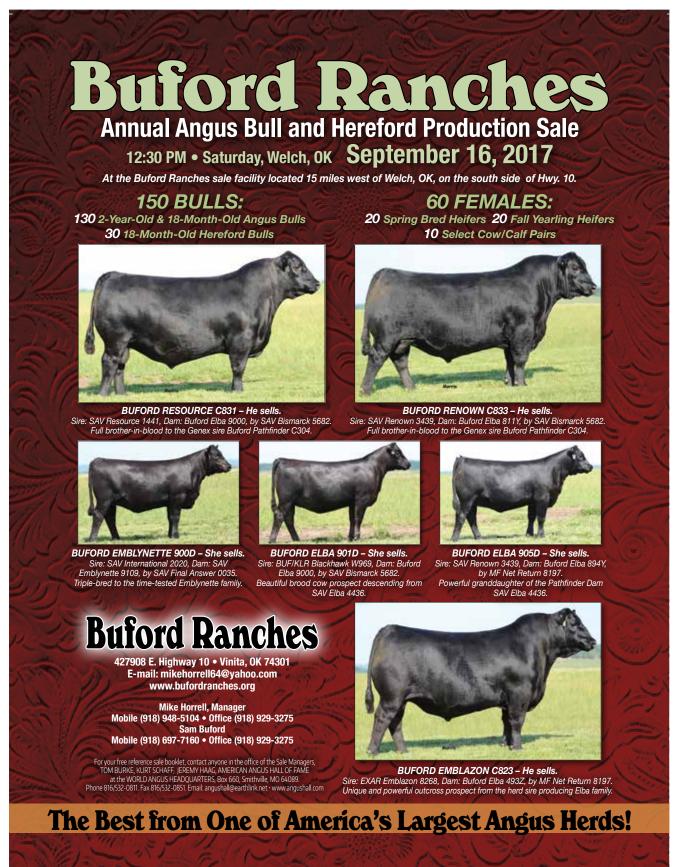
The requirements that beef must be traceable to the birth farm using a unique identifier and not contain growth promotants, feed additives and other chemical compounds might restrict the amount of beef that is initially available for export to China. Longerterm price premiums might provide the incentive for beef producers to raise cattle that meet those requirements.

Several of the issues discussed above have at least temporarily impacted cattle prices and particularly the futures market. At times, a "buy-the-rumor, sell-the-fact" mentality has caused price volatility that could have been frustrating for cattle producers. With the instant access to worldwide information that is so readily available, expect price volatility to continue as the dynamics of the global beef market continue to evolve.

—Source: Tim Petry is extension livestock marketing economist at North Dakota State University Agribusiness and Applied Economics Department.

CORRECTION

Herding Heroes mentioned in the article called Reaching Out on page 38 of the Aug. 2017 issue of Cattlemen's News was started by Larry Jackson. Participants are from Cerebral Palsy of Tri County. We apologize for the error.



TRENDING NOW

Put on Your Buyer Hat

Marketing prep doesn't happen overnight

Story By Rebecca Mettler for Cattlemen's News

Think like a buyer, not a seller. That's the mindset producers need to have as they create a marketing plan for their calves. That buyer mindset isn't just a hat you put on before you load up the trailer to send calves into town; it should be how you think every day.

Be proactive

Don't let the marketing plan fall by the wayside. Some producers could benefit from becoming more proactive in their marketing strategies, according to Jackie Moore, owner of the Joplin Regional Stockyards (JRS).

"We are good at animal husbandry, but we want to leave the marketing part behind," Jackie said. "You do your best all year long and then load your calves up and have no idea what the market is going to be. As producers, we need to pay more attention to those types of things than we do."

Sometimes becoming more proactive is as simple as finding and using the marketing tools that are available for producers such as the futures market, fat cattle market, and a JRS field representative.

Watch the market

Knowing when to sell the right calves at the right time is also important; be mindful of the highs and lows of the markets. Lows in the calf market will generally happen in the fall and yearling markets are low in the spring. The fat cattle market is the lowest in the summer because that's when all the spring-born calves are ready for harvest.

"That's how the markets react nine out of 10 years," Jackie said.

Weigh in on the details

Two key factors that determine calf value are health and genetics. A lot of buyers will also factor in the condition of calves because they don't want them too fleshy or too poor, and in the summertime, not a lot of hair, according to Skyler Moore, JRS.

"Health is one of the biggest issues," Jackie said. "You can have one of the most genetically sound animals out there, but if they don't live, it doesn't make a whole lot of difference."

From a buyer's perspective, weaning and preconditioning go hand-in-hand with health. Producers are likely to see discounts at the livestock auction if certain criteria haven't been met.

"We see calves that haven't had any shots or haven't been castrated," Skyler said. "They see a big discount versus a weaned and preconditioned calf. If you take your time and do things right, they can bring \$100 to \$150 more."

Sending a non-weaned calf to auction decreases the number of buyers willing to bid. While some buyers specialize in high-risk calves, a majority of the big corporate buyers don't want to manage calves that aren't weaned, vaccinated, dehorned or castrated.

"You eliminate a lot of buyers," Jackie said. "If they are weaned, everybody will bid; if they aren't weaned, you eliminate half of your buyers."

Plan ahead

Marketing calves shouldn't be an overnight decision. Skyler said producers should be in contact with their field reps at least a month ahead of sale time or more.

An open line of communication between the seller and field rep is essential for a good working relationship. The producer needs to communicate what is needed from the rep throughout the entire year. While marketing is field reps' specialty, producers can also ask them for advice on herd management, bull selection or cow culling.

Calling a field rep a few days prior to the sale gets the producer on the sale day list. It lets JRS know that a producer is bringing cattle in so a specific delivery time can be established, which provides an estimated sale time in order to move cattle through the sale ring in a timely manner.

"We want to do the best job we can for everyone, but we can't do the best job if we don't know you are bringing the calves," Jackie said.

Another tip for sale day is to provide any relevant information on the calves that is valuable to the buyer. Bring a small piece of paper with such information to staple to the drive-in ticket.

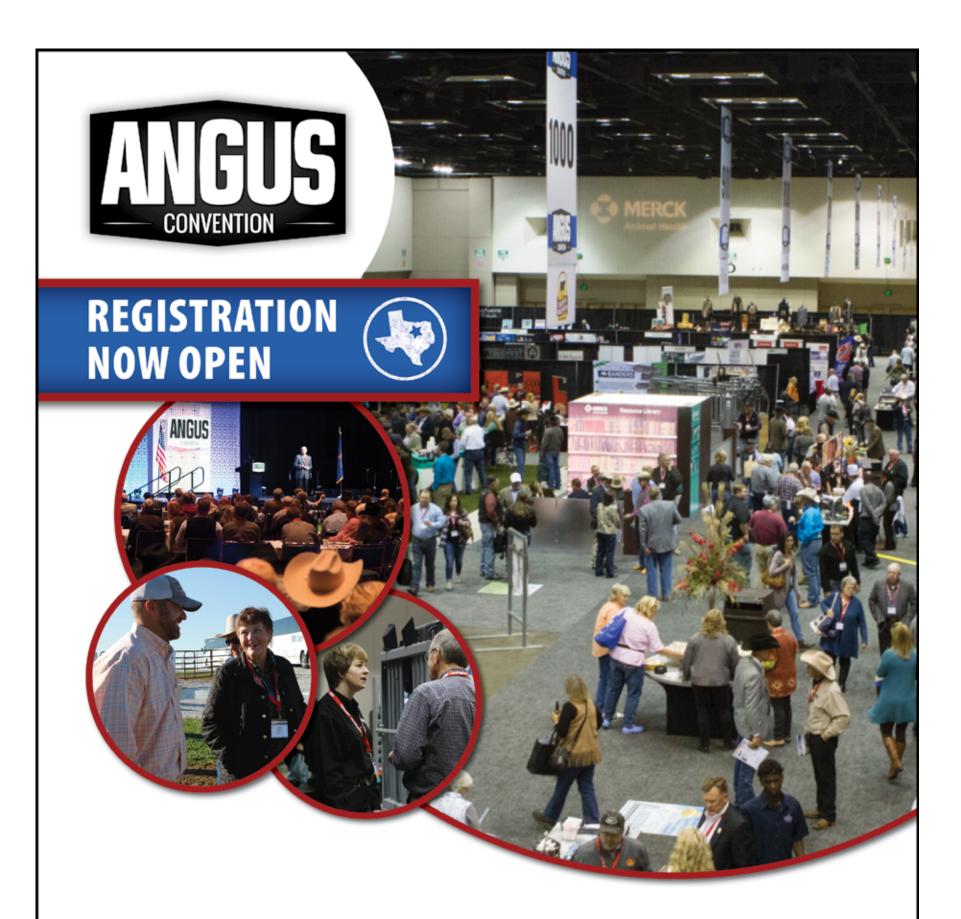
Herd health, vaccination history, genetic makeup and weaning status are common points that the auctioneer can call out from the block. If historical feed-out or carcass quality information is available from the ranch, it's imperative to get that information in front of buyers as well.

"Let us know what you've done to those calves or how those calves historically have performed," Skyler said. "You've put a lot of hard work and money into those calves, so let us know."

Jackie emphasizes to producers how much it means to him that they choose to back their trailers up to the dock at JRS. He knows what it's like to trust someone else with his entire livelihood, too.

"When someone backs up to the dock they are saying 'Here Jack, here's my livelihood, you take care of it for me.' That's a pretty big obligation to put on a man's shoulders," Jackie said. "And, I take that responsibility seriously, but I need them to take it seriously so we can do the best job that we can for them in marketing their cattle."





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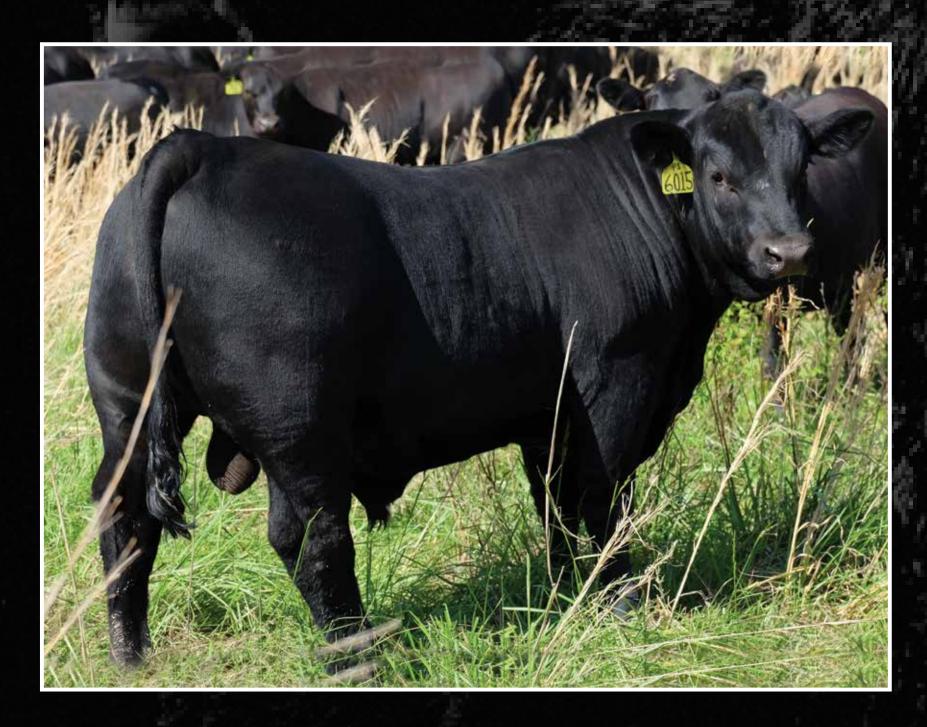
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Production	3. B. C.	Maternal	Carcass	\$Values
CED BW WW YW RADG	DMI YH SC DOC	HP CEM MILK MW	MH \$EN CW MARB RE FAT	\$W \$F \$G \$QG \$YG \$B

+14 -.2 +68 +119 +.27 +.21 +.5 +.87 +15 +13.1 +7 +18 +18 -.1 -.72 +53 +1.14 +.95 -.003 +67.65 +87.01 +55.40 +47.27 +8.13 +177.28



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As of 08/09/2017 Production Maternal Carcass **\$Values** CED BW WW YW RADG DMI YH SC DOC HP CEM MILK MW MH CW MARB RE FAT \$W \$EN **SQG** SF SG SYG SB

I+9 I+.9 I+57 I+103 I+.23 I+.14 I-.1 +1.49 +19 I+10.3 I+5 I+24 I-9 I-.4 +1.51 +40 +.31 +.65 +.025 +65.24 +66.53 +25.35 +21.59 +3.76 +122.50



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MANAGEMENT MATTERS

10 Tips for Adding Market Value

Running calves on grass after weaning is a great way to add weight with minimal input. –Photo by Joann Pipkin.

Take control of market prices with management strategies

Story By Austin Black for Cattlemen's News

L tleman can't control the market. Yet, the market determines if money is made or lost. Here are 10 management tips to make sure calves are worth top dollar at sale time.

Adding value to calves

starts with using good genet-

ics. "High-quality genetics are

really important, especially

on feeder-type animals," said

Gant Mourer, Oklahoma State

University beef cattle value

enhancement specialist. "We

want our calves to grow ef-

ficiently, but we don't want

Ideal feeder calves have just

enough fat to cover a majority

of their ribs. But too much fat

down the topline and over the

pin bones can result in lower

"We want to be really care-

ful," Mourer explained. "If

we're choosing genetics for

quality and yield grade and

Genetics

them fleshy."

prices.

t's a well-known fact a cat- we're choosing strictly for a terminal feeder-type program, that's awesome. But the flip side is if we keep heifers out of those genetics, our cows will be 1,700 to 2,000 pounds and not weaning big calves."

> Heterosis adds to market value, especially when using the right combination of breeds. Combining carcass quality and maternal traits is an ideal balance. Some breeds add size and frame, making them a good terminal cross. Mourer said some combinations don't sell as well but still perform. "The discount you may get because of color is outweighed by the premium on growth," he said.

Castratation

Steers nearly always outsell bulls. And contrary to popular belief, keeping bulls intact has no benefit to weight gain. "Those testicles aren't actually functional and creating hormones until the calf is 6 to 7 months along," Mourer

said. Waiting until weaning to castrate can cause issues with bleeding and infection. The stress increases, too, and big calves can go off feed for up to 30 days.

"If you're handling calves at birth, think about banding or castrating then," he said. "If not then, you definitely need to do it when you pull the calf in at branding time. He prefers cutting with the Henderson tool rather than banding to help avoid issues with bands slipping.

? Vaccinations

Every operation needs a good vaccination program. But for vaccines to work, a calf has to start healthy. Mourer said this begins with ensuring calves get colostrum at birth. "That's the most important thing," he said.

It's best to start vaccinations when the calf is between 2 and 3 months old. The most common immunizations are

IBR, BVD, Blackleg and Pasteurella. Mourer said working calves in a low-stress manner is important to get the best efficacy. Producers should give a second round of shots two to four weeks pre-weaning. This booster prepares the calf for weaning and keeps it healthy.

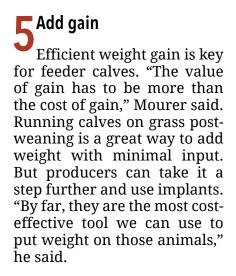
Parasite Control

"A good deworming protocol is second to none," Mourer said. Producers should start with a doramectin or ivermectin product when calves are 2 to 3 months old. These dewormers come as injectable or pour-on solution and have a long efficacy. They will last over the summer for spring calves.

"In the fall, if we can get a frost on the ground, we might want to switch to a non-ivermectin white dewormer," he said. "That flushes out and kills everything in the system. White dewormers are administered as an oral drench."

10 TIPS FROM PREVIOUS PAGE

Fly control is equally as important as a dewormer. "I don't think we truly know the impact of flies on weight gain," Mourer said. Fly tags are a great control method. But like dewormers, switching active ingredients is important to reduce resistance. Mourer said another option is to fog cattle during the summer. "It helps them out quite a bit as they're growing," he said.



Implants cost between \$2 and \$5 per head, and research shows calves can gain an additional 30 pounds. Mourer said producers should implant early to get the best results. He suggests processing calves when they're 2 to 3 months old, but said it works at weaning, too.

High-quality nutrition

High-quality nutrition also helps calves gain. In late summer, producers can give calves protein supplement using a creep feeder. But quality nutrition is vital for weaned calves. It reduces stress and

is important for continued growth. "Whenever you ship those calves to market, they need to know how to eat once they get there," Mourer said. Sometimes calves arrive at the livestock market two to three days early. "When they feed them, you'll get the shrink back because they know how to eat," he said.

Forage is important for newlyweaned calves. Mourer said high-quality prairie and Bermudagrass hay works well. Producers should supplement with 1 percent body weight of a 16 percent protein feed. Once calves start eating well, it's best to increase their consumption to 2 percent body weight. Mourer said distillers grains help provide adequate protein without excess starch. "If you can get it, you may want to put coccidiostat or detox in the feed. Ionophores like Rumensin or Bovatec help increase efficiency, too," he said.

It's best to keep calves in a grass lot where they can be fed twice daily. Dust and mud can contribute to health problems. And, hand-feeding every day helps producers keep a close eye on the cattle.

Quality water

Along with good nutrition, calves need clean, fresh water to stay healthy. "High-quality water has been at the forefront of my mind because it's hot outside," Mourer said. "If we can switch to high-quality, clean water and they get as much as they want, that re-

keeps them eating, which ally helps." Too often, cattle have to drink out of ponds or creeks. If the water is hot and stagnant, cattle don't drink as much. And what they do drink isn't the best. Consumption increases, resulting in better performance and improved gain.

O Retain ownership for back-Ogrounding

If producers can handle the risk, retained ownership is a great way to add value to calves. Running fall-born calves on spring fescue works great. And spring-born calves do well on winter wheat pasture. "It may be worthwhile to do that until calves reach 700 to 800 pounds," Mourer said. Producers can then market the heavier weight cattle through a local livestock market like Joplin Regional Stockyards using its video market and risk management program.

To make this approach work, producers need to understand the market. "There's always some risk involved because we don't know what the market will do," Mourer said. "But you can take the futures price and predict the value of your calves down the road."

Market relationship

Producers should have a good relationship with their livestock market. If the market owner knows the customer's reputation, it makes a difference. It also helps to visit with the market owner ahead of time to let them know about your program. Details about the genetics, vaccines and nu-

trition program give the marketer more data to help sell your cattle. "Working with a good market operator can help put all the pieces together to sell your calves versus dropping them off and taking the price for that day," Mourer said.

Other considerations

Price benefits can also be seen by participating in Vac 45 or other preconditioning-type programs. "Those programs see about a \$10/cwt premium on those calves versus a calf with no background or history of going through that ring," Mourer said.

Another good program is age and source verification. This is required for beef to enter some export markets, such as China. Mourer said verification is an easy process and can be done over the phone.

"Your calf will have to be ageand source-verified through a USDA-approved company. They verify those calves were born at the ranch of origin," he said. "Every operation has to have a premise ID number and calving records so you can at least know when the first and last calf was born in that calf crop."

Calves in this program often earn a premium, depending on the market. "At one time we'd see \$2-\$5/cwt premium for calves going to Japan. I don't know if that will be true for China, but it may be an option for some producers," Mourer said. -1-



MANAGEMENT MATTERS Genetics Add Value

Maximize cowherd, calf revenue at marketing time

Story By Austin Black for Cattlemen's News

Genetics are the baseline for a calf's performance. While quality management practices can ensure calves grow and stay healthy, to get top dollar producers should use strategies that enhance their herd's genetics.

Crossbreeding is king

Genetic improvement begins by selecting the right mating. Cattle need to be profitable and efficient. They need to grow fast, develop muscle and produce a quality carcass when processed. To achieve those goals, producers should choose breeds that complement each other.

Dr. Bob Weaber, Kansas State University cow-calf extension specialist, said heterosis is important for profitability. "We know if we mate an F1 cow to a third breed bull, we get about 23 percent improvement off weaning weight per cow exposed—on the low end," he said. And weaning rate increases about 7 percent. This can reduce the break-even cost by \$60 per head on a 500-pound calf. "That's a pretty big change in the revenue stream," he added.

If producers use maternal females to generate heterosis, the results are impressive. Higher calf survival rates and better maternal performance add to the profit equation. Weaber said an F1 cow is worth about \$150 per year more than a straight-bred female.

"Take that out over the years. If she has seven or eight calves, that's a pretty big difference in gross revenue of a cow over her lifetime," he said. Using a terminal sire adds growth and



carcass value, making it a complete package.

Producers have to be careful in breed selection, though. Finding animals that compliment each other's traits is important. Combining British and continental breeds are often a good fit. British breeds can provide calving ease and strong maternal traits. Continental bulls often add size, growth and carcass quality to the equation.

Some operations might have to split their breeding program to get the best results. "How many calving-ease bulls get turned out on the whole herd when they just need to be on the firstcalf heifers?" Weaber said. "Perhaps we should use some AI on the heifers to control calving ease and turn out growth and carcass bulls on the cows."

Weaber said sexed-semen could further enhance this approach. "Sexed semen can be used to produce environmentally adapted cows for the production system. Then you can use terminal bulls on a larger proportion of the cowherd," he said. Producers can maximize the output of their cowherds and get the best value for their calves.

Another way to split breeding is to divide pastures and use natural service. Producers can use strong maternal bulls on the best maternal cows in the herd. Heifers out of this mating will make productive cows to keep

CONTINUED ON NEXT PAGE



GENETICS ADD VALUE FROM PREVIOUS PAGE

or sell. The rest of the cowherd can be mated to terminal bulls. "It depends on the scale of production and is a lot easier with more cows. But there is opportunity to capture value," Weaber said.

Developing relationships with seedstock producers makes the bull buying process much easier. But if producers are considering more than one breed, this can take some time.

"One of the challenges in the seedstock business, especially with multiple breed inputs, is finding two or three vendors that can supply the product you need and are passionate about helping you find that product," Weaber said.

Follow the numbers

Seedstock producers can help bull buyers sort through the data to find the best animal. But commercial cattlemen should have a plan before looking at bulls.

"Sit down and write out an informal breeding objective that

describes what you're trying to do," Weaber said. "Describe key limitations on ranch resources like forage, labor, etc. and accurately describe the marketing endpoint and how you will get replacement females."

This will help producers decide what EPD traits are important to their operation. "If you sell calves at weaning, bulls that focus only on terminal carcass traits doesn't make sense. And retaining heifers with those genetics don't make sense," Weaber said. But if producers retain ownership on cattle, marbling EPDs and \$B indexes are important to consider.

Other technologies, such as DNA testing, are new to the commercial sector of the beef industry, but have potential. The biggest challenge for producers is capturing value from a test that costs \$25. "Commercial producers sell phenotype," Weaber said. "If we think about a test that accounts for genetic variation like weaning or carcass, it will describe small amounts of phenotypic variation and come

Documenting and Marketing

The key to capturing value through genetics is to document and market the improvement. This is especially important if producers spend more on quality genetics than the average operation.

Groups such as the American Simmental Association (ASA) have tools to help producers with this task. The ASA has a feeder calf profit index and feeder calf profit calculator. Both tools account for the value of Simmental genetics in a herd, among other factors.

Verified Beef offers a program called Reputation Feeder Calf (RFC) to assist producers in their marketing efforts. RFC focuses on the genetic history of the operation to provide a relative value of calves marketed. Using EPDs from previously used bulls and management inputs, RFC helps producers market the genetic value of their cattle. —By Austin Black

at a substantial expense."

But producers can add value to feeder cattle by DNA testing replacement heifers. This approach identifies maternal females and documents the average carcass potential of their steermates. "If you test only the heifers and apply the data to the steers, we can assume that mean genetic potential of the females is equal to the males for modest to large groups. It helps market steers and leverage the value of the test on your heifers," Weaber said. If producers use a split breeding approach, DNA testing can document parentage. This might add marketing value based on genetics.

"Marketing tools for documenting genetics will become more valuable as the beef supply grows and producers differentiate on price. Positioning your operation as a source of highquality, valued feeder cattle will get you on the feedlot's radar." Weaber said. "Invest in good genetics and figure out how to document and manage your calves to capture more value in the value chain."



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PASTURE PLANNING

Can-Do Cover Crop

Triticale brings forage quality, soil benefits to the table

Story By Jillian Campbell for Cattlemen's News

While many Midwest beef more popular for dairy farm-producers have chosen ers to feed triticale as a forage wheat or rye as a fall cover crop and grazing option in their operations, some have opted to pay a premium for a quality forage option that offers the best of both worlds.

Triticale is a man-made hybrid cross of wheat and rye. It was developed in the 19th century as a potential highyielding grain crop. In recent years, triticale has gained popularity in the beef and dairy industries because of its benefits as a forage crop.

Tim Schnakenberg, a University of Missouri Extension agronomy specialist, has taken an interest in triticale and believes its characteristics will allow both fall and early spring grazing opportunities for cattle.

"Triticale can produce between two and four tons of forage during its growing period," he says. "It's productive, and the quality is good."

Schnakenberg also says triticale maintains forage quality in early spring that rye loses because of its quick-maturing nature.

"The benefit of triticale is that you do get some fall growth," Schnakenberg says. "Maybe not as much as rye, but it is winter-hardy, and it will produce some good forage as we transition into winter. Then, you can continue to get at least another two weeks of good nutritional benefit in the spring. Triticale works great because we get a good compromise between the benefits of rve and wheat."

Schnakenberg has discussed the benefits of triticale with some local dairy producers and has heard some prefer the feed quality to other forages. It is becoming

along with corn silage. Studies in Ohio and New Mexico have found triticale to be equivalent for producing milk per ton of corn silage in dairy cattle. More studies like this are appearing to promote the growth of triticale. Schnakenberg has recently read about a Florida study depicting a 78 percent increase in the daily rate of gain in heifers after grazing triticale.

In addition to its effectiveness as a forage, triticale provides benefits as a cover crop. According to Schnakenberg, triticale provides better coverage over other crop options on hillsides in fall and winter months and will perform well in lower-quality soils.

"One thing I've learned about triticale is that it's more tolerant of lower fertility and drought-prone soils than other cereal grains," Schnakenberg says. "Wheat is not as tolerant to poor soil quality, so if you have some poor soil, triticale tends to do well there. Triticale is also more disease-resistant than rye

and wheat. Wheat will often get barley yellow-dwarf virus and rust while triticale will not."

Triticale should be planted between Sept. 1 and Oct. 1. "Once it's up, you can begin grazing between four and six weeks," Schnakenberg says. "We generally recommend you begin grazing between 8 and 12 inches (high), and then take it down to 4 (inches)."

Schnakenberg promotes planting triticale into a poor stand of existing fescue or behind a corn, sorghum, sudan grass or millet crop. Although he does not recommend sowing triticale into a wellperforming stand of fescue, Schnakenberg says triticale could be useful for someone wanting to switch to an endophyte-free variety.

"If someone is trying to convert from KY-31 fescue, triticale will offer a good cover during the transition period," he says. "It can be no-till drilled in. The fescue stand will need to be sprayed with glyphosate if they are removing it, and the seed will need to be drilled an inch and a guarter to an inch and a half down. You should begin with 90 to 100 pounds of pure live seed per acre."

Triticale can be baled and wrapped like silage, or it can be strip-grazed. Although producers in the four-state area do both, Schnakenberg

promotes strip grazing.

"Strip grazing is a very efficient way to utilize the forage nutrition we get from triticale," he says. "You can do that in the fall and again in the spring. To me, one of the biggest benefits of triticale is that you get some fall and early spring growth before the fescue has been developed enough for grazing."

Baling triticale can also be a good option for producers. "I like the fact that we can get started on baling triticale earlier, in mid-to-late April, and get some of that hay harvested, while with wheat we tend to wait a little bit longer," Schnakenberg says. "It really fits well in both baling and grazing situations."

Triticale is a more expensive option when compared to wheat and rye. Its price usually ranges from \$4 to \$6 higher than rye and wheat per 50-pound bag. Despite the price difference, it is becoming more popular, and popularity speaks.

"If I was to describe triticale, I would call it less yielding but better quality than rye, and more yielding but better quality than wheat," Schnakenberg says. "It's genetically halfway between wheat and rye, and there is a place for that." -1-

Animal Performance from UF-NFREC Beef Research Unit

Table 1. Cumulative data of beef cattle performance under different winter feeding strategies

		Treatment		Treatment	
Item	Triticale + ryegrass ¹	Rye + ryegrass ²	Supplemented control ³	SEM ⁴	<i>P</i> -value
Initial body weight, lb	736	735	732	46.3	0.981
Final body weight, lb	869	809	832	33.8	0.102
Average daily gain, lb					
d 0 to 28	0.78	0.73	0.99	0.265	0.596
d 0 to 56	1.16	0.75	0.99	0.194	0.103
d 0 to end	1.57 ^c	0.88 ª	1.18^{b}	0.18 ¹	0.001

^{a,b,c}Row means with different superscripts differ, *P*<0.05.

¹85 lb/acre of Trical 342 triticale + 15 lb/acre of reygrass (cv. Diamond R).

²70 lb/acre of FL401 rye + 15 lb/acre of ryegrass (cv. Diamond R).

³Heifers in the supplemented control treatment received a supplement of a 50:50 mixture of corn gluten feed:soybean hulls 1% of their body weight daily and ad libitum access to bahiagrass hay. ⁴Pooled standard error of treatment means, n = 4 pastures/treatment.

-Source: University of Florida Extension



Mike & Sarah: 406-562-3694 cobbcow1@3riversdbs.net

John & Cheryl: 406-562-3670 cobbchar@3riversdbs.net Box 348 - Augusta, MT 59410

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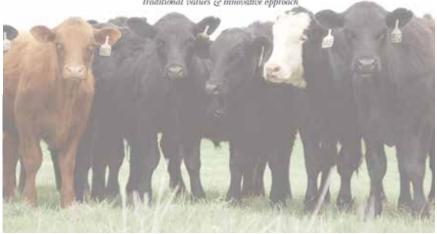
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TRENDING NOW

No More Statistics

How to keep kids safe on the farm

Story By Lisa Henderson for Cattlemen's News

Every three days a child dies in an agriculture-related accident. That sobering statistic from the National Institute for Occupational Safety and Health (NIOSH) underscores the need for con-

stant safety vigilance on the farm. Additionally, NIOSH says, an estimated 12,000 youth were injured on America's farms in 2014, and about 4,000 of those injuries were due to farm work.

Of the 113 youth that die annually from farm-related accidents, NIOSH says about onethird of those deaths occur to youth 16 to 19 years of age. The three leading causes of deaths to youth on farms are: machinery and tractors (23 percent); motor vehicles including ATVs (19 percent); and drowning (16 percent).

Because of her own family's experience with a tragic farm accident, Marilyn Adams founded Farm Safety For Just Kids (FS4JK) three decades ago. The organization was committed to providing safety education to children in rural communities, and over the years the group held many educational seminars and conducted research on critical farm safety issues.

Last year, however, FS4JK announced it would disband and hand over its assets to the Progressive Agriculture Foundation (PAF), which has a similar mission.

"We are proud of the work we have done to promote farm safety for the youngest members of farm families," Adams said. "We believe this move will further the mission of keeping farms safe for youth. That was the goal 30 years ago, and that remains the goal today. We feel the organization has accomplished what



we set out to do: To support farm safety education in the U.S. and around the world. I believe this move will further the mission we all have worked hard to accomplish."

Susan Reynolds-Porter, chief executive officer of the Progressive Agriculture Foundation (PAF), says, "We are honored that FS4JK has entrusted our program to continue with their farm safety legacy by donating its assets. These funds will be used to help us provide the training, resources and support needed for even more communities to conduct Safety Days for children."

PAF organizes more than 400 youth safety events each year through its Progressive Agriculture Safety Day program. Now in its 23rd year, the Safety Day program has grown to be recognized as the largest rural safety and health education program in North America, impacting more than 1.5 million youth and adults. For more information visit www. progressiveag.org.

While organizations that promote safety education and training are important, the safety of children on a farm begins with adults. Susanna Von Essen, M.D., MPH, at the University of Nebraska Medical Center, Lincoln, Nebraska, says, "Giving children ageappropriate tasks is critically important. For example, 10year-old children should not be driving tractors."

—EDITOR'S NOTE: See 5 Tips to Keep Kids Safe on next page.

TRENDING NOW

5 Tips To Keep Kids Safe

Farm kids enjoy some of the best environments for a healthy, active life. But adults must also remember a farm is a workplace with plenty of danger for children. Here are tips to help keep your children safe on the farm.

Choose the right task

Injuries often occur when children are doing something beyond their mental, physical or emotional ability. Identify age-appropriate tasks when including children in farm chores. Here are a few questions to ask yourself before assigning a task: Does the task require heavy lifting or bending and can the child handleit?Doesthetaskrequire the child's full attention and what is their attention span? Is the child comfortable around livestock? Is the child strong enough to control an animal? Can the child reach all the controls comfortably on a piece of equipment they are asked to operate? Can the child react quickly? Is the child responsible (do you trust them with the task)? Have you demonstrated the task for the child and do they understand?

Practice what you preach Children watch ar

Children watch and observe how you handle chores on the farm. If you are taking shortcuts in a job or activity, a child will pick up on that. Set a good example and practice safety in your own day-to-day activities on the farm.

3 Job Safety Analysis

Parents tend to get caught up in going through the motions of the farm and forget that a child might not understand exactly how a particular task works, the Penn State article explains. A Job Safety Analysis (JSA) helps parents break down the steps of any task and identify any safety hazards that might be a part of that job. A successful JSA will break the job down into four to six steps with each step accomplishing a major portion of the job. Each step of the job should be analyzed for potential safety risks from the obvious hazards related to the task, to the conditional hazards that could take place.

Conduct safety audits

Conducting periodic safety audits allows parents to target any potential hazards and correct them. Think about past "close calls" or potential future situations and identify factors that could be responsible. Practice good housekeeping by safely storing chemicals, equipment and tools.

C Other key safety tips

• A child should not be an extra rider — "one seat, one rider."

• Supervise children at all times.

• Provide children with protective equipment, and teach them when to wear it.

—Source: Adapted from "Children and Safety on the Farm," Penn State University Extension.

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TRENDING NOW

Safety First

Take extra needed to avoid on-farm health issues

Story By Lisa Henderson for Cattlemen's News

very day, about 100 agri- risks, but other concerns in-L cultural workers suffer a lost-work-time injury, according to the National Institute for Occupational Safety and Health (NIOSH).

Work-related injuries claimed the lives of 401 farmers in 2015, according to the Centers for Disease Control and Prevention, which is a fatality rate of 19.2 deaths per 100,000 workers. Transportation incidents, including tractor overturns, were the leading cause of death for those workers, but farm accidents are only a portion of the hazards facing farmers and ranchers.

According to Dr. Susanna Von Essen, University of Nebraska Medical Center, the top five health issues related to agriculture are: traumatic injury; respiratory illness; farm chemical exposure effects; mental health issues and hearing loss.

Unfortunately, those illnesses and injuries can affect any member of a farm family. "Agriculture is one of the few industries where children and the elderly play an active role," Von Essen says. "Families often perceive this as an economic necessity. Two million children work on U.S. farms, and 23,000 will be injured this year."

But the age group with the most injuries on farms is the elderly. Part of that is because 50 percent of all farmers and ranchers age 50 years and older, but other factors also increase the risk.

"Older farmers' perception of risk is not always accurate," Von Essen says, which often leads to accidents and injury. Tractor overturns and machinery trauma are the main

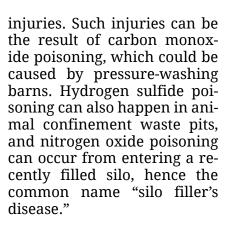
clude electrocution, PTO accidents and pesticide exposure. "Other factors that increase risks for older farmers are changes in vision, hearing, reflexes and medication side effects."

Tractor overturns and machinery accidents happen very quickly, and Von Essen says 80 percent of tractor overturn injuries are fatal if the tractor is not equipped with roll over protective structures (ROPS). In 2012, 59 percent of tractors used on farms in the U.S. were equipped with ROPS, but many older tractors are still

especially among swine or poultry confinement workers. The prevalence has decreased in recent years as barns with better ventilation have become more common. Von Essen says asthma-like syndrome commonly displays as a wheeze or cough and chest tightness. As much as 30 percent of swine and poultry confinement workers might develop asthma-like syndrome. Dust, endotoxins and ammonia are the primary causes.

Farmers might develop organic dust toxic syndrome (ODTS) after heavy exposure to grain dust. Von Essen says the syndrome is an "influenza-like illness seen after heavy grain dust (stored grain), hog dust exposure or after uncapping a silo." She says 30 percent of farmers report having symptoms of this illness.

Von Essen also describes Handling grain is also risky for "farmer's lung," and says it is farmers and workers at grain



One common trait among older farmers is hearing loss. Von Essen says 50 percent of farmers older than 50 have some hearing loss. And, she says, farm youth are 2.5 times more likely than urban children to have hearing loss. Workers should wear noise protection when it is necessary to shout to be heard, and that is generally described as 85 decibels, the sound of a combine or lawn mower.

elevators. According to the insurance company Nationwide, workers compensation claims from grain elevators has doubled in the past seven years. Now, Nationwide has developed a training app for grain workers called Hazard Spotter, which is free to download on Apple and Android devices.

According to Nationwide, the app provides a realistic, first-person view of an employee tasked with completing common maintenance jobs in a grain storage facility. Different scenarios cover housekeeping, preventive maintenance, hot work and more. Players are scored based

........

Chronic bronchitis can be a common illness in farmers who handle grain. Work-related injuries claimed the lives of 401 farmers in 2015 with transportation incidents the leading cause of death for those workers.—Photo by Joann Pipkin.

in use that are not equipped with the protection.

Respiratory illnesses are also a significant hazard for farmers. Chronic bronchitis, for instance, is more common in those who handle grain or raise hogs, but it is not disabling, Von Essen says, unless the farmer also smokes.

Farmers are also prone to develop asthma-like syndrome,

a granulomatous lung disease that is a form of hypersensitivity pneumonitis, which is an inflammation within the lung caused by hypersensitivity to inhaled organic dusts. She says it is recurrent febrile illness with a dry cough, and patients might develop lifethreatening chronic interstitial lung disease over time.

Farmers are also at risk to what is called acute inhalation

on completing tasks, providing proper documentation as needed, identifying hazards and properly using equipment. Nationwide says the app turns your smartphone into a portable training device.

Farmers are at risk of suffocation in grain bins, and workers should never enter a bin without a safety harness. T







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MANAGEMENT MATTERS

In Search of Efficient Beef Cows

Separate biological and economic efficiency, keep an eye on your goal

Story By Kris Ringwall



Photo by Jillian Campbell for Cattlemen's News.

What do we know about tem are not easy to impleefficiency within the ment and maintain because almost all living systems will

What do we know about understanding beef cattle efficiency? A little.

How do we implement what we know and understand? Not sure.

We have two very difficult issues when beef cattle efficiency is the focus of the discussion. The first, biological efficiency, is real and regulated by inputs, environmental limitations such as climate and soil types.

We, as producers, tend to create short-term artificial environments that are irrespective of the climate and soil. We don't consider the longterm consequences.

The second issue, economic efficiency, is imposed and confused with biological efficiency.

The two issues are different. Humans assign a dollar value to a biological type based on human preference and desire. Biological and economic efficiency become extremely confusing, are often misinterpreted and are easily the cause of frustration.

So let us ponder this: Changes to the efficiency of any sys-

tem are not easy to implement and maintain because almost all living systems will try to revert back to a natural, sustainable process through time. Natural selection forces biological efficiency. No economic force is within Mother Nature. All economic forces are a product of human civilization.

Furthermore, few human preferences are sustainable within Mother Nature. We might like off-colored critters, only soon we realize that any off-colored critter is easily selected by predators. Thus, reproduction is an opportunity only for those who fit the status quo.

Historically, agriculture fits nicely into Mother Nature's trends because these trends pull agriculture into a repetitive natural process. The repetitive processes lead producers to focus on the status quo because the status quo is the first to take advantage of the ability to reproduce.

Producers simply facilitate reproduction of food, managing breeding populations that produce more than what Mother Nature needs. This excess feeds the human population, of which we don't know

CONTINUED ON NEXT PAGE

EFFICIENT BEEF COWS FROM PREVIOUS PAGE

the limits of its needs, but that is another discussion.

So, what can we do regarding the efficiency of the beef cattle industry? While the answer is very complicated and elusive, we have found some thoughts that keep coming back to us.

The first thought: Always separate biological and economic efficiency. Repeat and repeat the point within the beef cattle world you are addressing. Keep the discussion clear. Before any discussion starts, set the main focus points.

The Dickinson Research Center has entered the efficiency question by establishing two types of cattle that are two frame scores different in hip height, as well as approximately 300 pounds different in mature body weight when the calf is weaned.

These two types of cattle are phenotypically different. You don't have trouble spotting the obvious. One is bigger than the other. And, from a cow-calf perspective, looking at biological efficiency, the calves from the larger cows have a 10 percent advantage when a cattle system is evaluated based on calves as the unit of production.

From the same cow-calf perspective, looking at economic efficiency, the calves from the smaller cows, based on acres as the unit of production, have a 10 percent advantage.

These are the two driving thoughts as the center moves forward in evaluating beef cattle efficiency. But do we actually strive to understand and make the beef cattle industry better? Who is the beef industry and just how broad do we branch out to answer the question?

I could not help but note a comment by Alan Guebert in his syndicated agricultural column, "The Farm and Food File," which was published in the Aug. 18, 2017, issue of the Farm & Ranch Guide. In his column "We need to talk," Guebert wrote, "We believe we can solve today's biggest agricultural problems — new disease resistance; weather extremes triggered by climate change; killer competitive global markets; low-and-going-lower farm income; dying rural communities — with bigger chemistry, bigger ignorance, bigger bullying and bigger government spending all directed to 'help' ever fewer farmers and ranchers and increasingly skeptical eaters."

Guebert's comment is broader than the beef industry but certainly relevant to where we are. We indeed need to talk because many of these symptoms are present within each segment of agriculture, including the beef business. Discussions of beef cow efficiency, particularly relative to cow size, are embroiled in the present, not the future.

As we continue to evolve and explore thoughts regarding the efficiency of the beef cow, more and more pieces will evolve. Putting the pieces in play within the industry is not easy. But for now, finding the pieces that fit is good.

—Source: Kris Ringwall is beef specialist with North Dakota State University Extension Service.

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TRENDING NOW

Against the Odds

Dealing with antibiotic resistance

Story By Austin Black for Cattlemen's News

A ntibiotic resistance is real. It's a global predicament that involves several factors. "The landscape is changing around antibiotic stewardship," said Sarah Bohnenkamp, National Institute for Animal Agriculture. According to the Center for Disease Control, antimicrobial-resistant bacteria infect more than 2 million people in the United States each year. And, at least 23,000 die as a result.

The problem is caused by overexposure to antibiotics in both people and animals. And, it's worsened over time.

Dr. Bob Smith, Veterinary Research and Consulting Services, said scientists haven't developed a new antibiotic class since 1978, and nothing new is in the pipeline. The result is continued use of the same treatments, which leads to resistant bacteria.

Resistance is a natural occurrence. Over time, bacteria change their genetic makeup to survive and escape antimicrobial attacks. "However, the misuse and overuse of antimicrobials is accelerating this process," Bohnenkamp said.

Poor sanitation and increased use of antibiotics counteract against each other. Bacteria gain opportunity for growth and learn to defend themselves better.

Animal agriculture adapts

To better control the issue of antimicrobial resistance, the Food & Drug Administration created the Veterinary Feed Directive (VFD), which went into effect Jan. 1 of this year. The ruling prohibits the use of feed and water-soluble antibiotics for weight gain and feed efficiency in food animals. Using these products for legitimate health concerns requires veterinary approval.

"Bacteria will activate survival mechanisms when threatened, which means antibiotics no longer work. The more exposure we have to antimicrobials, the greater chance there is for resistance," Smith said. This was the argument presented to support the VFD.

And it's true. In 2009, Kansas State University researchers tested bacteria for susceptibility and resistance. The study showed 5 percent of organisms were resistant to five antibiotics. In 2011, 35 percent of organisms were resistant. "We saw a big increase and know that the prevalence of antibiotic resistance has increased in respiratory bacteria since that time," Smith said. cell wall," Smith said. Finally, bacteria are able to modify themselves so antimicrobials lose their efficacy.

To make the situation worse, bacteria can share resistant genes, regardless of species. This is known as plasmid-mediated resistance.

Being selective

While it might seem to be a losing battle, overcoming antibiotic resistance is possible. The first step producers have to take is reducing antibiotic use. "It's important to treat only when necessary and to use the right drug to treat the sickness," Smith said. Animals still need care, and if they are sick, treatment is necessary. But producers must take steps to only use medicine when an

"We have to get back to more oldfashioned husbandry."

–Dr. Bob Smith

Veterinary Research and Consulting Services

Knowledge of antibiotic processes and bacterium resistance is important to stop the growing trend. Smith said four groups of antimicrobials exist. Each has a different approach to fighting bacteria.

"One group of antimicrobials targets cell wall synthesis," Smith said. Like a fruit, bacteria rely on an outer shell for protection. Antibiotics such as penicillin inhibit cell wall development and kill the bacteria. The second group interferes with DNA synthesis. The third approach is to stop protein synthesis in bacteria. Tetracycline products fall in this category. The final group disrupts folic acid synthesis, which in turn affects DNA construction. Antibiotics with Trimethoprim carry out this task.

But bacteria are survivors and develop ways to escape harm caused by antimicrobials. They can pump the antibiotics out of the cell, change the cell wall permeability and even produce a degrading enzyme that neutralizes the antimicrobial.

"There is also the opportunity for bacteria to present an alternative protein to compete with the binding points so antimicrobials can't attach to the

animal is actually sick.

Smith said treating high-risk calves upon arrival at a feedlot might do more harm than good. Every calf has bacteria in its respiratory tract that causes disease. But many times the population is low and the bugs aren't aggressive enough to cause stress or infection. Sometimes, a mix of susceptible and resistant bacteria are present. "If we use antibiotics whether the animal is sick or not, we might select for resistance by wiping out the ones that are susceptible to the antibiotic," he said.

Instead of mass treatments, producers need to give antibiotics to sick calves only. When treating, it's important to give the right dose of the right medicine in the right place. "Using the right dosage means we have to know the right weight," Smith said. If calves receive too little medicine, they don't get the full benefit. "If we do that over a sustained period of time, we develop more resistance," he said.

Administering the right product is key to treating sickness. Some medicines target urinary tract infections while others are designed for respiratory diseases. The right drug will ensure the right bacteria die. Producers should take note of label usage, too. Products rated for subcutaneous injection shouldn't be given in the muscle.

Some products might require multiple injection sites. Some antibiotics use high-volume doses. If producers inject all the medicine in the same spot, the animal won't absorb the drug like it should. "It might cause more tissue reaction and a longer withdrawal time," Smith said.

Finally, post-treatment intervals (PTI) and withdrawal times are crucial. PTI is the length of time producers should wait to reevaluate treatment. "Some work done shows it's best to wait longer before re-treating an animal," Smith said. Producers should visit with their veterinarians to determine an ideal PTI for their operations.

Back to the basics

Antibiotics have helped producers save a lot of cattle. But increased resistance forces the industry to reevaluate efforts for decreasing morbidity. "We have to get back to more oldfashioned husbandry," Smith said.

Providing quality nutrition to young cows plays a huge role in future calf health. "We know through fetal programming that if we have restricted protein offered to first- and second-calf heifers, their calves will have problems later in life," Smith said. These cows are still growing while they're pregnant. This means they need more nutrients for themselves and the calf.

Early castration reduces stress and sickness in feedlots. Smith said BRD treatments are 3.3 times more likely in bulls than steers. And, re-treatments are 2.7 times more likely.

Other beneficial practices include low-stress weaning, providing ample pen space and quality weaning diets. "Avoid excess starch in high-risk calves in the early receiving period," Smith said. Distillers grains offer a good alternative for protein.

Producers should also consider their treatment protocols. Sickness is more prevalent in the fall and winter compared

CONTINUED ON PAGE 48

Protecting Against Scours

Preventing scours early

Protecting calves against disease as early as possible after birth is essential to maximize lifelong health and performance. Because of the many stressors they face in the first few hours of life, calves are especially vulnerable to scours. The combined effects of scours — death loss, treatment costs and poor performance — can add up to thousands of dollars each year, so protecting against these potential losses is critical.

"The first two to three weeks of life is vital to getting calves started off right," said Craig Bieber of Bieber Red Angus Ranch in South Dakota. "If you lose performance in these first few weeks, you set yourself up to lose a lot of performance over the entire life of the animal. By using a vaccine intervention, specifically Scour Bos[®], we've seen the incidence of scours reduced significantly, getting calves off to a better start."

Broad protection against scours

According to Bieber, the reduction in scours on his ranch can be tied directly to the broad-spectrum protection Scour Bos provides against the primary causes of the disease — coronavirus, rotavirus, K99 *E. coli* bacteria and *Clostridium perfringens* Type C. Compared to competitors, Scour Bos covers a larger number of key antigens and isolates to ensure this broad protection.

"With so much potential infection due to a variety of causes, choosing the vaccine with extensive coverage ensures more protection, and that's what Craig has experienced on his operation," said Kenton Carlson, Bieber's Elanco sales representative.

Bieber used Scour Bos for approximately 10 years with satisfaction, but decided to try another product that appeared to be "a better deal."

"When we tried the other product, we almost immediately started having issues with scours during calving that we hadn't had before," Bieber said. "Last year, we switched back to Scour Bos, and this spring, we had virtually no scours problems."

Vaccination flexibility

"The Midwest typically sees a higher incidence of scours, especially because of a wide range in temperatures and weather conditions during calving time," said Carlson. "Scour Bos has a flexible vaccine window of up to 16 weeks prior to calving that allows Craig and other producers to ensure their vaccine protocol will help protect their calves against that stress."

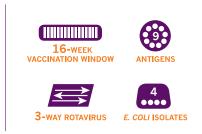
Unlike other scours vaccines that have a shorter vaccination window, Scour Bos can be administered 8 to 16 weeks pre-calving, offering the flexibility to vaccinate at preg-check or other timing based on each operation's protocols and management practices.

"Many producers in our area give their vaccine in August or September, during ultrasound time,"



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said Bieber. "For our operation, we maximize our

have a lot of flexibility with this product."

Herd-health planning

identify areas of opportunity."

can make a big impact.

immunity by giving Scour Bos 9 in October, followed

by Scour Bos 4 four to six weeks before calving. We

"Improving cattle production is a critical part of why I do what I do," said Carlson. "Fall is a critical time

to evaluate your health management protocols, and

That continual evaluation of your herd-health protocol

can. We obviously left using Scour Bos and realized it

"We take a look at all of our vaccination protocols every year to make sure we're doing the best job we

I enjoy working with producers like Craig to help

was a mistake," said Bieber. "Scour Bos is a product that works well for us."

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AGAINST THE ODDS FROM PAGE 46

to summer months. And, calves handle a warm, summer rain better than a cold, winter shower. "We need to take a proactive approach to keeping our herd healthy and controlling disease," Smith said. "Keep a strong relationship with your vet, keep good records and consider ways you can improve."

New technology combats antibiotic resistance

Researchers are testing new technologies to promote judicious antibiotic use. One such piece is a machine that will analyze blood cell counts to detect sickness in a calf. Producers can pull a blood sample on calves they suspect need treatment and run it through the machine on-location. If the calf isn't sick, no treatment is necessary.

Another tool being used in feedlots is an ear tag that tracks cattle movement and activity. It records how often the calf walks, eats, drinks, etc. and notes any abnormal behavior. Pen riders can use the tracking data to find sick calves as soon as symptoms arise. Prompt treatment reduces the need for long-term care and keeps calves healthy.

TRENDING NOW

Borck Honored at Feeding Forum

Feeding Quality Forum held last month

Story By Steve Suther

Lee Borck, Manhattan, Kansas, has known hard times and boom times, seen the impact on others as well as his own enterprises. That could describe a lot of cattle feeders, but Borck stands out for his record of leadership and overcoming adversity through cooperative efforts.

That's why the Feeding Quality Forum honored this master of ag finance and "business by the numbers" with its 2017 Industry Achievement Award.

Borck credits mentors and partners over the years, and his willingness to fail sometimes for helping him stay ahead of the curve and win most of the time.

Growing up on the family's homestead near Blue Rapids, Kansas, he 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, Kansas.

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.

The road to indelible marks on the industry began with his

CONTINUED ON NEXT PAGE



Cal mt

the beef industry's long range planning efforts help leverage limited funds in the most targeted ways?

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BORCK HONORED FROM PREVIOUS PAGE

first job, eight years as a loan officer with the Farm Credit System's Production Credit Association (PCA) in Larned, Kansas, before he started down the path of being a cattle feeder in that community.

He learned one thing 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 percent 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.

"We had a lot more packers then, but it was a game of numbers," he says. "If you had the numbers, you could attract packers and get a better price." Western feedlots were warning ranchers away from their eastern competition based on that discount.

"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 do what we did in a more efcompetition 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."

The cooperative organizer was fast becoming an industry leader, for which he credits the Kansas Livestock Association and the rise of information sharing.

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

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ficient 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.

"Most everybody in the business at that time knew that if a steer gained 3 pounds a day and it converted 6.2, you were doing a pretty good job," Borck says. "But nobody knew the difference between feeding an animal for 40 cents and 45 cents."

Performance targets may update to nearly 4 pounds daily gain at 5.6 conversion, but Borck says feeders still wonder why pens vary from 75- to 80-cent cost of gain.

"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.

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"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."

Borck was recognized last month at the 11th Annual Feeding Quality Forums in Kansas.

—Source: Steve Suther is industry information director, Certified Angus Beef LLC.



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MANAGEMENT MATTERS

BRD: Solving a Complex Puzzle

Cow-calf level management key to disease prevention

Story By Rebecca Mettler for Cattlemen's News

The bovine respiratory disease complex (BRD) refers to disease of the upper or lower respiratory tract. It is arguably one of the biggest disease problems the beef industry faces, according to Tim Parks, D.V.M., technical services veterinarian with Merck Animal Health.

Parks, who was a private practice veterinarian for nearly 20 years, saw essentially a zero percent reduction in BRD cases throughout his tenure, which is something that is continually being researched throughout the industry.

"First thing to remember, BRD, say pneumonia, is a complex," Parks said. "We know viruses play a huge role in BRD. Viruses are going to suppress the immune system and cause changes in the respiratory tract. When that happens it allows bugs to get into the lung."

BRD is defined as the multifactorial (cause) with environmental and host factors, and pathogens, according to the Merck veterinary manual. Many infectious agents have been associated with BRD.

While cattle producers can't remove or influence all of the factors associated with contracting BRD, they often have the ability to control environmental stressors such as weaning, and sometimes weather. Host factors such as nutritional status and immune status can also be influenced.

Calf success in the stocker and feeding phase starts with proper care at the cow-calf level. Even though cow-calf producers don't own the calves after they are dropped off at the livestock auction, Parks hopes producers understand what factors influence success down the line.

"We gather, vaccinate and deworm at the cow-calf level, and we may wean, or we may wean and ship immediately," Parks said. "We put them in a new environment and comingle them. It all boils down to stress."

Stress releases cortisol, and cortisol suppresses the immune system. Immunosuppressed calves are more likely to come down with BRD and other diseases, especially if bogged down with other environmental and stress factors.

In general, calves that are less stressed are healthier calves; a positive calf health status can provide added value. Bottom line, healthy calves are worth more money than non-healthy calves.

"Preconditioning is something I preached the entire time I was in practice," Parks said. "Preconditioned to me now with veterinary feed directive means that we have to prevent disease."

The need to reduce the amount of drugs that are needed to treat disease is real since the veterinary feed directive has been in effect.

"To control disease, we have to prevent it, and preconditioning becomes huge," he said.

Sometimes preconditioning is looked at as nothing more than vaccinating cattle, which is not exactly true. While vaccines are important because they prime the immune system for later, the practice of preconditioning is much more than just vaccination.

"What they are doing is implementing practices and procedures that decrease stress, decrease sickness and improve performance following weaning," Parks said.

The end goal of putting calves through a preconditioning program is to set calves up for success in the stocker and feedyard sectors. This becomes especially important since roughly 80 percent of sickness in the stocker and feedyard sectors is respiratory in nature.

When an outbreak of BRD hap-

pens, it takes about 45 days to get cattle back on track if diseases such as mannheimia haemolytica, pasteurella multocida, histophilosis and mycoplasma are present.

Vaccination for BRD prevention is important, but Parks also outlined the effects that facility design and handling during arrival, unloading and processing at the feedyard can

"To control disease, we have to prevent it, and preconditioning becomes huge."

– Tim Parks, D.V.M. Merck Animal Health

alter the response to vaccination.

"I don't think there is any doubt that the way we handle cattle will affect how those cattle respond to vaccination, especially coming into the feedyard or stocker operations," Parks said.

During his time in private practice, Parks trained a crew to work cattle for his clients. He recalls one client in particular that he worked cattle for during crop planting in the spring and harvest time in the fall.

"When we worked cattle in the fall, our morbidity rate with my crew was 10 to 15 percent less than the in-house crew," he explained. "We gave the same products and did every process the same with the exception that my crew didn't handle cattle with a hotshot, and we didn't talk much when we worked cattle."

Another consideration

Producers might notice that sometimes calves look "rough" a few days after vaccination. They might blame that on a BRD outbreak, but it could be something completely different.

The endotoxin effect shows the same clinical signs as BRD: fever, increased respiration rate, depression, weakness, anorexia and possibly frothing from the mouth. "Endotoxins can have the same effect with cattle that we see in BRD. Stacking too many endotoxins can make things confusing," Parks said.

So what exactly are endotoxins? Endotoxins are a part of the cell wall of bacteria broken out into gram-negative and gram-positive. Gram-negative bacteria give off endotoxins when they die in varying levels depending on the bacteria. This creates an increased immune response, which can be both good and bad.

"A little bit of endotoxin stimulates the immune system while a lot can cause death, shock or lack of vaccine efficacy," Parks said.

It's not uncommon for producers to give calves multiple shots at one time in order to take full advantage of running cattle through the chute.

Clinical signs are variable. Stress, dose and type of endotoxin can make the difference and some vaccines can have higher levels of endotoxins than others.

"The big thing is age and weight of cattle; that's very important. The lethal dose for a 90 pound calf is about 1 million endotoxin units, for example," Parks said.

While Merck's Once PMH IN vaccine tests at 41,000 endotoxin units per milliliter, some competitors' products range well above 125,000 endotoxin units per milliliter, which stacked with other vaccines with high endotoxin levels can cause the symptoms listed previously or death.

"If cattle survive an initial episode, we are going to have a decreased immune response, and an immune-compromised animal could develop secondary infections and become a chronic," Parks said.

Bottom line, the BRD complex is undoubtedly complex, which sheds light on the fact that beef cattle producers must put practices, procedures and vaccination programs in place to effectively manage cattle for disease. Producers must also understand that setting up the calf for success at the stocker and feedyard level means managing them correctly at the cow-calf level.

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PASTURE PLANNING

Cover Crop Economics

What's the impact on your bottom line?

Story By Myriah Johnson and Jeff Goodwin

tremendously increased within the past few years, and cover crops have played a larger role in those discussions.

The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) defines cover crops as grasses, legumes and other forbs that are planted to control erosion, maintain or increase soil health and organic matter content, reduce water quality degradation by utilizing excessive soil nutrients, suppress excessive weed pressure and break pest cycles, improve soil moisture use efficiency, and minimize soil compaction.

That is a long-winded definition, and nowhere does it mention forage for grazing purposes. However, many producers are interested in cover crops for multispecies grazing. So for the purposes of this article, we will think of cover crops as a multispecies grazing crop.

The focus on soil health has From research, we have learned that cover crops can help increase water retention and soil organic matter, regulate soil temperature, reduce erosion, and provide nutrients back to the soil. Some of these impacts are slow to realize and might take many years to see.

> Part of a cover crop's beauty is that it is individualized, tailored to each piece of land. However, that also means the devil is in the details as we try to determine the economic value of cover crops. This is probably why little is written on the topic. It is difficult to generalize how cover crops will perform from location to location and what the cost and revenue figures might look like, especially when used as a multispecies grazing crop. Further, it becomes much more difficult to estimate the value of soil health benefits. such as increased water retention.

> To top it off, cover crops can be planted and used in a variety of settings. However, we will

try to cut through all of this complicated mess and make the rubber meet the road on a couple of examples.

At the Noble Research Institute, we see cover crops filling two predominate forage production gaps here in the Southern Great Plains. The first is for a summer cover crop to be used for grazing in conjunction with wheat between harvesting and planting. The second is for a cool-season cover crop to be interseeded into a warm-season pasture, providing early spring season forage for cattle.

Scenario 1 Summer cover crop for wheat

The following example is of a warm-season cover crop planted between wheat harvesting and planting. Let us caution that this example is what we think might be the best-case scenario.

The cover crop was seeded following wheat harvest, then 500-pound stocker calves were placed on the cover crop to graze for 70 days. The animals gained 2 pounds per head per day, totaling 140 pounds of gain per head. The cover crop cost approximately \$50 per acre, \$20 for seed, \$15 for planting and \$15 for crop burn down, all per acre, and supported 3.6 head per acre.

Putting 3.6 head per acre and 140 pounds per head together, we estimate 504 pounds per acre were gained. Then, dividing the \$50 per acre cover crop cost by the 504 pounds per acre gained, we estimate the cost of gain to be 10 cents per pound. That's pretty reasonable!

To make this scenario pay off, the value of gain would need to be greater than the cost of gain or 10 cents per pound. Again, using our 140 pounds per head gained and 10 cents per pound-140 pounds x 10 cents-we see that if we can advance the animal by \$13.89 per head, this cover crop investment will have paid for itself. Note, this cost of gain figure does not include animal health costs, labor, interest and other expenses.

Hopefully, a stocker animal would increase its value by more than \$13.89 per head. However, we do not know what the effects were on the subsequent wheat crop or how this example would change with varying amounts of rainfall. Further, this is not a replicated study, and we do not know if these types of results can be repeated. It will take more research to understand this.

CONTINUED ON NEXT PAGE

COVER CROP ECONOMICS • FROM PREVIOUS PAGE

Currently, research is being done at the Noble Research Institute on cover crop systems in till and no-till settings, followed by winter wheat grazing with stockers to help answer these types of questions. This study, led by James Rogers, Ph.D., found decreased wheat forage production and weight gains in stocker calves on the wheat pasture during the first year. Again, we will better understand this as the study moves forward over the next few years.

Even if we do make a profit, we will also have gained in other soil health areas. If we just breakeven or the cattle don't gain, we haven't had a total loss. Typically, there might be a summer weed-control pass on fallow wheat ground that we have avoided while also building soil health. Other advantages could be changing the timeframe in which you market your cattle. Cows might also be grazed on cover crops with their calves. Some anecdotal evidence points toward calves gaining

around 3 pounds per head per day on their mother's side while on summer cover crops, as well as easier weaning by just pulling the cows. Again, we caution that the examples we provide are merely that – examples. However, they do show some of the results that could be observed.

Scenario 2

Cool-season cover crop interseeded into bermudagrass

The second example is to interseed a cool-season mixed cover crop into bermudagrass in the fall at a rate of 50 pounds per acre with 30 pounds of in-row phosphorus at planting. Costs are \$35 per acre for seed, \$15 per acre for bermudagrass burndown, \$15 per acre for fertilization and \$15 per acre for planting, totaling \$80 per acre.

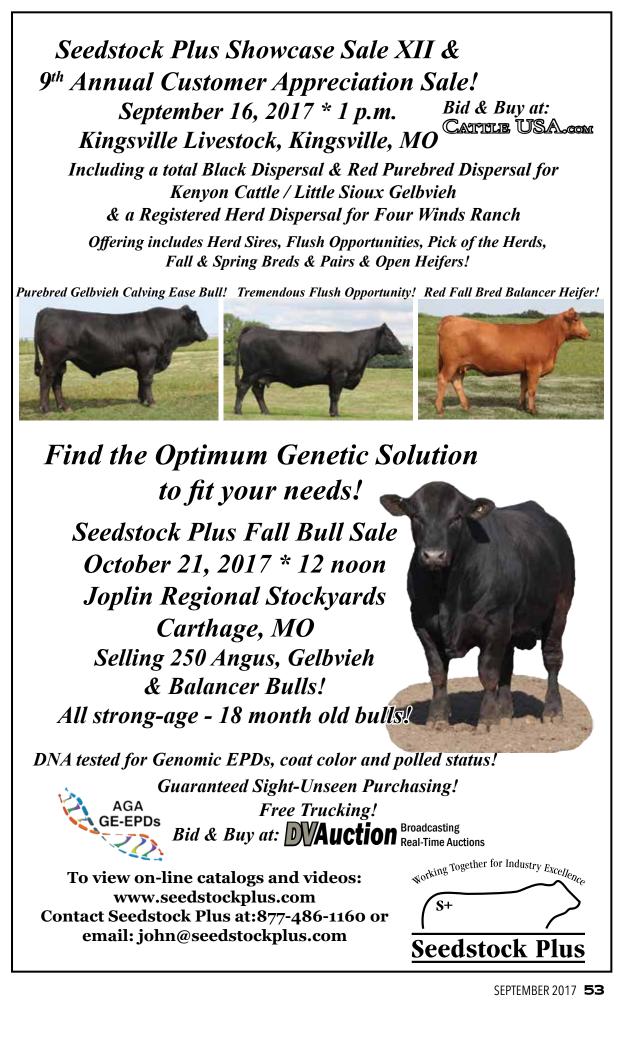
This cool-season cover crop mix would provide forage at a time when hay is usually provided for cows. To compare the two, we assume one hay bale per head per month for two months and 1 acre of cover crop per head for two months. Good quality bermudagrass hay bales cost about \$45 per bale. So, we would take the bale cost times the amount consumed per cow in those two months-\$45 per bale x 2 months x 1 hay bale per head per month. This gives us a cost of \$90 per cow. Taking a look at the cover crop option, we can calculate the cost per head is \$80–\$80 per acre x 1 acre per head. Using a cool-season cover crop allows us to save \$10 per cow and fill that early season spring forage gap.

Some producers may choose to topdress fertilizer on the cover crop in the spring, which would increase the cover crop cost to more than feeding hay. Yet, we haven't taken into account the reduction in the time spent hauling hay, storage costs, or the reduction in wear and tear on equipment. Yes, time and equipment are used in the cover crop, but it is most likely a wash.

For a reduced cost, or even near same cost if you top-dress fertilizer, our pick would be for the cover crop for many of the reasons we have already mentioned: increased water retention, increased nutrient cycling, increased soil organic matter, better ground temperature regulation and reduced erosion. You must still be sharp with your own pencil to know if these examples and numbers fit you and your operation.

Today, we do not have a dollar value to assign to benefits such as increased water retention or better regulated ground temperature. We do know that increased water retention can increase soil moisture and will better help plants weather the summer heat. This will further allow more forage to be grown and stocking rates to be increased; that has a monetary benefit. Over the next few years, we will work on filling these gaps and help you further discern the true economic impacts of using cover crops.

-Source: Myriah Johnson is an agricultural economics consultant, and Jeff Goodwin is a pasture and range consultant with the Samuel L. Roberts Noble Foundation for Agriculture.



ON THE CALENDAR

Beef Tour Set for Sept. 16

Three Southwest Missouri farms featured

The Southwest Missouri Cattlemen's Association and University of Missouri Extension will host a tour of three beef operations from on Saturday, Sept. 16. The tour hosts include Carrier's Muddy Creek Angus, Gleonda Angus Farms, and Shining Cross Cattle. Each farm is located near the Lawrence-Dade county line, off Missouri highway 97.

The tour begins at 1:30 p.m. at Carrier's Muddy Creek Angus farm.

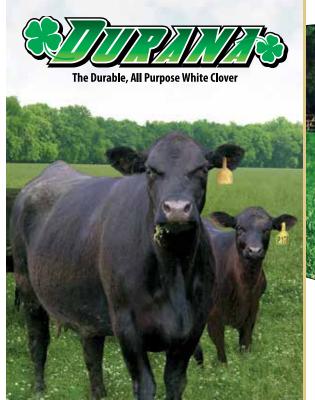
This family runs a purebred Angus beef, forage and row crops farm. They calve both winter and fall and sell bulls and heifers for breeding stock. Artificial insemination is used on heifers. Carriers use novel fescue and rotationally graze.

David's dad, Arthur, began the Angus herd in 1947. About 60 yearling heifers, 20 fall calving cows and three herd bulls will be on display.

"Forage production and harvest is a big deal at Muddy Creek, and you'll see an example of that with their McHale baler and red clover haylage entered in the Ozark Empire Fair," said Eldon Cole, livestock specialist, University of Missouri Extension.

The Carriers farm is 1.25 miles south of S&H Farm Supply on highway 97 or 1.75 miles north of the Dade-Lawrence county line.

Just a few miles south on highway 97, the tour will visit Gleonda Angus Farms.



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PENNINGTON

This farm is owned by Leon and Glenda Kleeman and managed by grandson, Traves Merrick. The Kleemans raise Angus breeding stock and will explain their interest in using genomic testing, artificial insemination and retained ownership to identify bulls that will work for their customers.

Merrick uses technology and social media to market bulls. Extensive records are kept on Excel spread sheets and through the American Angus Association. Freeze branding is now a common practice, and Traves will share his tips for getting a sharp brand.

"The cow herd at Gleonda Angus Farms has about 75 percent winter calves with the rest born in the fall. They develop most of their bulls on the farm but send a few each test to Green Springs Bulls Test, Nevada," said Cole.

The final stop is a five-minute drive west on highway YY to Lawrence County 1040 to Shining Cross Cattle. The hosts are the McCann family, who moved to Missouri 14 years ago from Arizona.

"Their original plan was to run cows, but five years ago they converted to a steer backgrounding program. They now background around 450 head that are purchased locally starting in December and usually are completed in February," said Cole. "At that time they are forward-contracted via video for July delivery."

The McCann's buy steers averaging 550 pounds and sell them at nine weights. Pastures are 10 to 15 acres, mostly fescue. They do not bale any hay, using stockpiling of fescue. They usually hand-feed supplement.

The Southwest Missouri Cattlemen's Association will provide beef burgers at the conclusion of the tour. For more information, contact the Lawrence County MU Extension office in Mt. Vernon at 417-466-3102.

ON THE CALENDAR Horticulture, Beef, Forages **Highlight Field Day**

Diversity featured Sept. 9 at MU Southwest Center

Torticulture, beef, forages and general agricultural topics will all be featured during the annual Southwest Research Center field day in Mount Vernon, Missouri, set for Saturday, Sept. 9.

The field day will also feature several activities for children. such as a grass maze, pumpkin patch and face painting. The event will begin at 9 a.m. and is free and open to the public.

"We've included a children's acre to help educate our young people about agriculture," said David Cope, center superintendant.

The first 350 visitors receive a free lunch, catered by the Mount Vernon FFA. Meal tickets will be available at the information booth. Airplane rides also return this year. Rides are \$25 for those 16 years

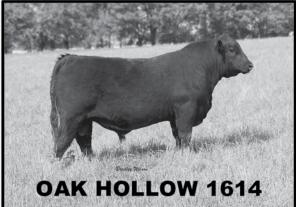
old and over and \$15 for anyone 15 years old and younger.

For the second year, the field day is on a weekend day, which was changed to accommodate not only producers, but also the local community. Tours will be spread throughout the Southwest Research Center, with activities for children north of the center's office building, close to the vineyard. Missouri Farmers Care will have an activity table as well.

"Moving field day to Saturday has allowed many people to attend who haven't been able to previously," Cope said. "We see more families and young children attend also, which has been encouraging."

Producers can choose a variety of tours during the morning. The beef tour will focus on selecting the right livestock for





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profit, mineral supplementation and will feature a cattle dog demonstration by Danny Shilling.

"Livestock, and the beef industry in particular, is a huge driver of southwest Missouri agriculture," Cope said. "There will be excellent information available for producers of all experience levels."

The field day will also include a forage tour and general agriculture tour. Novel endophyte fescue, Bermudagrass and baleage supplementation will be topics of discussion during the forage tour. Sustainable seafood production, nutrition and a cannulated cow are part of the general agriculture tour.

A complete list of speakers, topics and times can be found at http://agebb.missouri.edu/ agedfielddays/southwest/index.php

The Southwest Research Center is located at 14548 Highway H in Mount Vernon, Missouri, and is one of the University of Missouri College of Agriculture, Food and Natural Resources' Agricultural Research Centers. For more information about the field day, call 417-466-2148 or email Cope at Copede@missouri.edu. For more information about the Southwest Research Center, visit southwest.cafnr.org.

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REPLACEMENT Cow & Bull Sale 5:30 p.m. Sat. Sept. 16, 2017

Joplin Regional Stockyards | I-44 & Exit 22 | Carthage, Missouri Expecting 900 head. Early listing includes:

350 Fancy Open Heifers — One raising, ready to breed. Black and black baldie, handful of Charolais. Out of Fink Angus or McCable horned Hereford bulls. Weighing 825 lbs. FIELD REP: Skyler Moore. PHONE: 417-737-2615.

110 Red Angus and Few Black Cows — 2-7 years old. 30 head calving now with calves sired by Red Angus bulls. Balance due in Jan. and Feb. to Red Angus bulls. FIELD REP: Bob Shanks. PHONE: 620-674-1675.

25 Red Angus Heifers — Bred to low-birthweight Red Angus bulls. Due to calve in Jan. and Feb. FIELD REP: Bob Shanks. PHONE: 620-674-1675.

COMPLETE DISPERSAL. 35 COWS — 3 years to short and solid. 17 pairs, balance bred. FIELD REP: NICK FLANIGAN. PHONE: 417-316-0048.

15 Brangus Spring Heifer Pairs — Running back with Brangus bull. FIELD REP: Josh Cantwell. PHONE: 417-737-0038.

40 Home-Raised Black & Black Whiteface First-Calf Heifers (1/4) — Bred to low-birthweight Angus bulls. Weighing 1,000 lbs. Start calving Oct. 1. FIELD REP: Jason Pendleton. PHONE: 417-437-4552.

30 Black Angus Fall Pairs — 4-6 years old. Calves all worked and sired by Angus bulls. Cows are open and can be bred to bull of your choice. FIELD REP: Larry Mallory. PHONE: 417-461-2275.

15 Charolais Pairs — 4-6 years old. Calves all worked and sired by Angus bulls. Cows are open and can be bred to bull of your choice. FIELD REP: Larry Mallory. PHONE: 417-461-2275.

20 Beefmaster Cows — 5 years to short and solid. Bred to Beefmaster bulls. FIELD REP: Larry Mallory. PHONE: 417-461-2275.

100 Braford/Composites from Adams Ranch, Inc. — True 2-year-old heifers. Electronic ID tags with year and ranch brand. Bred to Red Angus, low-birthweight, calving-ease family ranch bulls. All heifers bred in second stage to start calving Feb. 1, 2018. FIELD REP: Shane Stierwalt. PHONE: 918-688-5774.

From P Bar S Ranch: 7 Reg. Black LimFlex Females — All Al bred to calve Feb-March 2018 at 2 years of age. Each heifer has Al breeding and due dates. All Al bred to popular reg. LimFlex bulls. All have been preg checked by ultrasound. FIELD REP: Mark Harmon. PHONE: 417-316-0101.

From P Bar S Ranch: 9 Reg. LimFlex Bulls — Born 12/22/15-4/27/16. All are Al-sired or from P Bar S ranch embryo program. Sired by the breed's leading sires known for growth and performance. All backed with EPDs and notable pedigrees. Birthweights from 64-76 lbs.; weaning weights from 590-770 lbs. Homozygous polled and homozygous black genetics. FIELD REP: Mark Harmon. PHONE: 417-316-0101.

1 Red Angus Bull — Virgin, 2 years old. FIELD REP: Jason Pendleton. PHONE: 417-437-4552.

2 Shorthorn Bulls —

1, born 3/17/16. Son of JSF Trubador 64B. North Dakota bred. Good growth and muscle. Sired a number of 2015 Denver champions. Will work on heifers.

FIELD REP: NICK FLANIGAN. PHONE: 417-316-0048.

1, born 3/15/16. Grandson of Wallkarak Patent, no. 1 growth bull. Dam is a rugged Shady Brook cow. Here's a bull that will work on any cow. Deep body and will add at least 30 lbs. at weaning weight to nearly any black calf and still be black or red in color.

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EVENT ROUNDUP

September

- 7 Southwest Missouri Cattlemen's Classic Golf Tournament Silo Ridge Golf Course, Bolivar, Missouri FMI: 417-316-0101
- 11 Buford Ranch Angus & Hereford Production Sale Buford Ranch Sale Facility, west of Welch, Oklahoma FMI: 918-929-3275
- 14 Kansas State University Research & Extension Field Day Cherokee County 4-H Building, Columbus, Kansas FMI: 620-429-3849
- 16 Buford Ranches Angus & Hereford Sale Buford Ranch Sale Facility, west of Welch, Oklahoma FMI: 918-948-5104
- 16 5 p.m. Special Cow and Bull Sale Joplin Regional Stockyards, Carthage, Missouri FMI: 417-548-2333
- 16 Southwest Missouri Cattlemen's Assoc. Beef Tour Dade & Lawrence Counties, Missouri FMI: 417-466-3102
- 19-21 Regional Grazing School Marshfield, Missouri FMI: 417-468-4176, ext. 3
- 22 K-State Stocker Field Day Manhattan, Kansas FMI: 785-532-1267
- 23 Mead Farms Charolais Mature Cowherd Dispersal Mead Sale Headquarters, Versailles, Missouri FMI: 573-302-7011
- 28 Pasture/Soil Health Workshop/Field Day Mike Coale Farm, north of Ash Grove, Missouri FMI: 417-831-5246, ext. 3

October

- 3 Regional Grazing School Stockton, Missouri FMI: 417-276-3388, ext. 3
- 6-8 Ozark Fall Farmfest Ozark Empire Fairgrounds, Springfield, Missouri FMI: 417-833-2660
- 7 JACs Ranch Angus Bull Sale at the ranch, Bentonville, Arkansas FMI: 479-273-3030
- 11 RA Brown Ranch Red Angus, Angus & SimAngus Bull Sale at the ranch, Throckmorton, Texas FMI: 940-849-0611
- 14 12 p.m. Monthly Cow and Bull Sale Joplin Regional Stockyards, Carthage, Missouri FMI: 417-548-2333
- 14 Ozark & Heart of America Beefmaster Sale Sycamore Springs Ranch, Locust Grove, Oklahoma FMI: 417-876-7285

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Value-Added Feeder Cattle Sale Dec. 7, 2017 • Wean Date Oct. 24 3-4 Genetrust Brangus Sale Chimney Rock Cattle Co., Concord, Arkansas FMI: 417-425-0368
4-6 Angus Convention Fort Worth Convention Contor Fort Worth T

November

October

Hinkle's Prime Cut Angus Fall Bull Sale

at the farm, Nevada, Missouri

Aschermann Charolais Bull Sale

at the ranch, Carthage, Missouri

at the ranch. Iberia. Missouri

Seedstock Plus Fall Bull Sale

at the ranch, Randolph, Kansas

at the farm, Smiths Grove, Kentucky

Oak Hollow Angus Bull Sale

Circle A Ranch Spring Calving Herd Dispersal

Joplin Regional Stockyards, Carthage, Missouri

Joplin Regional Stockyards, Carthage, Missouri

Wean Date for Dec. 7 Value-Added Feeder Cattle Sale

Fink Beef Genetics Angus, RAxChar, Charolais Bull Sale

Beran Bros. Herefords & B&D Angus Production Sale

FMI: 417-448-4127

18-20 Regional Grazing School

FMI: 417-793-2855

FMI: 800-CIRCLEA

FMI: 877-486-1160

FMI: 417-548-2333

FMI: 785-532-9936

FMI: 270-202-4399

Claflin, Kansas FMI: 620-587-3709

Bois D'Arc, Missouri FMI: 417-831-5246, ext. 3

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- Fort Worth Convention Center, Fort Worth, Texas FMI: www.angusconvention.com
- Cobb Charolais Fall Bull Sale
 Western Livestock Auction, Great Falls, Montana
 FMI: 406-562-3670
- 11 MM Cattle & Moriondo Ranch Production Sale at the ranch, Mount Vernon, Missouri FMI: 417-366-1249
- 17 Signup deadline Environmental Quality Incentive Program Natural Resources Conservation Service FMI: Local NRCS offices or www.nrcs.usda.gov

December

7 Value-Added Feeder Cattle Sale Joplin Regional Stockyards, Carthage, Missouri FMI: 417-548-2333



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MARKET WATCH

Joplin Regional Stockyards

JRS Sale Day Market Phone: (417) 548-2012 Mondays (Rick Huffman) | Wednesdays (Don Kleiboeker) Market Information Provided By Tony Hancock Mo. Department of Agriculture Market News Service Market News Hotline (573) 522-9244 S.com. Sale Day Market Reporter (417) 548-2012

Get the complete Joplin Regional Stockyards Feeder Cattle Market Summary online at www.joplinstockyards.com.

Market Recap | Special Video Cattle Auction

Aug. 7, 2017 • Receipts 6,784

Date:	South Central	States 1	Texas, Okla., N	lew Mexico,	Kansas, Mo	o. 6	,784				
8/7/17											
	FEEDER STEERS		MED & LG 1			FEEDER HEIFERS		MED & LG 1			
HEAD	WT RANGE	AVG WT	PRICE RANGE	AVG PRICE	DELIVERY	HEAD	WT RANGE	AVG WT	PRICE RANGE	AVG PRICE	DELIVERY
114	810-825	817	\$144.75-\$145.50	\$145.12	Current	64	810	810	\$134.00	\$134.00	Current
53	990	990	\$130.00	\$130.00	Current	144	540	540	\$145.00	\$145.00	October
240	565	565	\$157.50	\$157.50	October	70	675	675	\$138.50	\$138.50	October
60	850	850	\$145.00	\$145.00	Nov-Dec	120	800	800	\$135.35	\$135.35	November
112	900	900	\$141.35	\$141.35	Nov-Dec	63	800	800	\$136.35	\$136.35	Nov-Dec
70	725	725	\$145.00	\$145.00	Dec-Jan	63	850	850	\$134.60	\$134.60	Nov-Dec
72	700	700	\$145.50	\$145.50	Jan-Feb	280	700	700	\$140.75	\$140.75	December
64	785	785	\$142.75	\$142.75	Jan-Feb	130	775	775	\$138.00	\$138.00	December
	FEEDER STEERS		MED & LG 1-2			140	750	750	\$136.00	\$136.00	January
HEAD	WT RANGE	AVG WT	PRICE RANGE	AVG PRICE	DELIVERY	75	675	675	\$138.75	\$138.75	Jan-Feb
65	770	770	\$144.00	\$144.00	Current	Ē	EDER HEIFE	RS	MED & LG 1-2		
60	830	830	\$144.25	\$144.25	Current	HEAD	WT RANGE	AVG WT	PRICE RANGE	AVG PRICE	DELIVERY
58	910	910	\$140.00	\$140.00	September	192	790	790	\$140.50	\$140.50	Current
58	910	910	\$140.00	\$140.00	October	65	780	780	\$140.25	\$140.25	Sept
68	725	725	\$144.75	\$144.75	Nov-Dec	65	780	780	\$140.25	\$140.25	October
720	815	815	\$145.00	\$145.00	Nov-Dec	184	850	850	\$134.75	\$134.75	Nov-Dec
2000	925	925	\$138.85	\$138.85	Nov-Dec	72	685	685	\$137.25	\$137.25	December
54	950	950	\$137.10	\$137.10	Nov-Dec	All sta	tes east of the	e Mississi	opi, La. & Ark.	Eastern States	
	FEEDER STEERS		LARGE 2			F	EEDER STEEI	RS	MED & LG 1		
HEAD	WT RANGE	AVG WT	PRICE RANGE	AVG PRICE	DELIVERY	HEAD	WT RANGE	AVG WT	PRICE RANGE	AVG PRICE	DELIVERY
800	900	900	\$133.25	\$133.25	Current	249	850	850	\$147.50	\$147.50	Oct-Nov
						71	725	725	\$152.25	\$152.25	January
						FEEDER HEIFERS		RS	MED & LG 1		
						HEAD	WT RANGE	AVG WT	PRICE RANGE	AVG PRICE	DELIVERY
						69	750	750	\$145.35	\$145.35	Oct-Nov



Monday 11:45 a.m. Wednesday 11:45 a.m.



Monday & Wednesday 11:30 a.m. & 12:30 p.m.



Tune in to the JRS Market Report

M-F 9:55-10:05 a.m. (during break before AgriTalk)

M/W/F Noon Hour (during Farming in the Four States) T/Th Noon Hour (after news block)



Monday 12:50 p.m. & 4:45 p.m. Wednesday 12:50 p.m. & 4:45 p.m.



Monday 11:30 a.m. Wednesday 11:30 a.m.

Monday 12:40 p.m. Wednesday 12:40 p.m.

Monday 12:15 p.m. Wednesday 12:15 p.m.





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ON THE CALENDAR

Southeast Kansas Field Day Set

Dicamba-tolerant soybeans, wheat to be featured

Every year is full of challeng-es for farmers, but this year has presented a few situations that were atypical. Dry weather during March allowed corn to be planted early in many areas, but then the weather turned wet through the rest of the spring, making the rest of corn planting a struggle. Recent years have shown that glyphosate has lost some of its effectiveness on certain weeds, so the release of dicamba-tolerant soybeans seemed a welcome relief. However, drift from spraying dicamba has been a major issue.

Because of these issues and more, K-State Research and Extension invites farmers and everyone interested in topics linked to growing the world's food supply to the K-State Southeast Research and Extension Center Field Day in Columbus, Kansas, on Thursday, Sept. 14. The event will be at the Cherokee County 4-H Building

at 114 W. Country Rd. in Columbus, Kansas.

Registration will begin at 8 a.m. with the program set for 8:30 a.m. Coffee and donuts will be served, sponsored by the Columbus Chamber of Commerce.

Several topics will be discussed by K-State specialists including: Learning Lessons from the First Year of Dicamba-Tolerant Soybeans; Getting the Most out of Wheat; Soil Nutrient Testing and Spatial Variability; and Grazing Crop Residue and Cover Crops.

A complimentary lunch will be provided by area sponsors, and booths will be available to visit.

For more information, contact the Cherokee County Extension Office at 620-429-3849.

—Source: K-State Research and Extension release.



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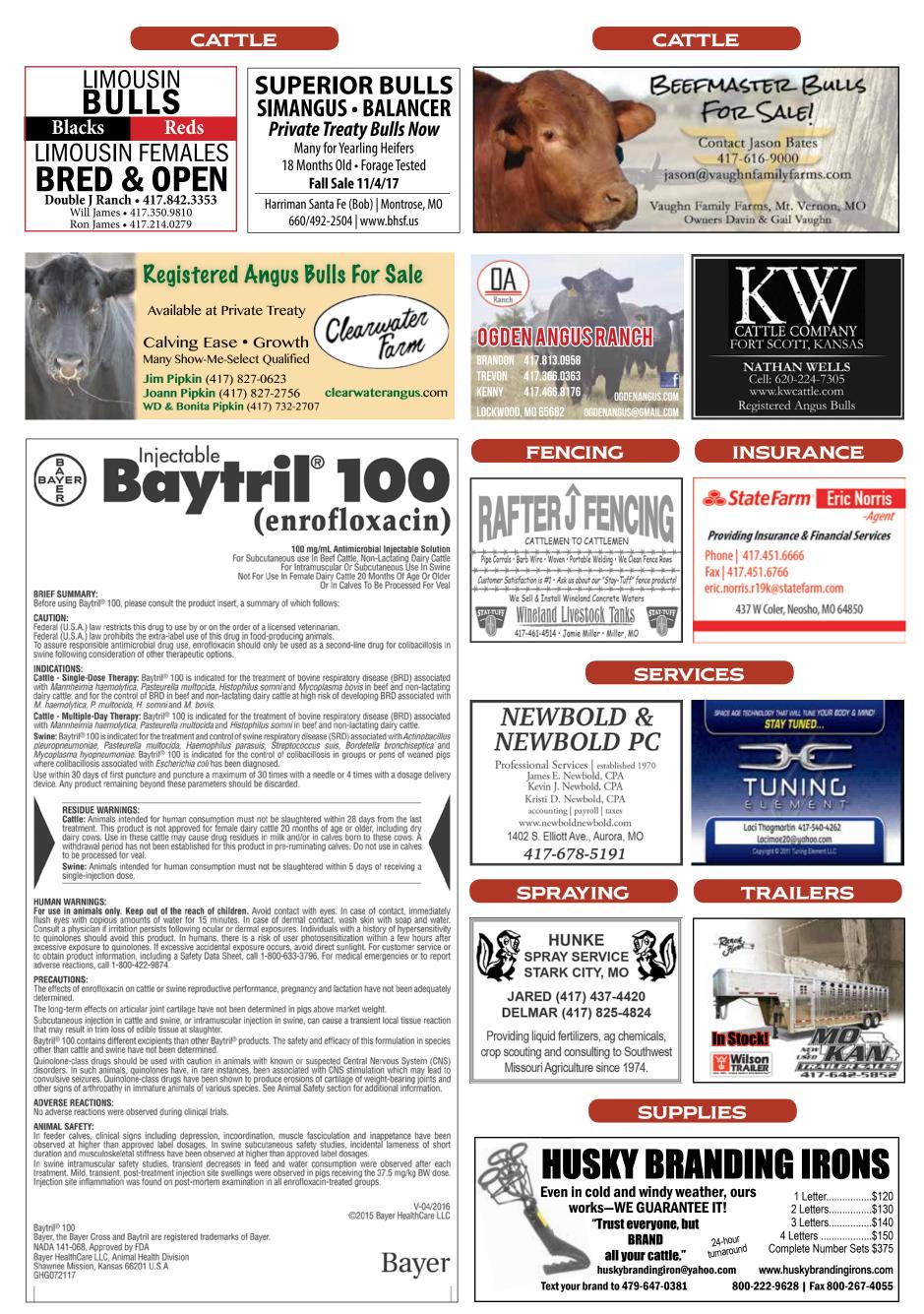
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*The clinical significance of *in vitro* data has not been demonstrated. Federal law restricts this drug to use by or on the order of a licensed veterinarian. Extra-label use of this product in food-producing animals is prohibited.

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.
 ²Blondeau JM, Borsos S, Blondeau 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.
 ³Blondeau 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.

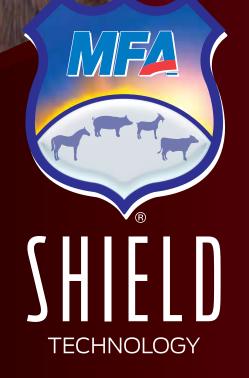
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