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Promoting Excellence in Animal Health Sales

Veterinary advantage

LIVESTOCK EDITION



No Residues Need Apply

Avoiding violative residues takes cooperation from everyone in the food chain

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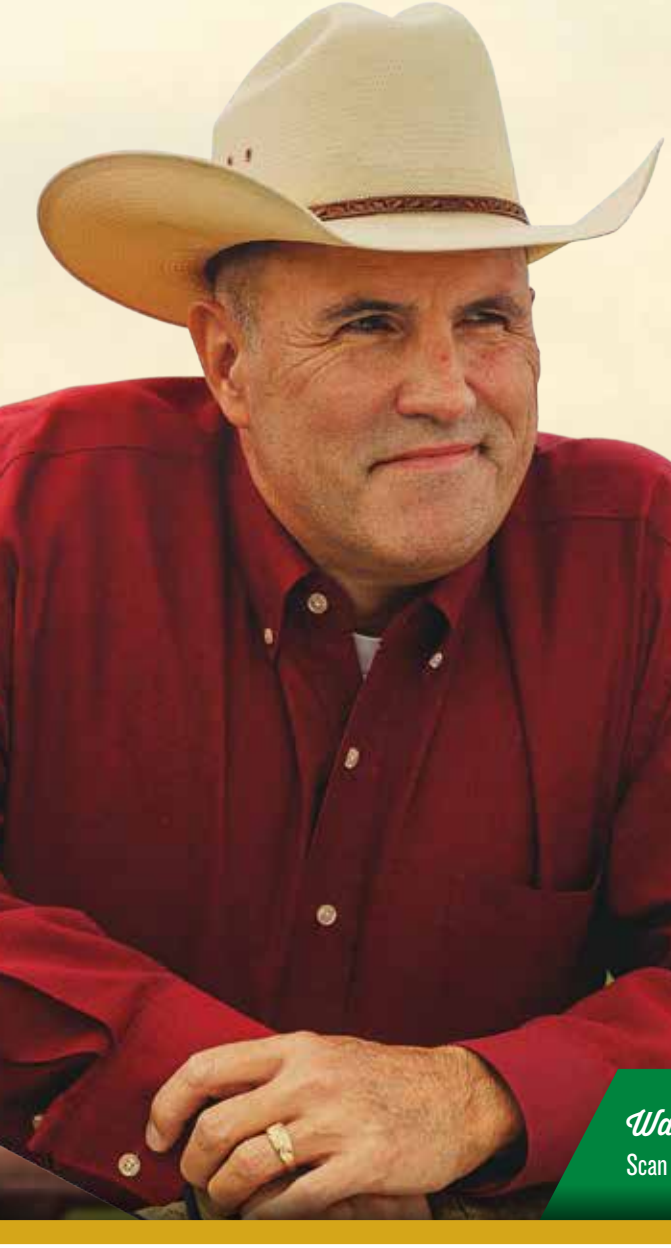
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[1] **Dependent upon parasite species, as referenced in FOI summary and LONGRANGE product label.**
[2] LONGRANGE product label.
[3] Data on file at Merial.

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Responsible Food

Being truly committed to producing safe, wholesome food requires an eye on the future



BY JENNIFER RYAN

Share your successes. Drop me a line at jryan@vet-advantage.com.

In this issue, *Vet-Advantage* tackles the multifaceted challenge of violative residues in our meat and milk supply. Until there are zero residues, there is still progress to be made – and it will take everyone's help to meet that lofty goal. While the agricultural industry has done a lot of good work, we should both acknowledge our successes and recognize where we fall short.

The Association of Bovine Practitioners (AABP) outlines steps to prevent residues in its "Drug Use Guidelines for Bovine Practice." As you read through these simple solutions below, there are several areas where distributor sales representatives (DSRs) can partner with DVMs and producers:

Until there are zero residues, there is still progress to be made – and it will take everyone's help to meet that lofty goal.

1. **Understand** drugs and their labels including production class, dose, duration, route and frequency of administration and withdrawal times
2. **Verify** their client and operation's personnel also understand the prescribing information
3. **Identify** and, when indicated, segregate treated animals from non-treated animals
4. **Record** treatments, the person administering, the treatment date, diagnosis, treatment given, dosage, route of administration, withdrawal date(s) and animal identification
5. **Keep** records for a minimum of two years

Depending on the relationship, a DSR may be able to assist in one, or all, of the above guidelines. These simple acts can help secure consumer trust and ensure a safe, wholesome food supply for all of us. Not bad for a day's work!

For more information, visit the Food Animal Residue Avoidance Databank (FARAD) at http://farad.org/

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Indications: Intramammary use to reduce the frequency of existing infection and to prevent new infections with *Staphylococcus aureus* in dry cows. **Limitations:** Not to be used within 6 weeks of freshening. Not for use in lactating cows. Milk taken from animals within 96 hours (8 milkings) after calving must not be used for food. Animals infused with this drug must not be slaughtered for food within 60 days from the time of infusion nor within 96 hours after calving. Federal law restricts this drug to use by or on the order of a licensed veterinarian. **Ingredients:** Each 10 milliliters of suspension contains 1,000,000 units of Procaine Penicillin G and 1 gram of Dihydrostreptomycin base, as Dihydrostreptomycin Sulfate.

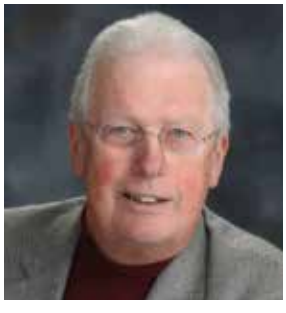
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Point of View

Doing business from the customer's perspective



BY PATRICK T. MALONE

Patrick T. Malone is a leadership expert and senior partner at The PAR Group, a training and development firm based in Atlanta, Ga. He is a co-author of the best-selling business book *Cracking the Code to Leadership* and may be reached at Patrick.malone@thepargroup.com

In the last issue of the Livestock edition, we focused on listening well to what your customers are really saying. Listening to understand your customer's perspective is an excellent first step, and people love those who listen and take them seriously. However, you have a job to do, so it is crucial that you be able to do business by customizing your approach to your customer's current point of view.

Let's start with the typical range of customer attitudes and then discuss how successful reps are able position to those attitudes and do business from their customer's perspective.

Indifference. You can change the subject temporarily. Find out what they are interested in and connect there. If not, accept the apathy and move on. Nothing is more painful than trying to convince an indifferent individual that they shouldn't be indifferent.

Troubled. Acknowledge to the customer that "It sounds like a problem" and then explain how your idea might be of some help. Gradually reveal solutions which provide help. When customers are troubled, they are asking you for one thing – help. They seldom can believe that you are going to immediately make the whole problem disappear … even if you can.

Fearful. Explain how your idea might help them avoid real or perceived risk. Usually

your idea can be explained in terms of helping the customer avoid problems or risk. If it can't, just align by offering to help them figure out some Avoid strategies. Your objective isn't to convince, but rather to stay in the conversation without losing rapport.

Hostile. Immediately respond with an acknowledgement like "got it" and stop trying to sell. Focus the customer's attention on the details behind the reaction by asking probing questions. Then figure out how your idea can be explained in terms of stopping something that is undesirable. Slow down and give yourself more time to think on your feet. Just acknowledge attention, impact and understanding until things calm down enough to discuss in detail. However, do not quit the conversation if you really do want a solution. It is you and the customer versus the problem.

Competitive. Acknowledge that there are many ways of doing things and looking at situations. The challenge is to find the best one for the specific situation at hand, even if it isn't the usual best way for most situations. This is the time for you to be competitive without sounding pushy. Failure to align with someone who is competitive is usually viewed as weakness.

Acknowledge that there are many ways of doing things and looking at situations. The challenge is to find the best one for the specific situation at hand, even if it isn't the usual best way for most situations.

Neutral. Relax and explain how you and the customer can look at the relevant information, at things now, how they used to be and how they might be going forward. Ask the customer if he/she would like to see or hear the prevailing points of view. Have others take a look, conduct a trial and observe the results. This is the time and place where the features, functions and benefits found in the SoundByte program are especially effective. This is the first place the customer is open to your ideas, suggestions, etc. This is also the point that you switch from follower to leader in the conversation.

Reserved. Discuss the facts, and how they make sense for this situation. This is the time to demonstrate how your idea is reasonable or realistic. Use words like "study," "conservative," or "moderate." Avoid using superlatives at this point. When using SoundBytes, remember that customers buy benefits; Features and Functions only provide the roadmap to Benefits.

Interested. Generally this is the point where the customer starts asking positive questions and your best acknowledgements are answers – brief and to the point. Then ask your customer questions back such as "what else?" or "what other questions do you have?" Keep the questions and answers going until the customer indicates they are finished. Keep the conversation at high interest and avoid negative words like "concerns," "problems," etc. Instead, refer to "questions," "opportunities," etc.

Enthused. Enjoy the moment and take a pause. Your customer is thinking of buying your idea or suggestion, so let them talk. In many cases, they will suggest the next decision. You are close to commitment, but keep in mind close is not closed. Enthusiasm is good intentions at this moment in time. You still have work to do.

Confident. This is it. Quickly net out your message. Speak with decisive conviction. Suggest a decision by stating your beliefs. Never ask a question, as the conversation will likely fall back to Interested. Use a statement to close such as "I suggest we …."

Positioning is more than just personally relating to people; it is relating specific information to people at the appropriate time. It is a powerful skill because it creates mutual respect based on logic and emotion together.

Positioning requires flexibility and acceptance. If you stereotype character or personality types, or if you start judging attitude as good/bad, right/wrong, you will miss opportunities to connect with momentary attitude changes. Remember that change is what leadership is all about. It is what makes leadership possible and teamwork desirable. Positioning coupled with the appropriate strategy produces results. ■

BY DAWN SINGLETON-OLSON

Forecast Calls for Sales

Plan ahead for the winter months

Over the next several months, we can all expect to feel the effects of "climate" change. Besides the change brought on by harsh winter weather and its impact on the livestock industry, January will bring a major change in the political climate with the many unknowns of a new administration. Expect changes to the business climate for your veterinary customers and their producers with the new requirements to the Veterinary Feed Directive (VFD) that go into effect on January 1, 2017. Knowing the seasonal products and procedures used by your clients, understanding the VFD-affected drugs, the new stipulations and their impact to your customers, and keeping tabs on how not only volatile weather, but a volatile economy may affect them will make you a valued partner.



Fall vaccinations and grub and lice treatment all help prepare calves and cattle for the increased stresses of winter weather and keep them disease-resistant and healthy. Up-to-date vaccine comparison charts will come in handy, along with a list of the pour-ons, sprays and dusts – and their applicators – your company carries. Keep a dosage chart close by for quick reference as you place those orders. Cold, wet weather and transporting cattle create the perfect climate for bovine respiratory disease (BRD). Review the many broad-spectrum and traditional anti-infectives, their label indications and dosing for conversations with your customers.

Shipping considerations

Your clients are probably accustomed to getting great next-day or two-day service from you, but winter weather and holiday shipping can cause issues beyond your control. Check last year's purchase history and help them plan ahead so they won't be caught short if severe weather causes shipping delays. Check the forecast for potential freezing temperatures that could compromise products, and remind buyers to order fluids and temperature-sensitive items early enough in the week so they won't be sitting in sub-zero temperatures in a parked delivery truck over the weekend.

The holidays have a tendency to sneak up on many of us, so keep your major carriers' shipping schedules and deadlines handy. You might also want to help your clinics order outside of the busiest shipping days. Holiday e-commerce sales topped $69.08 billion last year, with Cyber Monday (November 28 this year) being the top online sales day. December 16 will be "Free Shipping Day" with a number of participating retailers. With Christmas and New Year's falling on Sunday this year, many businesses – and some freight companies – will be closed the following Monday, so help your customers plan their orders accordingly.

The winter months are an opportune time to discuss your company's drop-shipping options with your large animal practices. According to the American Association of Bovine Practitioners, most veterinary practices still have drug sales amounting to 50 percent or more of total sales. The distances many large animal veterinarians have to drive; the time spent unpacking, labeling, dispensing and billing; combined with the threat of inclement winter weather may make direct shipping a convenient and cost-effective option for your customers. Be ready to discuss the savings in staff time, shelf and cooler space, and increased inventory control this service can provide.

VFD requirements

As you've been hearing for the past couple of years, Veterinary Feed Directive (VFD) requirements starting January 1 will

impact producers, veterinarians, and you. The better-informed you are about these regulations, the better you can help your customers.

The VFD was created to ensure the sustainable use of all medically important antibiotics (those important in human health) for both animals and humans by limiting their use in food-producing animals to disease treatment, control and prevention, rather than for growth or maintenance purposes. According to the Centers for Disease Control, every year at least 2 million people in the U.S. are infected with bacteria resistant to antibiotic treatment, resulting in more than 20,000 deaths. The VFD mandates judicious use of antibiotics in livestock to reduce the risk of antibiotic-resistant bacteria.

Many of the affected products have been available over the counter, but starting January 1, they will require a VFD from a licensed veterinarian. A VFD is similar to a veterinary prescription so producers may obtain and use medically important antibiotics in feed in accordance with the FDA-approved directions for use. A VFD can only be issued by a licensed veterinarian, based on a valid veterinarian-client-patient relationship – or VCPR – before a producer may use feeds containing antibiotics that are medically important. This includes complete feeds, medicated supplements and crumbles.

The information required on a VFD includes the following:

- Veterinarian contact information
- Animal information such as species, the approximate number of animals, where the feed will be used and the production class
- Medication information such as the indication for use, duration of use, the withdrawal period and expiration date

Three key facts to remember about VFDs:

- A veterinarian can write a VFD that is effective for up to six months
- Veterinarians, feed suppliers or distributors, and producers must keep a copy of each VFD for two years
- Extra-label or off-label use of medicated feed additives has not and will not be allowed

You can expect to see the following label information implemented after January 1:

"Caution: Federal law restricts medicated feed containing this veterinary feed directive (VFD) drug to use by or on the order or a licensed veterinarian."

"Use of feed containing this veterinary feed directive (VFD) drug in a manner other than as directed on the labeling (extra-label use) is not permitted."

Impacted Drugs:

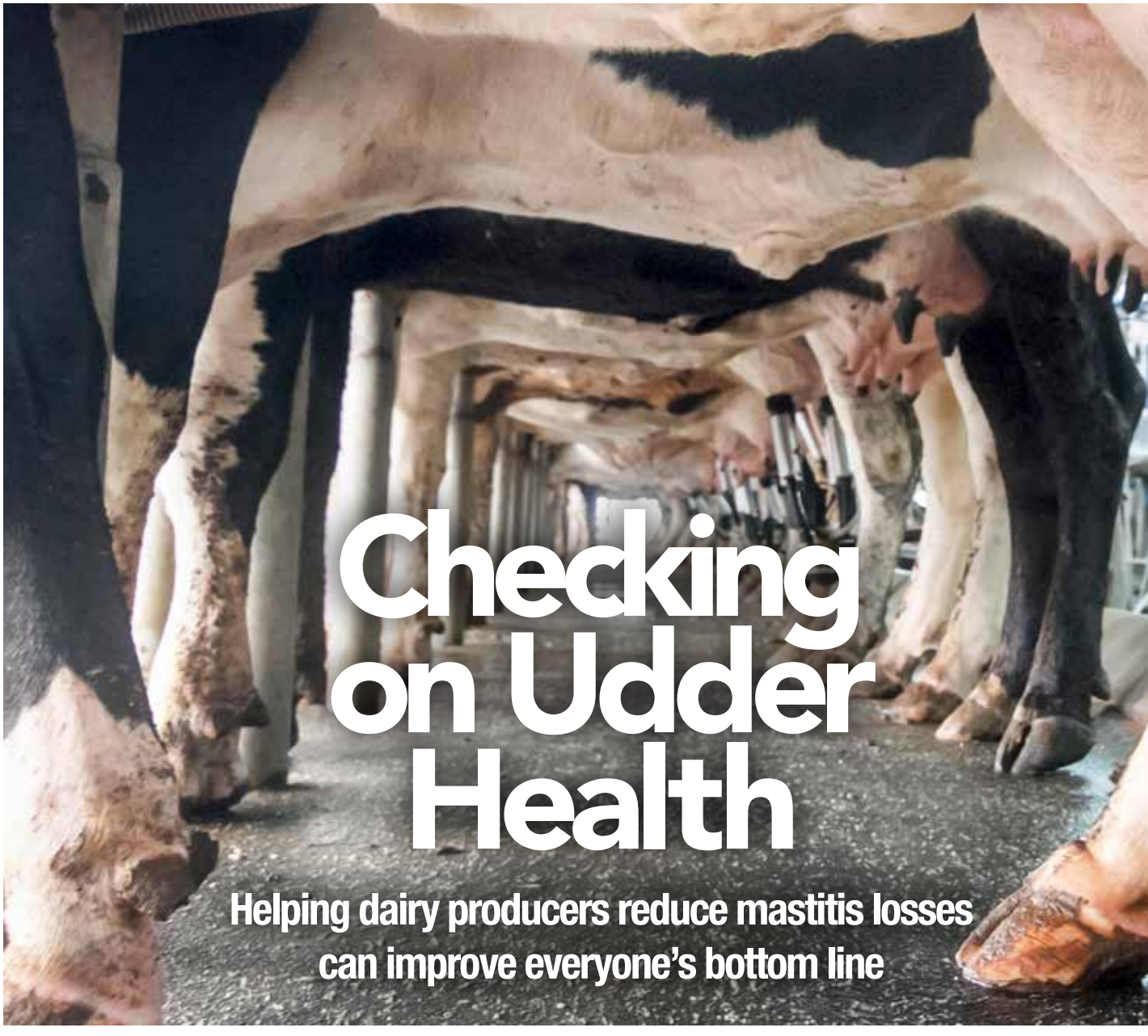
Chlortetracycline
Florfenicol (already VFD)
Hygromycin B
Lincomycin
Neomycin
Nicarbazin
Oxytetracycline
Penicillin
Sulfadimethoxine: Ormetoprim
Tilmicosin (already VFD)
Tylosin
Sulfamerizine
Sulfamethazine
Virginiamycin

While these new regulations will obviously take more time and effort to administer, they also bring more opportunities for you and your veterinary customers. Large animal practitioners have the potential for more business with the necessity of building VCPRs with new customers or producers they have rarely worked with in the past. The focus on prevention provides the chance to discuss alternative products and management protocols which can translate into increased sales and profits for you both.

Your knowledge of changing regulations, combined with your industry expertise in products, promotions and the seasonal issues that impact your customers will be a valued asset as your clients adapt to the ever-changing climate of the animal health industry. ■

Dawn Singleton-Olson has more than 25 years of experience in the animal health industry, including distributor sales, manufacturing, practice management and as a zoo supervisor. She is a volunteer, fundraiser and board trustee for several humane organizations and the Omaha (Neb.) Police Mounted Patrol.

By Jennifer Ryan



Checking on Udder Health

Helping dairy producers reduce mastitis losses can improve everyone's bottom line

The most common and costly disease facing dairy cattle is generally considered to be mastitis. Helping producers avoid mastitis-related production losses and treatment costs is an ever-present concern for veterinarians and distributor sales representatives.

Not only are the immediate costs concerning, but every case of clinical mastitis reduces the cow's production potential for the rest of her lactation, says Linda Tikofsky, DVM, professional services veterinarian (dairy), with Boehringer Ingelheim Vetmedica, Inc.

Clinical vs. subclinical

Mastitis is typically caused by a bacterial infection of the cow's mammary gland. The bacteria can enter through the cow's teat end. Bacteria may be found in the cow's environment, such as bedding. In addition, contagious bacteria can be spread via milking equipment or vectors such as flies.

Generally, mastitis is classified as either "clinical" or "subclinical." Signs of clinical mastitis can include abnormal milk, abnormal quarters, swelling or redness. In severe cases, the cow can stop eating and drinking normally. There



is also a subclinical form of mastitis. The difference is lack of visual signs with subclinical, she says.

"Clinical means you actually see something, that you can visually identify it as abnormal," Tikofsky explains. "Subclinical infection means there is a disease process going on. If we were to take a sample of milk, we would find the bacteria if we cultured it."

Subclinical infections are often identified by regular cultures on the farms. While it's impossible to tell from visual signs which bacteria are present, cultures can determine the exact cause. Typically, the culprits can include gram-positive streps and staphs – like *Staphylococcus aureus* and *Streptococcus uberis* – or gram-negatives, such as *E. coli* or *Klebsiella*, among others.

"Once we see clinical signs, that's actually a sign the immune system is working to eliminate the infection," Tikofsky says. "About 30 to 40 percent of the time, the cow's immune system is effective at eliminating the infection on its own."

After a comprehensive culture profile is developed on a farm, routine bulk tank testing should be conducted to monitor the udder health, notes David Lee, professor at Rutgers University Department of Agricultural and Resource Management Agents, who has worked with Porta-Check, Inc. on diagnostic and training and development of on-farm diagnostic tests.

However, producers should be aware that introducing new animals to the farm can introduce new bacteria.

"If you buy an animal at a show, or milk her at a show, there are ways you can get the contagious organisms in your herd," Lee says. "Staph aureus or mycoplasma can get embedded in a herd and will be a chronic problem. Contagious organisms tend to produce clinical cases of mastitis."

Vulnerable cows

Cows can develop mastitis at any point in lactation, but fresh cows – or cows in their first 60 days of lactation – are most vulnerable.

"Their immune system may not be quite as strong," Tikofsky says. "They are producing a lot of milk and may not be able to respond to fight off bacteria quite as easily."

Cows are again susceptible to developing the disease during dry off, typically about two months before they are due to calve again. Once an animal has stopped milking, the milk accumulates in her udder, which creates the opportunity for infection.

Most herds practice blanket dry cow mastitis treatment to help prevent infection during this time, Tikofsky notes. Now, some progressive herds are adding selective dry cow treatments to their arsenal to help reduce treatment cost and retain milk production.

"Only maybe 25 percent of quarters on those cows are affected at dry off," she says. "Now, if we can identify only those infected quarters, we may be able to practice selective dry cow therapy, rather than blanket dry cow treatment, which reduces antibiotic use on the dairy and promotes judicious use."

Cleaning up

One of the best ways to prevent mastitis is by providing a clean, hygienic environment. This helps limit the cow's exposure to bacteria. This includes clean bedding, clean alleys and reducing mud or manure.

"The best mastitis prevention is a good shovel," Tikofsky says. "Next, we want to make sure those cows have adequate energy and protein and also pay attention to vitamins, and trace minerals."

Animals with ketosis are more likely to develop mastitis as they don't mount as strong of an immune response to infection. As with so many diseases, employee education and training are critical steps to avoiding mastitis infections and catching cases early, Tikofsky notes.

> "The best mastitis prevention is a good shovel. Next, we want to make sure those cows have adequate energy and protein and also pay attention to vitamins, and trace minerals."
>
> **– Linda Tikofsky, DVM, professional services veterinarian (dairy), with Boehringer Ingelheim Vetmedica, Inc.**

"Make sure equipment is working and have a well-trained staff that actually follows your milking procedures – including cleaning teats and post dipping, which is a key to mastitis prevention," she recommends. "A skilled milking crew can do a lot of mastitis detection."

Milking crews can help prevent infections by forestripping before attaching milking units, visually identifying abnormal milk or abnormal quarters and promptly moving cows to holding pens so a herdsman can further evaluate each case, Tikofsky says.

Some types of mastitis respond to vaccination, and producers can work with their practitioner to develop a core antigen program that includes protection against coliform mastitis.



"What we really want to do is get them set up before the susceptible period – early in lactation, within the first 100 days of milk," she says. "Following the vaccine manufacturer recommendations, you'll typically vaccinate them before the dry period to protect during their most susceptible period."

Identification

The gold standard in identifying mastitis is based on somatic cell counts (SCC) followed up by a milk culture like that done through Dairy Herd Improvement Association (DHIA), Lee says. However, testing options are now available that measure infection using other markers.

"Cell counts are one of the parameters producers are paid on if they sell milk to a creamery or co-op," he says. "Now, there are various enzymes we can measure that respond to either infection or trauma."

For example, some tests use lactate dehydrogenase (LDH), an enzyme released into milk when cells are damaged during an udder infection. LDH is correlated to SCC, but LDH levels often rise earlier than somatic cell counts. These tests can be less expensive and provide more rapid results. In addition, many can be performed on the farm, Lee says.

LDH and/or SCC tests can be used to test individual quarters at dry off and reduce use of antibiotics. In addition, these tests can be used to keep a closer eye on cows with chronically high SCC, yet no evidence of abnormal milk.

"It's going to take at least three to four days for the white blood cells to exit the udder even if there's no infection," Lee says. "That's really not going to give you very reliable information."

Mastitis testing gives producers a window into the overall health of a cow, he says. There are always going to be some white blood cells in the udder – 60,000 to 80,000 is a normal range for a healthy animal. This helps producers keep an eye on animal welfare.

In addition, milk production and premium opportunities can be identified, he notes.

"Companies are looking at low cell counts as marketing tools," Lee says. "The shelf life of the milk is longer, proteins and fats are altered by high counts and premiums can be based on cell counts depending on the part of the country you're in."

There is also an unseen loss in production for infected animals – from 60 to 80 pounds of milk, Lee warns.

PRODUCT Review

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On-farm testing can complement DHIA work, he notes. On-farm testing can help closely monitor cows on a mastitis "hot list," especially in terms of reproduction and conception concerns.

"There's some excellent research to show that if a cow has mastitis, it's going to affect reproduction, chances for early embryonic death and extended dry days open prior to breeding," Lee says.

Treatment

The right treatment can save producers money when confronting mastitis too, Lee says.

"We're not only reducing treatment costs, but we're using a drug that targets that bacteria," he says. "Several bacteria respond differently to different treatments. It's wasting money and developing potential resistance because we're using the wrong antibiotic."

Some bacteria may not even respond to antibiotics, which is another reason it pays to identify the exact cause of mastitis in a herd.

Producers can expect that 30 to 40 percent of mastitis cultures in the milking parlor will actually be negative for mastitis. In these cases, the cow's immune system already identified the bacterial infection and eliminated it before inflammation or abnormal milk is even seen, Tikofsky notes.

"*E. coli*-infected cows are very good at eliminating those infections by themselves," she says. "Streps or staphs are more adapted at living in the quarter and may need antibiotic therapy to respond."

> "Companies are looking at low cell counts as marketing tools. The shelf life of the milk is longer, proteins and fats are altered by high counts and premiums can be based on cell counts depending on the part of the country you're in."
>
> **– David Lee, professor at Rutgers University Department of Agricultural and Resource Management Agents**

Next, Tikofsky recommends choosing a tube that will be most effective against the particular organisms present and follow manufacturer directions on the length of treatment and milk withholding times.

Working together

Distributor sales representatives can be an active part of the team that helps reduce mastitis incidence on a dairy, Tikofsky says. First, DSRs should have a basic understanding of product labels. Next, asking questions about the specific bacteria found on their farm through cultures can help provide the most effective treatment options.

"The more you can inform yourself about the products and general principles of mastitis, the more you can be an asset your clients," she notes. ■

Key points:

- The cost of subclinical mastitis to the U.S. dairy industry exceeds $1 billion annually.
- The overall production loss for the average U.S. dairy farm due to mastitis is estimated to be $110 per cow annually.
- Persistent long-term infections with contagious pathogens damage milk secretory cells and result in reduced milk production.
- The somatic cell count (SCC) of cows infected with subclinical mastitis rises as the cow's immune system sends white blood cells to the udder to fight off mastitis pathogens.
- Mastitis losses include lost premium opportunities, decreased milk production, discarded milk, death loss, culling, decreased genetic gain and reductions in reproductive efficiency.

[1] Ruegg, P. Premiums, production, and pails of discarded milk how much money does mastitis cost you? 2011.

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No Residues Need Apply

Avoiding violative residues takes cooperation from everyone in the food chain

BY JENNIFER RYAN

When livestock producers identify a sick animal, the decision of when to treat it – and with what product – is becoming increasingly complex. Government regulations combined with consumer demand for wholesome, safe food are two of the major forces behind any treatment decision.

"Our responsibility to the consumer is to deliver wholesome products, like beef, absent of any residues," notes Jim Sears, DVM, senior technical services veterinarian at Bayer HealthCare LLC Animal Health. "Of course there are regulations that establish rules and as to what can be administered, but we also have to meet consumer concerns with regards to providing safe products."

Chemical products, including antibiotics, used in beef cattle production must go through a rigorous testing process before being approved by the U.S. Food and Drug Administration (FDA). Withdrawal times posted on antibiotic labels are established as part of the approval process to specify the number of days that must pass between the last antibiotic treatment and when the animal can be offered by producers as food. This helps ensure a safe, wholesome product without any chemical residue.

A key step for producers is being able to demonstrate they have followed these rules, Sears says.

"What is required is good identification and good records at the production site so you can identify and keep track and document," he says. "That's a big part of this equation to be able to document and show you have followed these various rules, know what the rules are and have records and identification systems."

Listening to consumers

Concerns over violative residues reflect a general public discussion about antimicrobial use in livestock. Across the millions of American beef consumers, livestock producers will find a range of opinions on antimicrobial use. Some consumers may want as little antimicrobial use as possible to help lower the opportunity for antimicrobial resistance. Yet, education on how these products relieve animal suffering and enhance health helped find common ground in the discussion, Sears notes.

"On the one hand, antibiotics are a wonderful tool. On the other hand, to whatever extent we can, consumers would like to see antibiotic usage reduced. Some of those attitudes are formed by some misinformation," he says. "The industry needs, and wants, antibiotics to help reduce suffering and death."

There is some confusion among consumers about antibiotic use, antibiotic free products and antibiotic resistance, adds Bill McBeth, DVM, associate director with Zoetis Veterinary Services. This is an area that's ripe for education within the livestock industry and among consumers.

"For example, the steps that you would take to mitigate antimicrobial resistance are very broadly focused and probably are more important in human medicine as opposed to the animal side. A lot of people don't understand that they have a real role in terms of their own antibiotic use," McBeth says.


Bill McBeth

Animal well-being is also important to keep in mind, he notes. If an animal is ill, it deserves the best possible treatment, which may include antibiotics.

Not the VFD

Regulations related to antibiotic residues, while related, really are separate from regulations on medicated feed additives, like the Veterinary Feed Directive (VFD), McBeth says.

"Really the focus of the VFD is not on violative residue so much as judicious use of antimicrobials," he says. "The VFD is going to change the way food animal vets and producers approach the broad use of medicated feed additives."

On the other hand, chemical residues, including antibiotic residues in both meat and milk are primarily the result of individual animal treatments, not medicated feed additives.

These treatments have been regulated for many years through collaboration between the Center for Veterinary Medicine (CVM) of the FDA and the U.S. Department of Agriculture Food Safety Inspection Service (USDA FSIS) through meat and milk inspections. In fact, these inspections test for a broad array of chemicals that includes not just antimicrobials, but also parasiticides, heavy metals and more.

"In the U.S. inspection system, every animal, including poultry, is looked at," McBeth says. "An inspector may see an animal before or after slaughter, that leads them to believe it may have been treated with an antibiotic and present a residue risk based on disease conditions that

may be present – for instance a dairy cow with mastitis. The concern is two-fold. First, is this animal wholesome and fit to eat? Second, does it have residue of antibiotics or anti-inflammatory medications and should it be flagged for testing?"

Such animals will be tested for an array of chemicals, and this testing process has improved dramatically with advancements in technology that allow for more samples to be tested for more compounds.

Livestock producers have been meeting the challenge to avoid residues even with advancements in the number of chemicals tested for and the sensitivity of those tests. The level of violative residues, while still unacceptable, appears to be declining. However, there are still improvements to be made, McBeth notes.

Reducing residues

The primary ways livestock producers can help reduce antibiotic residues is to simply follow the product's label guidelines and observe withdrawal times, Sears says.

"Withdrawal times are established by the government and are based on very robust scientific testing and measurements," he says. "The second thing is to use these products

Key points:[1]

- Antibiotics used in beef cattle production must go through a rigorous testing process to ensure human food safety before being approved by the U.S. Food and Drug Administration (FDA).
- The Center for Veterinary Medicine (CVM), a branch of the FDA, is responsible for ensuring that animal drugs are safe, effective and manufactured to quality standards.
- Human safety is a key consideration to the approval of any animal antibiotic.
- Withdrawal times are established as part of the approval process to specify the number of days that must pass between the last antibiotic treatment and before the animal can be marketed. This ensures that an antibiotic has sufficiently cleared an animal's system.

1 Cattlemen's Beef Board and National Cattlemen's Beef Association "Antibiotic Use in Cattle Production" fact sheet. September 2009.



in the way in which they are labeled and approved and keep the records."

McBeth adds that producers should only send healthy animals to slaughter. Often animals are culled from the herd due to illness. This is a critical time to consider the risk of violative residues.

"One of the biggest single factors contributing to residues is sending an animal to slaughter that's not completely healed," he says. "If you have any doubt in your mind about the health of this animal, don't send it to harvest. Keep the animal long enough that you're sure a healthy animal is used for food."

> "What is required is good identification and good records at the production site so you can identify and keep track and document. That's a big part of this equation to be able to document and show you have followed these various rules, know what the rules are and have records and identification systems."
>
> **– Jim Sears, DVM, senior technical services veterinarian at Bayer HealthCare LLC Animal Health**

Keeping track of antimicrobial treatments isn't likely to add much time or expense to an operation – especially considering the greater risk to an operation's reputation if violations do occur, McBeth says.

To this end, some operations have contracted with third party auditors to help evaluate their record-keeping systems. This step helps producers demonstrate they have followed the rules, Sears says.

Third-party auditors are relatively new and are the result of continual improvement efforts by the industry, he says. Instead of relying on internal management at the operation to keep records, an independent auditor helps provide another safeguard for the food supply. It's just one example of how the industry is addressing both regulations and consumer concerns in order to keep producing healthful food.

Distributor sales representatives can contribute to this shared goal by supporting veterinarians and producers.

"We're all in this together to produce a safe, wholesome food supply – veterinarians, distributor or sales reps," Sears notes. "We're also consuming the very product we're producing so it's completely logical that we would join in to make it as safe and wholesome as possible." ■



BY JENNIFER RYAN

Battling Bovine Respiratory Disease

Alternative treatments to BRD aim to prevent disease losses by boosting immunity



It's likely that no cattle operation is satisfied with its current death loss or illness rate. That's why producers are constantly searching for new and innovative ways to prevent bovine respiratory disease (BRD) before it strikes.

"If producers aren't totally satisfied with what they are doing, they are always looking to add something to their program," says Larry Hawkins, DVM, senior technical services veterinarian for Bayer HealthCare Animal Health Division. "The type of operation, season of year and quality of cattle make a big difference in producers' satisfaction with their losses. Occasionally there are pens that do go out and have no death loss."

Despite advances in vaccination and antibiotic technology, BRD incidence and severity hasn't declined in the last 10 years. Combined with regulatory pressures like the veterinary feed directive (VFD), producers may be looking to reduce their BRD treatment rates through alternative means.

Some of the options producers may consider are vitamin supplements, in-feed probiotics and injectable immunostimulants. These options can be used in conjunction with vaccinations to help prevent BRD and antibiotic treatments for illness.

Probiotics

Probiotics can be added to cattle feed, and some specific strains have been shown to get cattle to the bunk quicker after processing and reduce death and illness losses, says

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[1] Sifferman RL, Wolff WA, Holste JE, et al. Field efficacy evaluation of gamithromycin for treatment of bovine respiratory disease in cattle at feedlots. *Intern J Appl Res Vet Med*. 2011;9(2):171-180.
[2] Lechtenberg K, Daniels CS, Royer GC, et al. Field efficacy study of gamithromycin for the control of bovine respiratory disease in cattle at high risk of developing the disease. *Intern J Appl Res Vet Med*. 2011;9(2):189-197.
[3] ZACTRAN product label.
[4] Kahn, CM. *Merck Veterinary Manual*. 10th edition. 2010:1319.
[5] Van Donkersgoed J, Merrill JK. A comparison of tilmicosin to gamithromycin for on-arrival treatment of bovine respiratory disease in feeder steers. *Bovine Practitioner*. 2012;46(1):46-51.

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Angel Aguilar, Ph.D., Dipl. ACAN, technical services manager with Lallemand Animal Nutrition.

One active dry yeast (ADY) strain in particular, *Saccharomyces cerevisiae boulardii* CNCM I-1079, has been shown to improve dry matter uptake after processing, reduce morbidity, reduce mortality, reduce body temperature in feverish animals and improve the overall immune response, he says.

"The ideal protocol would be to include it in the feed prior to shipping cattle as part of the pre-conditioning program," Aguilar says. "If this is not possible, add it to the feed upon arrival at the feedlot and feed it for 28 to 42 days depending upon cattle condition and risk of disease incidence."

Probiotics can be used with any ration and are generally added directly to the feed, included in a premix or top dressed. There are no restrictions or withdrawal periods, and ADY probiotics are not affected by antimicrobials.

"The added expense to the feed is very low compared to the antibiotic treatment required when the animal gets sick," Aguilar explains. "You can expect a ROI of 3- or 4-to-1, based on current costs for the ADY probiotic and an average cost for an approved injectable antibiotic used for treatment of BRD."

Injectable immunostimulants

While vaccines develop an immune response to target specific pathogens, injectable immunostimulants trigger a broad response to infection via the innate immune system.

"An immunostimulant's function is to trick the body into responding and getting ready to do battle with a foreign invader during stressful events," Hawkins explains. "It stimulates an immune reaction and gets the body all geared up to defend itself."

Unlike a vaccine, immunostimulants gear up the immune system against all foreign invaders – not just a specific pathogen.

Hawkins says immunostimulant can be used at the time of a stressful event, like hauling cattle, a change in weather, a change in herd dynamics or a change in feed. Most operations use a combination of tactics from management to vaccinations – making it harder to pin down the immunostimulant's exact effect.

Evaluating efficacy

Determining whether to invest in an alternative BRD strategy also depends on the type of cattle producers are dealing with, Hawkins says. For example, bringing cattle from the Southeast to the Midwest challenges cattle with a long haul and a sometimes drastic change in weather conditions.

"Weather plays a role, distance plays a role," he says. "The choice of producers in where they buy their cattle and how they are raised affect results too."

Home-raised cattle that are preconditioned and never intermingled with other herds are simply less likely to develop BRD. Investing in alternative BRD prevention strategies may not pay off as much for these producers as those that are purchasing higher-risk cattle such as lightweight cattle from a sale barn.

For producers looking at alternative BRD prevention, the key is to ensure the product is proven to work – otherwise it's just an added cost without a real benefit. Both Hawkins and Aguilar advise that producers look for products backed by independent research and from a reputable company that manufactures and sells consistent quality products.

"I'd recommend producers look for trial work that proves the product works," Hawkins says. "Look at the data. If producers are dealing with lightweight calves and the trial work is in heavyweight calves, what they see in those other cattle may not necessarily give the same results."

Hawkins also says that producers should continue doing the tried-and-true management practices that benefit cattle.

"You're more likely to have success if cattle get to your facility and you're prepared for it," he says. "Have hay in the bunk and a palatable ration for the animal. Maybe trickling water too to entice calves to come drink." ■

Need a refresher on the veterinary feed directive (VFD)? Check out our previous articles:

- Veterinary Feed Directive (VFD) Regulation Update, May 2016
- Treating Disease Through Feed, Winter 2015

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BY JENNIFER RYAN



Pinkeye in Cattle

A new strain of *Moraxella* is causing more incidence of pinkeye in cattle

Pinkeye in cattle can cause deep discounts at sale time by destroying the cornea of the animal's eye. Pinkeye has historically been caused by the bacteria *Moraxella bovis*, but there's a new strain circulating through herds today – *Moraxella bovoculi* – that's causing producers to pull out all the stops to prevent the disease in their herds.



Scott Hand



Melinda Mayfield-Davis, DVM

Prevention

The clinical signs of pinkeye caused by either bacteria are the same. Producers can expect to see heavy tearing and photophobia, or extreme sensitivity to light. General eye irritation then progresses to corneal ulcers that eventually rupture.

Typically, the bacteria that causes pinkeye is transferred by flies – making fly control a key component to most pinkeye control programs, says Julie A. Gard, DVM, Ph.D., DACT, professor of large animal and food animal medicine at the Auburn University College of Veterinary Medicine.

"Any time you have a concentrated feeding operation, pay attention to waste removal," she says. "That's where the flies build up."

Management can have a positive impact on pinkeye control as well. Gard recommends controlling all potential forms of eye irritation including flies, bedding, grasses or weeds that can be irritating to the eye area of cattle. Structural changes to the environment can even play a large factor, such as providing shade to reduce ultraviolent light irrigation.

"Early detection of eye problems of any kind is key," Gard says. "Any time cattle are blinking and holding their eyelid closed or tearing up – that's the time to treat."

Commercial vaccines against *Moraxella bovis* may still help control pinkeye when battling traditional strains, adds Scott Hand, livestock manager with Vetericyn Inc.

"Vaccines will typically handle a couple of different strains, yet when a culture is taken of the disease that's in the herd, it may be a totally different strain," he says.

In areas where *bovoculi* is prevalent, producers can consider using an autogenous, or custom, vaccine that is made from bacteria found on the operation. In most cases, USDA regulations restrict the use of the vaccine to a specific herd or location. Autogenous vaccines can be cost effective for producers batting *bovoculi*, but it can be difficult to test the effectiveness of the vaccine without controlled trials.

Treatment

Antibiotics are the most common treatment for cattle that are already infected. Gard recommends producers use an antibiotic that is labeled to treat pinkeye and use according to label directions.

"Some of the antibiotics aren't used appropriately when producers treat pinkeye," she says. "For example, one dose of oxytetracycline without a follow-up isn't a full course."

All antibiotic treatments have the potential to contribute to antibiotic resistance, warns Melinda Mayfield-Davis, DVM, technical services veterinarian with Vetericyn Inc. Choosing pinkeye treatment options without antibiotics is an option producers are considering.

An alternative therapy to antibiotic treatments is now available to aid in healing the animal's cornea and reduce pinkeye infection. It's an antibiotic free hypochlorous acid spray that can be used in advanced cases or when early signs of pinkeye appear.

Key points:

- Pinkeye is also called infectious bovine keratoconjunctivitis (IBK)
- The disease is most often caused by the bacteria *Moraxella bovis*
- Estimated annual losses associated with only decreased weight gain from infected cattle exceeds $150 million[1,2]

1 Gould S, Dewell R, Tofflemire K, Whitley RD, Millman ST, Opriessnig, Rosenbusch, Trujillo, O'Conner AM. Randomized blinded challenge study to assess association between *Moraxella bovoculi* and Infectious Bovine Keratoconjunctivitis in dairy calves. Vet Micro 2013 May; 164(1-2): 108-15.

2 Pugh GW, McDonald TJ, Kopecky KE, Kvasnicka WG. Infectious bovine keratoconjunctivitis: comparison of infection, signs of disease and weight gain in vaccinated versus non-vaccinated purebred Hereford heifer calves. Can J of Vet Res.1986: 50(2): 136-42.

> "Prevention is key, especially if we're working on calf ranches or calf hutches. When you see the first signs of the weepy eye, prevent that from getting to be a full-blown case of pinkeye."
>
> **– Scott Hand**

"A spray can help avoid the pain associated with giving an injection," Mayfield-Davis says. "Some people can treat with a spray as opposed to having animals in a head gate. It can also avoid the muscle damage often caused by oxytetracycline and avoids that cost."

The non-antibiotic spray treatment allows producers to treat for multiple strains of pinkeye without any withdrawal times or injections necessary, Mayfield-Davis says. In addition, three sprays to each infected eye twice daily can be economical compared to antibiotic treatments. Spraying even helps flush pollutants and foreign materials from the eye, which can contribute to the disease.

An antibiotic free hypochlorous acid spray can help producers manage pinkeye without withdrawal times and the expense of antibiotics, Gard says. In addition, her research shows the spray can actually help aid in healing.

"The spraying physically removes the bacterial mechanically by spraying it and decreases the number of *Moraxella*," she says.

This action is present no matter what the strain of bacteria that may be causing the disease. In addition, anecdotal evidence from her research shows flies may be less prone to bothering the treated cattle after spraying.

Even with different treatment options, pinkeye prevention is really key, Hand says.

"Prevention is key, especially if we're working on calf ranches or calf hutches," Hand says. "When you see the first signs of the weepy eye, prevent that from getting to be a full-blown case of pinkeye. Try to get on top of that and get that animal treated up front for any respiratory issues and anything else that might reduce the stress on those animals." ■

When Bad News is Good News



BY JIM WHITT

Jim Whitt is an organizational development and employee engagement consultant with Purpose Unlimited in Tulsa, Okla. He is the author of *Riding for the Brand: The Power of Purposeful Leadership*. Sign up for his newsletter at www.purposeunlimited.com. Reach him at jim@purposeunlimited.com or (918) 494-0009.

There seems to be bad news everywhere today, but sometimes news may be thought of as bad or good depending on the eye of the beholder.

Consider my real-life good news/bad news story. In my last real job, I scheduled a meeting with the management of the division I worked for. I was a marketing manager and decided I needed to inform them of the direction my group's segment of industry was headed. That was the good news. The bad news was our company currently wasn't headed in the same direction as the industry. I felt obligated to point that out, along with my plan for what I thought we could and should do to be successful.

The gentlemen in the room listened politely. After I made my case, the division vice-president thanked me for what he called a very enlightening presentation. He didn't dispute the fact the industry was headed in the direction I had described, but simply said we (the company) were not going to go in that direction. End of meeting. History has since validated my assessment of the industry's direction – and the V.P.'s assessment of the company's direction. The industry went one way and the company went the other – the division of the company I worked for no longer exists.

Bad news is sometimes good news. For example, you're driving along the highway on a pitch black night and encounter a sign that warns: "BRIDGE OUT AHEAD." Now, you can't change the fact that the bridge is out. Would you rather see a sign that lets you know the "bad news" so you can change your course, or would you rather have no warning sign?

We don't want to hear bad news because that means we have to deal with it. It requires us to engage in that most difficult of human behaviors – change. Change is hard. It requires effort and struggle. It's much easier to engage in delusion. Maybe the bridge isn't really out. Maybe it was repaired and they forgot to remove the sign. This way of thinking enables us to avoid the thing we don't want to do – turn around and head in a new direction. In psychological terms, this means developing a new pattern of behavior. Traveling down the old road is much more comfortable because we are addicted to the old pattern. It feels good – because it is the path of least resistance – but it's a wreck waiting to happen. That's the real bad news.

It helps if we quit classifying news as good or bad and instead accept it for just what it is – reality. Like it or not, our job is to make the best decisions we can based on reality. It is only in retrospect that we can accurately evaluate whether the news and our decisions were good or bad.

We don't want to hear bad news because that means we have to deal with it. It requires us to engage in that most difficult of human behaviors – change.

I quit my job six months after my meeting with the management. That was nearly 30 years ago. The bad news is, because of my propensity for sharing reality with my bosses, I haven't had a real job since. The good news is, because of that same personality trait, I now get paid to do that same thing as a consultant. I thought the management's decision to not change course was bad news. But it was good news, because I decided to change course.

Yes, bad news really can be good news – depending on what we choose to do about it. ■



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By Jessica Mozo

Call of the Quail

Editor's note: Article courtesy of the National FFA Organization

When Kacy Schlesener of Dover, Kan., noticed a decline in the population of bobwhite quail in her area, she made it her mission to help bring back the small, plump birds popular among hunters.

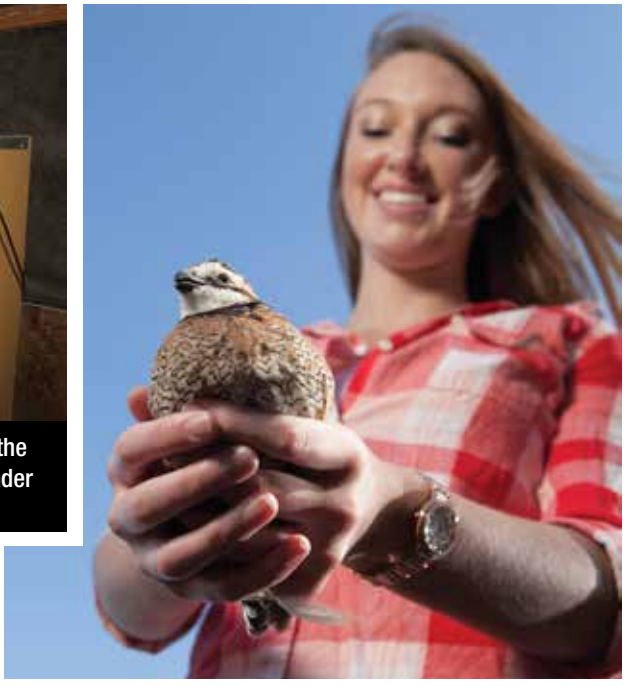
In 2011, when she was a sophomore at Mission Valley High School, Kacy focused her supervised agricultural experience (SAE) project on repopulating her region with quail. She began hatching quail in an incubator at her parents' home and raising them until they were ready to sell to local hunters and hunting preserves. Once she saw the first quail hatch from its small egg, Kacy was hooked.

"It's pretty fun to watch," she says. "I had 250 eggs in my first batch, and it was so cool to see them all hatch."

Kacy ordered her first batch of quail eggs from Georgia, but was concerned about them being damaged during shipping. She then began ordering the eggs from Sharon, Kan., which is closer to her home. Her dad, Bruce, and mom, Jenni, have helped the project become a family business, as has her 19-year-old brother, Lukas.



Kacy places the quail eggs in an incubator for 21 days then moves the eggs into a hatcher. Once the birds are hatched, she keeps them under heat lamps before taking outside.





Baby quail inside a pen in the incubation building.

"When we first get the eggs, they go in an incubator for 21 days," she says. "Then we put them in the hatcher, where they hatch over the next 24 to 72 hours. We keep them in my parents' basement for a while because it's a constant temperature, and we check on them frequently to see if they are dried off and healthy."

Next, the baby quail go into a brooder pen, where they are divided up equally so they don't get too hot or suffocate one another.

"Occasionally we have some eggs that don't hatch, so my dad and brother use those as trapping bait," Kacy says.

A few unhatched eggs don't cause a huge loss since she buys the eggs for 30 cents apiece and is able to sell the adult quail for about $4.50 each.

The quail stay in the brooder pen for eight weeks, and then are transferred to a separate flight pen that has a mesh netting over the top. Kacy and her dad built the brooder pen from an old shed, and she took out a $1,500 loan to build the flight pen.

"It's neat to watch them grow from the size of a 50-cent piece to a little smaller than a pheasant," Kacy says. "I enjoy it because it gets me outside, and I get to spend time with my dad and brother."

Once the birds reach 16 weeks of age, they are considered adult birds and are ready to sell. Buyers often release them on their own land or use them to train hunting dogs.

"One client buys 25 birds at a time just to keep them near his home because he likes how they sound," Kacy says. "The biggest client I have likes to band them so he can track them a year later. He has bought 500 birds, 1,000 birds and even 1,500 at a time."

Kacy has come a long way since 2011, when she started with her first batch of 250 eggs. Today, she and her family hatch batches of 3,000 eggs at a time, with two different batches per season. She won four district FFA awards and two state FFA awards in wildlife preservation management for her quail repopulation project.

Kacy's FFA advisor, Kelly Hoelting, says since Kacy launched her quail project, three other students have done similar SAEs because of her influence.

"Kacy is such a dynamic young lady who I knew was special," Hoelting says. "I really encouraged her to try agricultural education as she was unsure coming into her freshman year. I saw a spark in her that I knew would help not only grow herself but our entire chapter."

Kacy served in numerous offices and as committee chairs throughout high school and will receive her American FFA Degree at the 2016 National FFA Convention & Expo.

"I am lucky to have taught her all of her years in high school and have had her as a student in my program," Hoelting says.

Kacy is studying dental hygiene at Flint Hills Technical College in Emporia, Kan., and will graduate in 2017. She also works part-time in an orthodontics office. Kacy hopes to continue the quail business with her family on a part-time basis after she graduates.

"Family is big to me, so I plan to stay close to home," she says. ■

PRODUCT Review

AmproMed™ P
(amprolium)
FOR POULTRY

Tackle coccidiosis with easy-to-use powder and oral solution



Effective
- Amprolium disrupts the coccidia life cycle

Convenient
- Works in automatic drinking water proportioners
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- Readily accepted by birds in the drinking water

Economical
At the recommended 0.012% level:
- 1 gallon of oral solution treats 800 gallons of drinking water
- 1 10 oz pack makes 128 gallons of medicated drinking water

AmproMed™ is NOT affected by the FDA's GFI 213. The Over the Counter (OTC) status will remain the same after January, 1 2017.

Quality & Value



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Producer Optimism Shines at the 2016 World Pork Expo

This year's World Pork Expo reflected an optimistic tone as more than 20,000 producers and ag professionals, including 1,100 international guests from 35 countries, convened at the state fairgrounds in Des Moines, June 8-10. Presented by the National Pork Producers Council (NPPC), the 28th annual Expo featured the world's largest pork-specific trade show, a range of educational seminars and issue updates, and another Junior National swine show that filled the barns to capacity. The Big Grill served up more than 10,000 lunches; allied industry hospitality tents lined the streets of the Iowa State Fairgrounds; and MusicFest provided an evening of fun and fellowship.



The 2016 World Pork Expo drew more than 20,000 pork producers and ag professionals to Des Moines, including 1,100 visitors from 35 countries. Presented by the National Pork Producers Council, Expo features the world's largest pork-specific trade show, educational seminars, live-hog shows and more.

"World Pork Expo is a place where pork producers can network and share ideas, see the latest innovations for their businesses and broaden their expertise through a range of educational seminars and updates," says John Webber, NPPC president and pork producer from Dysart, Iowa. "U.S. pork producers are optimistic by nature and are looking forward to new packing capacity coming online. Some are upgrading facilities and expanding production, and all are hoping to continue to supply high-quality pork to the world through further export growth."

Trade show aisles overflow with innovation

The World Pork Expo trade show offers pork producers from throughout the world a one-stop opportunity to shop for the latest products, services and technologies for their businesses. As the world's largest pork-specific trade show, this year's offering involved 435 commercial exhibits from companies based in the United States, United Kingdom, Spain, Singapore, Mexico, South Korea, Denmark, China, Canada and Australia. A newly renovated outdoor exhibit space showcased even more allied industry displays and hospitality tents this year. Exhibitors reported good traffic flow of producers who were upbeat and shopping for new products as well as upgrades for existing facilities.

As long-time Expo exhibitor, VAL-CO's representatives have watched producers navigate a range of ups and downs over the years.

"This is one of the better years I've seen. Producers all seemed optimistic," says Joseph Ulicny, marketing specialist with VAL-CO, New Holland, Pa. "Producers are pretty consistent in their business approach; they want to get the most out of their barns and animals by providing the proper nutrition, environment and daily care."

Ulicny reports Expo attendees were inquiring about equipment for new construction as well as retrofitting and upgrading existing barns.







Iowa's warm summer weather didn't stop World Pork Expo attendees from enjoying plenty of mouthwatering pork from hospitality tents and the Big Grill. Again this year, volunteers from Iowa's Tama County Pork Producers Association fired up the Big Grill to serve more than 10,000 free pork lunches during Expo.



Among the 20,000 pork producers, exhibitors and media attending this year's World Pork Expo in Des Moines, Iowa, were 1,100 visitors from 40 countries.

"Producers come to Expo to see innovations, to see what's new and to see how we can help them maximize efficiencies," he adds.

A new exhibitor to Expo this year was Biofence, with a new product – The Biofence VS-1: Portable vehicle sanitizing system.

"In terms of exhibitors and producers attending Expo, there is a good mix and representation of the industry," says Teresa Esler, vice president of Biofence, Minneapolis, Minn. "It's always good when you can come together and have conversations with other people in the industry about solving problems, and biosecurity is a high-priority issue that people are interested in addressing.

"We have had some very good conversations with people, developed more awareness of our product and gotten a lot of positive feedback," she adds. "We're excited to expand our contacts; and we'll come back to Expo."

A venue to exchange information and ideas

Expo gives pork producers the opportunity to collect and share information, whether it occurs one-on-one, within a seminar or consulting with one of the nation's leading pork experts. More than a dozen free business seminars and PORK Academy presentations this year updated pork producers on ways to maximize their competitive advantage from the farrowing house to the global marketplace. Expo sessions also addressed some cutting-edge topics, outlining the importance of cyber security, how to prepare for a common industry audit and the upcoming changes to on-farm antibiotic use beginning Jan. 1, 2017.

Enhancing Expo's social aspect, MusicFest provided a festive evening of free music and an abundance of tasty pork on Thursday, June 9. Rounding out the offering of savory grilled pork, volunteers from Iowa's Tama County Pork Producers Association served up more than 10,000 free lunches from the ever-popular Big Grill during the Expo.

Market outlook presentations, discussions on international trade issues and the impact on pork exports provided a long-term outlook to help with producers' strategic planning.

"World Pork Expo has so much to offer that it's easy to find a program or activity that fits your needs," NPPC's Webber says. "I would encourage pork producers to bring family members and employees to next year's Expo. It's a great place to find practical solutions, visit with allied industry [and] see what's new and plan for the future." ■

Save the date for the 2017 World Pork Expo: June 7-9, at the Iowa State Fairgrounds in Des Moines.

BIVI adds Curt Vlietstra to professional veterinary services team

Boehringer Ingelheim Vetmedica Inc. (BIVI), announced the hiring of Curt Vlietstra, DVM as a professional services veterinarian with its Cattle Team. Vlietstra comes to BIVI from Pipestone Veterinary Services in Pipestone, Minn., a practice for both large and companion animals, where he was an owner and veterinarian for the past 13 years. In his new role, Vlietstra will be responsible for serving customers in parts of Wisconsin, Michigan, Ohio, Indiana and Illinois.

Website aims to educate audience on changes related to antibiotic use coming

According to a *Bovine Veterinarian* report, media outlets like *PORK Network, Drovers, Bovine Veterinarian* and *AgWeb* are working diligently to make sure their respective producer-audiences are informed of the veterinary feed directives and the corresponding changes related to antibiotic use coming in January 2017. Livestock groups, too, have a vested interest in educating producers as well as consumers about the impending rules. The Animal Health Institute, National Pork Producers Council, National Cattlemen's Beef Association and the Animal Agriculture Alliance launched a new website: www.togetherABX.com, which provides "information about how the Food and Drug Administration's new policy will change the way antibiotics are used to keep food animals healthy," a release from the groups said. The new rules mean antibiotics for livestock that are similar to those used in humans will no longer be used for animal growth purposes. In addition, the policy requires a veterinarian/client/patient relationship, meaning a veterinarian must supervise antibiotic use on farms.

The Dairy Strong Sustainability Alliance launched

Farm Journal's Milk reported that a new group, The Dairy Strong Sustainability Alliance, debuted on Endres Berryridge Farm near Waunakee, Wis. to demonstrate and document the dairy industry's commitment to the environment, food safety and animal care. The Dairy Strong Sustainability Alliance combines the expertise of the Dairy Business Association (DBA), the Nature Conservancy, Yahara Pride Farms, Peninsula Pride Farms, the U.S. Farmers and Ranchers Alliance, the Innovation Center for U.S. Dairy and the Wisconsin Cheese Makers Association. The Alliance hopes to bring all aspects of dairy sustainability together, from farm to table, to position Wisconsin and the Midwest as a global leader in dairy sustainability.

Number of certified organic farms on the rise

According to a NASS-USDA news release highlighted by *AgriMarketing*, more than 12,000 certified organic farms in the United States generated $6.2 billion in sales in 2015, an increase of 13% from $5.5 billion reported in 2014, the National Agricultural Statistics Service (NASS) of the U.S. Department of Agriculture reports in its 2015 Certified Organic Survey. Ten states accounted for 78% of all certified organic food sales. California led with $2.4 billion, which accounted for 40% of the total value of all certified organic sales in the United States, the NASS says. The value of sales from organic milk and eggs led all food categories with $1.9 billion followed by vegetables with $1.4 billion; fruits, tree nuts and berries with $1.2 billion; meat and poultry at $743 million and field crops at $660 million.

U.S. cattle supplies continue to build

The USDA says that U.S. cattle supplies continue to build as herd size rebounds from liquidation in previous years, according to a *BrownfieldAgNews* report. As of August 1, the total number of cattle on feed was 10.2 million head, up 2% from a year ago. Placements were 1.6 million head, also up 2% on the year, but still the second smallest total for the month since the series of reports started in 1996. Most of the placements were cattle weighing more than 700 pounds.

Zinpro Corporation announces promotions within Research and Nutritional Services team

Zinpro Corporation announced promotions within the company's Research and Nutritional Services (RNS) team. Mike Socha, Ph.D., is promoted to a newly created role as RNS associate director; Dana Tomlinson, Ph.D., is promoted to a newly created role as research nutritionist, companion animal; and Molly Frensko is promoted to a newly created position as RNS project coordinator.

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Quartermaster®

DESCRIPTION:

Each 10 mL disposable syringe contains 1,000,000 units of Procaine Penicillin G, micronized, and 1 gram of Dihydrostreptomycin base, as Dihydrostreptomycin Sulfate, in an extended action base consisting of 1% w/v Hydrogenated Peanut Oil, 3% w/v Aluminum Monostearate, and Peanut Oil, q.s. Manufactured by a non-sterilizing process.

ACTION:

Infusion of antibiotics at the start of the drying off period has the following advantages: (1) it is active against existing infections; (2) it is prophylactic against new infections, during the time when cattle are likely to become infected [1]; (3) the antibiotic remains in the udder for a sufficiently long period to accomplish the intended objective and is not diluted with milk, as is the case in lactation therapy; (4) the danger of drug residues in the milk is reduced.

Antibiotic control is to be considered an adjunct to good herd hygiene management and milking management. Detailed field studies in England and the United States have demonstrated that a program consisting of treatment, at the time of drying off, with a highly effective antibiotic preparation in a slow-release base, and routine dipping of teats after each milking with an effective disinfectant, markedly reduces the incidence of all udder infections at calving [2,3,4].

It has recently been recommended that a disinfectant teat dip be used on unmilked cows, or at least be used for 10 days before parturition [5], to reduce the bacterial challenge to the depleted levels of antibiotic in the teat as freshening is approached [6].

When the herd infection level has been reduced, or when herds are not heavily infected initially, it may be desirable to be selective in treating dry quarters [7].

INDICATIONS:

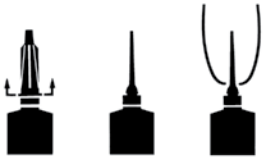
For intramammary use to reduce the frequency of existing infection and to prevent new infections with *Staphylococcus aureus* in dry cows.

DIRECTIONS FOR USING THE FLEXIBLE TIP SYSTEM:

The flexible tip is designed to provide the choice of either insertion of the full cannula, as has traditionally been practiced, or insertion of no more than $^1/_8$ inch of the cannula, as recommended by the National Mastitis Council.

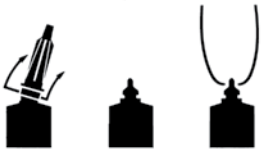
a. Full Insertion: Remove the white end cap by pulling straight up as shown. Gently insert the full cannula into the teat canal; carefully infuse the product.

a.



b. Partial
Insertion: Remove *both* the white end cap and the red cannula by pushing sideways as shown. Gently insert the exposed white tip into the teat canal; carefully infuse the product.

b.



DIRECTIONS FOR USE:

At the last milking prior to drying off, completely milk out cow. Warm the syringe containing **Quartermaster** Suspension to body temperature; choose the desired insertion length (full or partial) and insert tip into teat canal; slowly infuse the entire contents. Instill the contents of one syringe into each quarter. Discard the syringe after use. Treated teats should then be dipped into an effective teat dip. The teat or quarter should not be manipulated again until the cow freshens. To achieve and maintain a lower frequency of infection, proper dipping of teats during lactation is recommended.

Shake vigorously for 10 seconds immediately before using.

WARNINGS:

For udder instillation upon drying off only. Not to be used within six (6) weeks of freshening. Not for use in lactating cows. Milk taken from animals within 96 hours (8 milkings) after calving must not be used for food. Animals infused with this product must not be slaughtered for food within 60 days from time of infusion nor within 96 hours after calving.

CAUTION:

Federal law restricts this drug to use by or on the order of a licensed veterinarian.

STORAGE CONDITIONS:

Store at controlled room temperature 20° to 25°C (68° to 77°F) [see USP].

HOW SUPPLIED:

Quartermaster Suspension is supplied as:

Packers of 12–10 mL (.33 Fl Oz) disposable syringes with 12 convenient single-use isopropyl alcohol pads . . . . . NDC 44567-901-03

Pails of 144–10 mL (.33 Fl Oz) disposable syringes with 144 convenient single-use isopropyl alcohol pads . . . . . NDC 44567-901-05

ATTENTION DOCTOR:
It is your responsibility to inform your client of the warnings stated above so as to avoid adulteration of meat or milk and possible prosecution under Federal law.

REFERENCES:
[1] Smith, A.; Westgarth, D.R.; Jones, M.R.; Neave, F.K.; Dodd, F.H.; & Brander, G.C., Methods of Reducing the Incidence of Udder Infection in Dry Cows, VETERINARY RECORD 81:504-510, 1967.
[2] Dodd, F.H. & Neave, F.K., Mastitis Control,N.I.R.D. BIENNIAL REVIEWS 1970, pp. 21-60.
[3] Roberts, S.J.; Meek, A.M.; Natzke, R.; &Guthrie, R., A Mastitis Control Program Combining Teat Dipping & Dry Cow Therapy, XIX WORLD VETERINARY CONGRESS (Mexico City, 8/15-21/71), PROCEEDINGS 3:935-939, 1971.
[4] Newbould, F.H.S.; Carey, P.G.; & Barnum, D.A., The Numbers of Intramammary Infections & Teat Duct Colonizations in a Herd of Twins During a Hygiene Experiment, CANADIAN JOURNAL OF COMPARATIVE MEDICINE 34:203-208, 1970.
[5] Neave, F.K. & Jackson, E.R., The Prevention of Intramammary Infection, pp. 15-24 in The Control of Bovine Mastitis (Proceedings, Joint Meeting, British Cattle Veterinary Association & The Agricultural Development Association,Reading University. 1/5-6/71), N.I.R.D., 1971.
[6] Feagan, J.T.; Hehir, A.F.; & White, B.R., The Effectiveness in Control of Mastitis of Iodine as a Post Milking Teat Dip, AUSTRALIAN JOURNAL OF DAIRY TECHNOLOGY 25: 87-90, 1970.
[7] Supplement to Current Concepts of Bovine Mastitis. The National Mastitis Council Inc., Washington, D.C. 22003, 1972, page 7.

AMPICILLIN FOR INJECTABLE SUSPENSION, VETERINARY PRESCRIBING INFORMATION

DESCRIPTION
Ampicillin for injectable suspension, veterinary is a broad-spectrum penicillin which has bactericidal activity against a wide range of common gram-positive and gram-negative bacteria. Each 25 g vial contains: 25 g ampicillin activity as ampicillin trihydrate, 90 mg methylparaben (as preservative), 10 mg propylparaben (as preservative), 200 mg lecithin, 500 mg povidone, 200 mg sodium chloride, 600 mg sodium citrate anhydrous.

CLINICAL PHARMACOLOGY
The antimicrobial action of ampicillin is bactericidal, and only a small percentage of the antibiotic is serum-bound. Peak serum levels in dogs and cats are reached approximately one-half hour following subcutaneous or intramuscular injection, and in cattle 1 hour to 2 hours following intramuscular injection. *In vitro* studies have demonstrated sensitivity of the following organisms to ampicillin: gram-positive bacteria - alpha- and beta-hemolytic streptococci, staphylococci (non-penicillinase-producing), *Bacillus anthracis* and most strains of enterococci and clostridia; gram-negative bacteria - *Proteus mirabilis*, *E. coli* and many strains of Salmonella and *Pasteurella multocida*. The drug does not resist destruction by penicillinase and, hence, is not effective against strains of staphylococci resistant to penicillin G. Susceptibility tests should be conducted to estimate the *in vitro* susceptibility of bacterial isolates to ampicillin.

INDICATIONS
Ampicillin for injectable suspension has proved effective in the treatment of many infections previously beyond the spectrum of penicillin therapy. This drug is particularly indicated in the treatment of the following infections caused by susceptible strains of organisms:
Dogs and Cats-Respiratory Tract Infections: Upper respiratory infections, tonsillitis and bronchopneumonia due to hemolytic streptococci, *Staphylococcus aureus, Escherichia coli, Proteus mirabilis* and *Pasteurella* spp.
Urinary Tract Infections due to *Proteus mirabilis, Escherichia coli, Staphylococcus* spp., hemolytic streptococci and *Enterococcus* spp.
Gastrointestinal Infections due to *Enterococcus* spp., *Staphylococcus* spp. and *Escherichia coli*.
Skin, Soft Tissue and Post-Surgical Infections: Abscesses, pustular dermatitis, cellulitis and infections of the anal gland, due to *Escherichia coli, Proteus mirabilis,* hemolytic streptococci*, Staphylococcus* spp. and *Pasteurella* spp.
Cattle and Calves Including Non-Ruminating (Veal Calves) - Respiratory Tract Infections: Bacterial pneumonia (shipping fever, calf pneumonia and bovine pneumonia) caused by *Aerobacter* spp., *Klebsiella* spp., *Staphylococcus* spp., *Streptococcus* spp., *Pasteurella multocida* and *E. coli* susceptible to ampicillin trihydrate.

CONTRAINDICATIONS
A history of allergic reactions to penicillin, cephalosporins or their analogues should be considered a contraindication for the use of this agent.

PRECAUTIONS
Because it is a derivative of 6-aminopenicillanic acid, ampicillin for injectable suspension has the potential for producing allergic reactions. If they should occur, ampicillin for injectable suspension should be discontinued and the subject treated with the usual agents (antihistamines, pressor amines, corticosteroids).

RESIDUE WARNINGS
DO NOT TREAT CATTLE FOR MORE THAN 7 DAYS. MILK FROM TREATED COWS MUST NOT BE USED FOR FOOD DURING TREATMENT, AND FOR 48 HOURS (4 MILKINGS) AFTER THE LAST TREATMENT. CATTLE MUST NOT BE SLAUGHTERED FOR FOOD DURING TREATMENT, AND FOR 144 HOURS (6 DAYS) AFTER THE LAST TREATMENT.

DOSAGE
The dosage of ampicillin for injectable suspension will vary according to the animal being treated, the severity of the infection and the animal's response.
Dogs and Cats - The recommended dose for dogs or cats is 3 mg/lb of body weight administered twice daily by subcutaneous or intramuscular injection.
Cattle and Calves Including Non-Ruminating (Veal Calves) - From 2 mg to 5 mg/lb of body weight once daily by intramuscular injection.
Do not treat for more than 7 days.
In all species, 3 days treatment is usually adequate, but treatment should be continued for 48 to 72 hours after the animal has become afebrile or asymptomatic.

DIRECTIONS FOR USE
The multi-dose dry-filled vials should be reconstituted to the desired concentration by adding the required amount of Sterile Water for Injection, USP, according to label directions. SHAKE WELL. After reconstitution this product is stable for 3 months under refrigeration and will be white to pale yellow in color. At the time of reconstitution the vial should be dated and the concentration noted on the label.

CAUTION
Federal law restricts this drug to use by or on the order of a licensed veterinarian.

STORAGE
Store at controlled room temperature (25ºC), with excursions permitted from 15 - 30ºC (59 - 86ºF). After reconstitution, store under refrigeration.

HOW SUPPLIED
Ampicillin for injectable suspension, veterinary is supplied in vials containing 25 grams ampicillin activity as ampicillin trihydrate.

Manufactured by:
G.C. Hanford Manufacturing Co.
Syracuse, NY 13201

NDC 10515-946-25 25 g per vial

ANADA 200-495, Approved by FDA

Enroflox® 100
(enrofloxacin)
100 mg/mL Antimicrobial Injectable Solution

For Subcutaneous Use in Beef Cattle, Non-Lactating Dairy Cattle and Swine Only.
Not for Use in Female Dairy Cattle 20 Months of Age or Older Or In Calves To Be Processed For Veal.

Brief Summary: Before using Enroflox® 100, consult the product insert, a summary of which follows.

CAUTION: Federal (U.S.A.) law restricts this drug to use by or on the order of a licensed veterinarian. Federal (U.S.A.) law prohibits the extra-label use of this drug in food-producing animals.

PRODUCT DESCRIPTION: Each mL of Enroflox 100 contains 100 mg of enrofloxacin. Excipients are L-arginine base 200 mg, n-butyl alcohol 30 mg, benzyl alcohol (as a preservative) 20 mg and water for injection q.s.

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

Cattle - Multiple-Day Therapy: Enroflox 100 is indicated for the treatment of bovine respiratory disease (BRD) associated with *Mannheimia haemolytica, Pasteurella multocida* and *Histophilus somni* in beef and non-lactating dairy cattle.

Swine: Enroflox 100 is indicated for the treatment and control of swine respiratory disease (SRD) associated with *Actinobacillus pleuropneumoniae, Pasteurella multocida, Haemophilus parasuis* and *Streptococcus suis*.

RESIDUE WARNINGS:
Cattle: Animals intended for human consumption must not be slaughtered within 28 days from the last treatment. This product is not approved for female dairy cattle 20 months of age or older, including dry dairy cows. Use in these cattle may cause drug residues in milk and/or in calves born to these cows. A withdrawal period has not been established for this product in pre-ruminating calves. Do not use in calves to be processed for veal.
Swine: Animals intended for human consumption must not be slaughtered within 5 days of receiving a single-injection dose.

HUMAN WARNINGS: For use in animals only. Keep out of the reach of children. Avoid contact with eyes. In case of contact, immediately flush eyes with copious amounts of water for 15 minutes. In case of dermal contact, wash skin with soap and water. Consult a physician if irritation persists following ocular or dermal exposures. Individuals with a history of hypersensitivity to quinolones should avoid this product. In humans, there is a risk of user photosensitization within a few hours after excessive exposure to quinolones. If excessive accidental exposure occurs, avoid direct sunlight. For customer service, to obtain a copy of the Material Safety Data Sheet (MSDS) or to report adverse reactions, call Norbrook at 1-866-591-5777.

PRECAUTIONS:
The effects of enrofloxacin on cattle or swine reproductive performance, pregnancy and lactation have not been adequately determined.
The long-term effects on articular joint cartilage have not been determined in pigs above market weight.
Subcutaneous injection can cause a transient local tissue reaction that may result in trim loss of edible tissue at slaughter.
Enroflox 100 contains different excipients than other enrofloxacin products. The safety and efficacy of this formulation in species other than cattle and swine have not been determined.
Quinolone-class drugs should be used with caution in animals with known or suspected Central Nervous System (CNS) disorders. In such animals, quinolones have, in rare instances, been associated with CNS stimulation which may lead to convulsive seizures. Quinolone-class drugs have been shown to produce erosions of cartilage of weight-bearing joints and other signs of arthropathy in immature animals of various species. See Animal Safety section for additional information.

ADVERSE REACTIONS: No adverse reactions were observed during clinical trials.

ANIMAL SAFETY:
In cattle safety studies, clinical signs of depression, incoordination and muscle fasciculation were observed in calves when doses of 15 or 25 mg/kg were administered for 10 to 15 days. Clinical signs of depression, inappetance and incoordination were observed when a dose of 50 mg/kg was administered for 3 days. An injection site study conducted in feeder calves demonstrated that the formulation may induce a transient reaction in the subcutaneous tissue and underlying muscle. In swine safety studies, incidental lameness of short duration was observed in all groups, including the saline-treated controls. Musculoskeletal stiffness was observed following the 15 and 25 mg/kg treatments with clinical signs appearing during the second week of treatment. Clinical signs of lameness improved after treatment ceased and most animals were clinically normal at necropsy. An injection site study conducted in pigs demonstrated that the formulation may induce a transient reaction in the subcutaneous tissue.

Norbrook Laboratories Limited,
Newry, BT35 6PU, Co. Down, Northern Ireland

I01 March 2015

The Norbrook logos and Enroflox® are registered trademarks of Norbrook Laboratories Limited.

ANADA 200-591, Approved by FDA

Norfenicol®
(florfenicol)
Injectable Solution
300 mg/mL

For intramuscular and subcutaneous use in beef and non-lactating dairy cattle only.

BRIEF SUMMARY (For full Prescribing Information, see package insert.)

INDICATIONS: Norfenicol is indicated for treatment of bovine respiratory disease (BRD) associated with *Mannheimia haemolytica, Pasteurella multocida,* and *Histophilus somni,* and for the treatment of foot rot. Also, it is indicated for control of respiratory disease in cattle at high risk of developing BRD associated with *M.haemolytica, P. multocida,* and *H. somni.*

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

NOT FOR HUMAN USE.
KEEP OUT OF REACH OF CHILDREN.
Can be irritating to skin and eyes. Avoid direct contact with skin, eyes, and clothing. In case of accidental eye exposure, flush with water for 15 minutes. In case of accidental skin exposure, wash with soap and water. Remove contaminated clothing. Consult physician if irritation persists. Accidental injection of this product may cause local irritation. Consult physician immediately. The risk information provided here is not comprehensive. To learn more, talk about Norfenicol with your veterinarian.
For customer service, adverse effects reporting, or to obtain a copy of the MSDS or FDA-approved package insert, call 1-866-591-5777.

PRECAUTIONS: Not for use in animals intended for breeding. Effects on bovine reproductive performance, pregnancy, and lactation have not been determined. Intramuscular injection may result in local tissue reaction which persists beyond 28 days. This may result in trim loss at slaughter. Tissue reaction at injection sites other than the neck is likely to be more severe.

RESIDUE WARNINGS: Animals intended for human consumption must not be slaughtered within 28 days of the last intramuscular treatment. Animals intended for human consumption must not be slaughtered within 33 days of subcutaneous treatment.
Not approved for use in female dairy cattle 20 months of age or older, including dry dairy cows as such use may cause drug residues in milk and/or in calves born to these cows. A withdrawal period has not been established in pre-ruminating calves. Do not use in calves to be processed for veal.

ADVERSE REACTIONS: Inappetence, decreased water consumption, or diarrhea may occur transiently.

Manufactured by:
Norbrook Laboratories Limited, Newry, BT35 6PU, Co. Down, Northern Ireland.

The Norbrook logos and Norfenicol ® are registered trademarks of Norbrook Laboratories Limited.

LONGRANGE® (eprinomectin)

Extended-Release Injectable Parasiticide
5% Sterile Solution
NADA 141-327, Approved by FDA for subcutaneous injection
For the Treatment and Control of Internal and External
Parasites of Cattle on Pasture with Persistent Effectiveness

CAUTION: Federal law restricts this drug to use by or on the order of a licensed veterinarian.

INDICATIONS FOR USE
LONGRANGE, when administered at the recommended dose volume of 1 mL per 110 lb (50 kg) body weight, is effective in the treatment and control of 20 species and stages of internal and external parasites of cattle:

Gastrointestinal Roundworms	**Lungworms**
Bunostomum phlebotomum – Adults and L_4	*Dictyocaulus viviparus* – Adults
Cooperia oncophora – Adults and L_4	
Cooperia punctata – Adults and L_4	
Cooperia surnabada – Adults and L_4	
Haemonchus placei – Adults	**Grubs**
Oesophagostomum radiatum – Adults	*Hypoderma bovis*
Ostertagia lyrata – Adults	
Ostertagia ostertagi – Adults, L_4, and inhibited L_4	
Trichostrongylus axei – Adults and L_4	**Mites**
Trichostrongylus colubriformis – Adults	*Sarcoptes scabiei* var. *bovis*

Parasites	**Durations of Persistent Effectiveness**
Gastrointestinal Roundworms	
Bunostomum phlebotomum	150 days
Cooperia oncophora	100 days
Cooperia punctata	100 days
Haemonchus placei	120 days
Oesophagostomum radiatum	120 days
Ostertagia lyrata	120 days
Ostertagia ostertagi	120 days
Trichostrongylus axei	100 days
Lungworms	
Dictyocaulus viviparus	150 days

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

WARNINGS AND PRECAUTIONS

Withdrawal Periods and Residue Warnings

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

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

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

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

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

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

STORAGE
Store at 77° F (25° C) with excursions between 59° and 86° F (15° and 30° C). Protect from light.
Made in Canada.
Manufactured for Merial, Inc., Duluth, GA, USA.
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1050-2889-06, Rev. 2/2015, 8LON016C

ZACTRAN® (gamithromycin)

150 mg/mL ANTIMICROBIAL
NADA 141-328, Approved by FDA
For subcutaneous injection in beef and non-lactating dairy cattle only. Not for use in female dairy cattle 20 months of age or older or in calves to be processed for veal.

Caution: Federal (USA) law restricts this drug to use by or on the order of a licensed veterinarian.
READ ENTIRE BROCHURE CAREFULLY BEFORE USING THIS PRODUCT.

INDICATIONS
ZACTRAN is indicated for the treatment of bovine respiratory disease (BRD) associated with *Mannheimia haemolytica*, *Pasteurella multocida*, *Histophilus somni* and *Mycoplasma bovis* in beef and non-lactating dairy cattle. ZACTRAN is also indicated for the control of respiratory disease in beef and non-lactating dairy cattle at high risk of developing BRD associated with *Mannheimia haemolytica* and *Pasteurella multocida*.

CONTRAINDICATIONS
As with all drugs, the use of ZACTRAN is contraindicated in animals previously found to be hypersensitive to this drug.

WARNING: FOR USE IN CATTLE ONLY. NOT FOR USE IN HUMANS. KEEP THIS AND ALL DRUGS OUT OF REACH OF CHILDREN. NOT FOR USE IN CHICKENS OR TURKEYS.
The material safety data sheet (MSDS) contains more detailed occupational safety information. To report adverse effects, obtain an MSDS or for assistance, contact Merial at 1-888-637-4251.

RESIDUE WARNINGS: Do not treat cattle within 35 days of slaughter. Because a discard time in milk has not been established, do not use in female dairy cattle 20 months of age or older. A withdrawal period has not been established for this product in pre-ruminating calves. Do not use in calves to be processed for veal.

PRECAUTIONS
The effects of ZACTRAN on bovine reproductive performance, pregnancy, and lactation have not been determined. Subcutaneous injection of ZACTRAN may cause a transient local tissue reaction in some cattle that may result in trim loss of edible tissues at slaughter.

ADVERSE REACTIONS
Transient animal discomfort and mild to moderate injection site swelling may be seen in cattle treated with ZACTRAN.

EFFECTIVENESS
The effectiveness of ZACTRAN for the treatment of BRD associated with *Mannheimia haemolytica*, *Pasteurella multocida* and *Histophilus somni* was demonstrated in a field study conducted at four geographic locations in the United States. A total of 497 cattle exhibiting clinical signs of BRD were enrolled in the study. Cattle were administered ZACTRAN (6 mg/kg BW) or an equivalent volume of sterile saline as a subcutaneous injection once on Day 0. Cattle were observed daily for clinical signs of BRD and were evaluated for clinical success on Day 10. The percentage of successes in cattle treated with ZACTRAN (58%) was statistically significantly higher ($p<0.05$) than the percentage of successes in the cattle treated with saline (19%).
The effectiveness of ZACTRAN for the treatment of BRD associated with *M. bovis* was demonstrated independently at two U.S. study sites. A total of 502 cattle exhibiting clinical signs of BRD were enrolled in the studies. Cattle were administered ZACTRAN (6 mg/kg BW) or an equivalent volume of sterile saline as a subcutaneous injection once on Day 0. At each site, the percentage of successes in cattle treated with ZACTRAN on Day 10 was statistically significantly higher than the percentage of successes in the cattle treated with saline (74.4% vs. 24% [$p<0.001$], and 67.4% vs. 46.2% [$p = 0.002$]). In addition, in the group of calves treated with gamithromycin that were confirmed positive for *M. bovis* (pre-treatment nasopharyngeal swabs), there were more calves at each site (45 of 57 calves, and 5 of 6 calves) classified as successes than as failures.
The effectiveness of ZACTRAN for the control of respiratory disease in cattle at high risk of developing BRD associated with Mannheim*ia haemolytica* and *Pasteurella multocida* was demonstrated in two independent studies conducted in the United States. A total of 467 crossbred beef cattle at high risk of developing BRD were enrolled in the study. ZACTRAN (6 mg/kg BW) or an equivalent volume of sterile saline was administered as a single subcutaneous injection within one day after arrival. Cattle were observed daily for clinical signs of BRD and were evaluated for clinical success on Day 10 post-treatment. In each of the two studies, the percentage of successes in the cattle treated with ZACTRAN (86% and 78%) was statistically significantly higher ($p = 0.0019$ and $p = 0.0016$) than the percentage of successes in the cattle treated with saline (36% and 58%).

Marketed by Merial Limited
3239 Satellite Blvd., Duluth, GA 30096-4640 U.S.A.
Made in Austria

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BIVI introduces PolyMast Mastitis Tube

Boehringer Ingelheim Vetmedica, Inc. announced the introduction of PolyMast™ (hetacillin potassium). It is available exclusively through veterinary prescription and is labeled for the treatment of mild to moderate mastitis in a once-per-day formulation for a period of three days. A peer-reviewed, head-to-head trial compared the efficacy of hetacillin potassium (the active ingredient in PolyMast) to ceftiofur hydrochloride, another once-per-day mastitis treatment currently on the market that is commonly administered for five to eight days. The trial concluded that three days of PolyMast treatment was just as effective as five days of this product against common mastitis pathogens, according to a company release. The once-per-day treatment protocol of PolyMast works seamlessly on dairy operations that employ a treatment manager for only one shift per day. In addition, PolyMast has a milk withhold of 72 hours after the last treatment – putting milk back in the tank faster than the common practice of treating mastitis once daily for five consecutive days. PolyMast also minimizes the amount of time cows spend in the hospital pen and fewer antibiotics are used without sacrificing cure rates.



GlobalVetLINK release VFR tool

GlobalVetLINK (GVL®) released a new Veterinary Feed Record (VFR) feature that offers veterinarians a tool for managing and tracking non-VFD, feed-grade antibiotics (i.e. carbadox, bacitracin, tiamulin) in its FeedLINK® Electronic VFD System. Writing VFRs allows vets to simulate the VFD (Veterinary Feed Directive) process, providing a "practice" method to prepare for expanded VFDs coming January 1. "Our users wanted a way to practice writing VFDs for the drugs that will transition on January 1, but the FDA insists that VFDs can only be written for current VFD drugs," explains Kaylen Henry, GVL Product Manager. "Working with our vet customers, we developed VFRs to help our clients prepare for the VFD changes and get an idea of how their VFD process will work. At the same time, we're providing a method for vets to track use of non-VFD antibiotics to support evidence of a valid VCPR and judicious use of those products." For more information, visit www.globalvetlink.com.

Merck Animal Health introduces Safe-Guard AquaSol for swine



Merck Animal Health announced the introduction of Safe-Guard AquaSol (fenbendazole oral suspension) for use in U.S. swine operations. Safe-Guard AquaSol is indicated for the treatment and control of adult and larval stages of large roundworms, whipworms and kidney worms, as well as adult stages of the small stomach worm, nodular worm and lungworm. Safe-Guard AquaSol is produced with an innovative wet-milling technology, which produces a highly stable suspension that can be conveniently administered through drinking water for a three consecutive-day treatment period. Water delivery allows greater flexibility for treatment of pigs at any time from suckling to adult, and the formulation can be easily adjusted to treat any number of swine, from 1 to 10,000. In addition, the product's smaller particle sizes help to prevent sedimentation and clogged pipes, filters or nipple drinkers. The product can be used in both water proportioners and stock tanks.

★ UNITED STATES VETERINARY PRODUCTS ★



Ampicillin

for Injectable Suspension, Veterinary

AMPICILLIN TRIHYDRATE

- 25 grams of ampicillin activity as ampicillin trihydate
- Bactericidal activity against a wide range of common gram-positive and gram-negative bacteria
- Effective in the treatment of many infections previously beyond the spectrum of penicillin therapy

[Refer to complete Prescribing Information on other side for details]



AVAILABLE AT LEADING VETERINARY SUPPLIERS

Product	NDC #	Composition	Quantity
Ampicillin for Injectable Suspension, Veterinary	10515-946-25	Ampicillin trihydrate	12 bottles

UNITED STATES VETERINARY PRODUCTS
U.S.VET

Note: A history of allergic reactions to penicillin, cephalosporins or their analogues should be considered a contraindication for the use of this agent.

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Year-Round Rewards

2016 Merial Rewards *Progress* as of 9.30.16

Level 1

3.3% Growth
30 DSRs achieved the 3% Rewards level YTD
Average Sales / DSR = $1,230,000



30 DSRs
@ 3% level

Level 2

2.5% Growth
59 DSRs achieved the 2.5% Rewards level YTD
Average Sales / DSR = $472,017



59 DSRs
@ 2.5% level

Level 3

2% Growth
91 DSRs achieved the 2% Rewards level YTD
Average Sales / DSR = $289,000



91 DSRs
@ 2% level

Qualifying Merial Brand Products for 2016 Year-Round Rewards

Cattle Products

LONGRANGE® (eprinomectin) RX
ZACTRAN® (gamithromycin) RX
EPRINEX® (eprinomectin)
IVOMEC® Plus (ivermectin/clorsulon)
IVOMEC (ivermectin) 1% Injection
IVOMEC Pour-On
IVOMEC Sheep Drench
CYSTORELIN® (gonadorelin diacetate tetrahydrate) RX
CORID® (amprolium) 9.6% Oral Solution
CORID® (amprolium) 20% Soluble Powder
RESPISHIELD® HM
J-VAC®
NEW! SYNCHSURE™ RX (cloprosterol sodium)

Equine Products

GASTROGARD® (omeprazole) RX
ULCERGARD® (omeprazole) RX
LEGEND® (hyaluronate sodium) RX
EQUIOXX® (firocoxib) RX
ZIMECTERIN® Gold (ivermectin/praziquantel)
ZIMECTERIN (ivermectin)
EQVALAN® (ivermectin) RX
RECOMBITEK® Equine Influenza Virus RX
RECOMBITEK Equine West Nile Virus RX
RECOMBITEK Equine West Nile Virus + EWT Vaccine RX
Equine EWT RX
Equine POTOMAVAC™ RX
Equine POTOMAVAC + IMRAB® RX
IMRAB Large Animal RX
Equine Tetanus RX
Equioxx Tabs

Program Details

- Earn up to 3% on cumulative, combined sales of Cattle and Equine Products based on previous year (PY) sales by level.
- Cattle levels are: $200,000 to earn 2%, $400,000 to earn 2.5%, $800,000 to earn 3.0%. Base percentages are adjusted based on PY sales achievement as: 90% of PY earns 90% of Base % level; 110-129% earns 100% of Base % level; 130% earns 110% of Base % level.
- Equine levels begin at $100,000 to earn 1.5%, $200,000 = 2%, $400,000 = 2.5%, $600,000 = 3%.

Quarterly Reports and Payment Details

You will receive a statement with your cumulative annual total of sales and corresponding reward level every quarter. All sales of qualifying products from January 1 through December 31, 2016 will be included. If you achieve the minimum sales threshold, you will receive reward payments in July and in December. The December reward percentage will be based on the full year's sales, not just the second half of the year. Your reward payments will arrive from Merial through your management, which has the right to deduct all appropriate income and withholding taxes, and associated handling fees.

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