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Cattle health during the dog days of summer—Laura Mushrush

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Summertime: Bulls are turned out with spring calving females on pasture for breeding, stocker cattle enjoy their last stop on grass before transitioning into the feedyard, and bred fall cows spend their days grazing without a care in the world — it's almost like paradise.

"Complications with cattle health can be enough to take the fun out of summer," says John Maas, former veterinarian with the University of California at Davis Cooperative Extension, and chairman of the Beef Quality Assurance Advisory Board.

But as the longer days heat up to the dog days of summer, things can turn south if cattle producers don't keep a firm hand on cattle health.

Footrot interdigital phlegmon



Footrot is a multi-factorial condition that can turn a sound animal lame in a short 24-hour time window and can be detected through tenderness and swelling of the foot. The infection occurs when the soft, sensitive tissue between the toes of cattle's feet is irritated and infected by *Fusobacterium necrophorum* or *Bacteroides melaninogenicus* bacteria that make a living in the absence of oxygen. Since *F. necrophorum* is found present in feces and healthy rumens, cattle are literally at risk of contracting footrot with every step.

A simple rule of thumb: Anything that causes irritation to your own hands would irritate the sensitive portion of cattle's feet. "Stubble in fields, sticks, little stones — anything like that gives an entry way for the bacteria," says Maas. "Excessive moisture and heat can cause their feet to crack and chap, making cattle in those environments more susceptible."

While bacteria have the ability to proliferate damaging toxins throughout the irritated area, if detected early, common antibiotics can clear up the infection quickly. Neglect the problem for too long and it only takes 5 to 10 days to turn urgent.

"If bacteria gets into deeper tissues, like joints, tendon sheaths and the bone itself, all bets on treatment resulting into a full recovery are off," he says. "Once it gets into these tissues, it becomes a very serious issue that may require surgery or even humane euthanasia."

"There are steps producers can take to minimize the occurrence and severity of footrot. According to Maas, this can be done with a supplement program.

"Iodine in a salt-mineral mix, or some other supplement mix are really helpful to not only prevent cases, but minimize the severity if they do occur," he says.

"Trace minerals such as copper and selenium are highly beneficial for immune response, priority determined by what region of the country you're in. Copper is more so in the Midwest and selenium in the West, Great Lake region and Southeast.

"For feedyard producers, zinc methionine has been an effective prevention tool.

Since irritation is more likely to occur in high heat and moisture areas, Maas suggests areas around watering tanks are well drained and cleared of small pebbles that can cause problems. He also suggests producers hold off on turning cattle out on fields with stubble when temperatures are hot since the heat and moisture combination is a recipe for bacteria infestation.

Pinkeye infectious bovine keratoconjunctivitis

Pinkeye in cattle is most commonly caused by the *Moraxella bovis* (*M. bovis*) bacteria, but there are other species like *M. bovis*' younger sister, *Moraxella bovoculi*, that can come into play — and they're not all covered by the same treatments.

"Things like dust, ultraviolet light, tall grasses with seeds that irritate the eyes and flies transporting infectious organisms from one animal to another make pinkeye a multi-factor infection," Maas says.

Regardless of bacteria perpetrator, the initial infection starts with an ulcer in the center of the eye so small it generally can't be detected by human sight.

"If it's a seed or scratch, a lesion will typically occur on the side of the eye," he explains, adding that this can lead to pinkeye. "So the ulcer in the central part of the eye is the clinical sign of pinkeye."

"More often than not, flies moving from one animal to another are the biggest spreaders of the infectious organisms.

"Face flies make a living by using their raspy tongue to irritate the tissue around the eyes and nose to feed on secretions," says Maas. "That's how the bacteria is so easily spread from one eye to another."

"Bacteria is so highly transmittable, ranchers can spread it if they come into contact with an infected animal and then come into contact with a clean animal. Because of this, when treatment is given, doctoring equipment must be disinfected, disposable gloves should be worn and contaminated clothing should be washed."

While there are vaccines available to help prevent pinkeye, most take 4 to 6 weeks to become effective.

"The immune system takes time to get revved up, so vaccinating during an outbreak will only help with prevention in the future, not the present time," explains Maas.

In the case of an outbreak, producers should instead go straight to an antibiotic treatment, which will in turn slow down the spread of the bacteria.

For pinkeye treatment, eye patches can be very beneficial to speedy recovery. However, if used, Maas stresses the importance of making sure the eye is not completely sealed off so the healing process can be monitored.

"When it starts to heal, the secretions will start to dry up. If they do not, you may have to follow up with more treatment," he says. "It's important to monitor the process, because serious damage can be done if it's not."

A supplementation program focusing on the same trace minerals used in preventing footrot (copper and selenium) will also help eliminate susceptibility to pinkeye by boosting the immune system.

Fly control

Frustrating and at times hard to kill, controlling flies offers many benefits to cattle producers. The buzzing pests are the carriers of bacteria and disease, such as anaplasmosis — a cow killing, weight dropping, aborting and bull infertility nightmare. According to Maas, fly infestation costs the cattle industry more than \$2 billion annually.

But fly control can be tricky. Treatments such as fly tags, rubbing posts, pourons and dust bags have proven to be effective. There are also preventative steps producers can take in fly control. Since horn flies and face flies only lay their eggs in cow manure, oral insecticides have been shown successful in killing larvae laid in manure, ultimately reducing the adult fly population. ***These can be fed in mineral supplements and go straight through the animal, only residing in the manure. (over)***

“Every operation is going to be different in fly control,” says Maas. “It really depends on where you’re at and what you can do.

”However, a different class of insecticide (pyrethroid, methoprene, diflubenzuron, organophosphate, spinosyns — to name a few) must be alternated so flies don’t build a resistance to the treatments. Maas relates it to the way a pitcher throws during a game.

“A pitcher isn’t going to throw a fastball every time, he changes it up so one time is a curveball, another is a screwball, etc.,” he explains. “You want to do the same thing with fly control. If you use an ear tag with organophosphate this year, then look into using a pyrethroid next year. And if you’re mixing methods and using a norganophosphate ear tag, you may want to use a pyrethroid spray-on.”

Treating responsibly

“For both pinkeye and footrot cases, you’re going to want to have cattle in a place where you can check them 2 to 3 days later so if you need to treat them again, you can,” says Maas. In order to administer treatments the safest way possible for both the rancher and the cattle, good handling procedures to calm animals’ dispositions are recommended. When it comes to method of treatment, Maas strongly urges producers not to use air-powered vaccination guns since injection site and administration is highly susceptible to error. Instead, he suggests producers take cattle to a working facility and administer vaccines in a chute, or if the animal is small enough, rope and doctor it in the pasture.

If producers feel antibiotic therapies mixed with mineral supplements is a treatment option they’d like to use, Maas says to look for products already labeled for treatment.

“If they use something without a label, it must be prescribed by a veterinarian,” he says. “The FDA is scrutinizing the cattle industry very heavily for the way we use antibiotics in cattle.”

While a lot of these summertime health problems can be taken care of by the producer, Maas stresses the importance of knowing when it’s time to involve a veterinarian.

“If you have 3 to 5 percent of your animals come down with pinkeye or footrot, it’s past time you see your veterinarian.”



CUSTOMIZE YOUR VACCINE

For pinkeye outbreaks caused by the *Moraxella bovis* bacteria, a number of treatment and prevention vaccines are available on the market. If the outbreak is caused by *Moraxella bovoculi*, autogenous vaccine options are available to cattle producers to put a halt to the outbreak more effectively.

After a veterinarian collects samples within the herd, they will be sent off to specialized labs. “The lab will isolate the bacteria, find out what type of antibiotics it is susceptible to, and then send the information off to a vaccine company,” says John Maas, former veterinarian with the University of California at Davis Cooperative Extension, and chairman of the Beef Quality Assurance Advisory Board.

The vaccine company is then able to build a customized vaccine for the herd, while also targeting the isolated bacteria with antibiotics they are susceptible to.

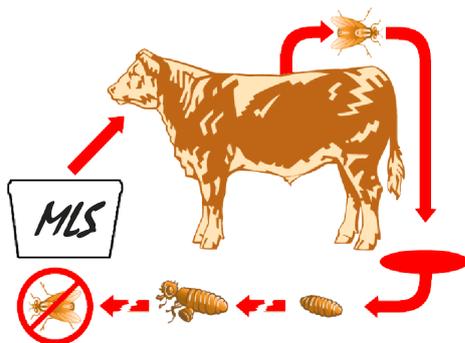
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