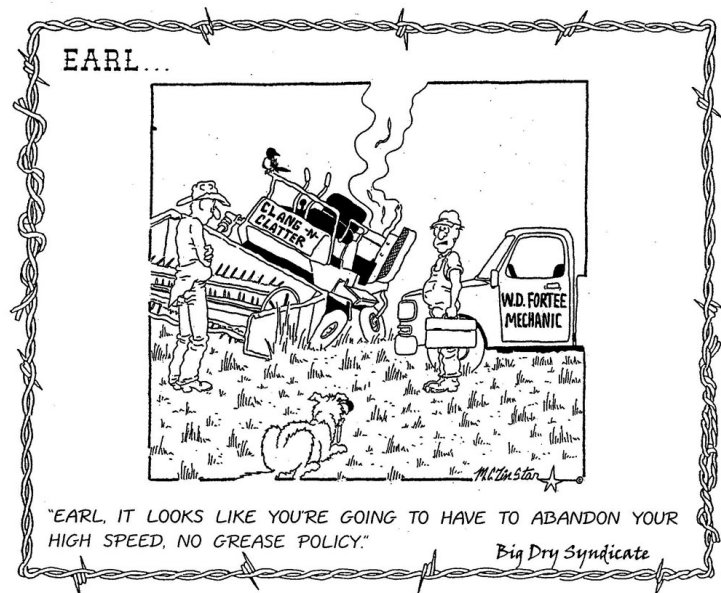




Prevent Pinkeye In Cattle This Summer

BROOKINGS — Now is the time to think ahead about preventive measures for pinkeye.

Pinkeye is the common name for Infectious Bovine Keratoconjunctivitis, a highly infectious disease that affects the eyes of cattle. It causes infection of the eye itself as well as inflammation of the conjunctiva (inside lining membrane of the eyelid). Typical symptoms include tearing from the infected eye, squinting, reddening of the membranes of the eyelid, and with advancing conditions, ulceration of the cornea, leading to the classic white, inflamed spot on the eyeball. If left untreated, this ulceration can lead to permanent scarring resulting in impairment of vision.

There are several conditions that can increase the chance for pinkeye to spread among cattle. From excessive dust in the air to cool, wet weather conditions says Ken Olson, SDSU Extension Cow/Calf Field Specialist.

Additionally, Olson says increased moisture means greater forage production. Taller forage pokes cattle in the face, serving both as an irritant to the eye, as well as a vector for the spread of the *M. bovis* organism from one animal to another.

Prevention of pinkeye begins with fly control and can also include pinkeye vaccines.

“A variety of vaccine products are available, and all have potential to boost an animal’s immune system against the *M. bovis* organism,” he said. “While these vaccines often may not completely prevent pinkeye occurrence, they will reduce severity. Follow specific label directions for whichever product is used to get maximum benefit.”

Olson says cattle should be vaccinated in the spring before fly season starts, because while the vaccine can be used later in the summer, in the face of a pinkeye outbreak, it will be much less effective.

Providing shade is another way to prevent pinkeye, as eye irritation from UV radiation can contribute to vulnerability of the eye to a pinkeye infection.

“A final preventive measure is early treatment of initial cases to minimize spread from infected cattle to others,” Olson said. “Unfortunately, cattle handling can be difficult in summer grazing settings. That said, treatment should be administered as promptly as possible to reduce the scale of outbreaks.”

The 4-pronged treatment approach includes:

- Providing a topical anti-bacterial powder in the infected eye(s);
- Injecting a small amount (1 ml) of antibiotic into the layers of the membrane of the inner eyelid;
- An intramuscular injection of a long-acting oxytetracycline; and
- Gluing a patch over the eye to protect it from UV radiation.

Olson reminds cattle producers that the bovine eye has great healing power and typically will recover quickly once provided these treatments. To learn more about pinkeye prevention iGrow.org.

To contact Olson, call 605-394-2236 or email Kenneth.olson@sd-state.edu.

Sudden Death Syndrome Of Soybeans Detected

BROOKINGS — During the 2012 soybean growing season, samples from eight fields in five counties in South Dakota tested positive for the sudden death syndrome pathogen. This is the first detection of sudden death syndrome of soybean in South Dakota, says Emmanuel Byamukama, SDSU Extension Plant Pathologist.

Byamukama explains that Sudden Death Syndrome (SDS) of soybean is a fungal disease that attacks soybeans early in the growing season but symptoms suddenly appear later in the growing season - during the flowering/reproductive growth stages through pod fill.

“The plants that looked perfectly normal turn yellow and die in a very sudden and short time frame, which is one to two weeks,” he said.

This disease is caused by a soil inhabiting fungal pathogen called *Fusarium virguliforme*. SDS causes symptoms on both roots and foliage.

SIGNS/SYMPTOMS OF SUDDEN DEATH SYNDROME

On foliage, symptoms of SDS first appear as small, pale green, circular spots on leaves during the early reproductive growth stages. These spots enlarge into striking/flashy yellow irregular blotches between veins while the veins remain green. The yellowed blotches turn brown and die.

“In severe cases, the leaves drop prematurely leaving the petioles attached to the stem. Infected plants may not always show foliar symptoms,” Byamukama said.

Roots of a soybean plant infected with SDS are rotted and discolored. Diseased plants can easily be pulled out of the ground because of rotted lateral roots. If the plants are pulled when the soil is moist; small, light-blue patches can be seen on the surface of the taproot. When the tap root of the infected plant is split lengthwise, the internal tissue will be gray to brown, as opposed to the normal cream white color of a healthy plant.

Although SDS is a relatively new disease in the mid-west, Byamukama says this disease has been occurring in the southern states for almost 25 years.

SDS, being a soil-borne pathogen, is difficult to manage and by the time symptoms are seen, there is little that can be done to manage the disease, Byamukama says.

“Seed treatments have not been found effective and foliar fungicides do not protect soybean from SDS infection. It is therefore important that growers scout their fields,” he said.

If SDS issue is suspected, Byamukama says growers should send samples to the Plant Diagnostic Clinic at SDSU at no grower cost, thanks to a grant from South Dakota Soybean Research and Promotion Council. He also encourages growers to keep notes on the history of SDS in their fields.

MANAGEMENT PRACTICES FOR SDS

Fortunately there are a number of management strategies in place that can lessen the impact of SDS on soybean yield.

“If SDS is confirmed in the field, use soybean cultivars that are SDS resistant or SDS tolerant,” Byamukama said.

Seed companies provide disease ratings for SDS, growers should check for SDS rating, once SDS has been confirmed in their fields. Planting should be in warm and well drained soils. Wet and cool soils promote SDS pathogen infection. SDS is commonly found in plants that are also infected with the soybean cyst nematode. Therefore managing the soybean cyst nematode may reduce chances of SDS infection. Because the SDS pathogen can survive on corn kernels, clean corn harvesting is encouraged.

To learn more visit iGrow.org.



PHOTO:RITA BRHEL

For The Health Of It

A Look At The Foundation Of Preventative Livestock Veterinary Care

EDITOR'S NOTE: This is the first of a two-part series on preventative livestock veterinary care.

BY RITA BRHEL

P&D Correspondent

Ann Wells began her career like so many others in her field. She graduated with her DVM from Oklahoma State University in 1980 and began practicing large-animal veterinary care. All was well until about a decade later when, after experiencing recurring parasite problems with her own sheep and goats, she had a change of heart toward her profession.

“I started questioning what I was doing,” said Wells who now consults producers in preventative veterinary medicine through her practice, Spring Pond Holistic Animal Health in Prairie Grove, Ark. “I would go out and treat livestock, then go home and wait for them to call me again, and I thought there must be a better way to serve livestock producers.”

Wells had come to a crossroads in her life — continue down her current path treating sick animals with an always-ready clientele, or take the less-traveled road in livestock disease prevention. She chose the latter, but it took a complete overhaul of how she had learned to approach animal health.

“It’s not taught in veterinary school, not taught in medical school, how to keep people healthy,” Wells said. “You’re taught how to treat disease.”

Going from the treatment approach to a preventative approach changes how the producer sees the interactions of the livestock with the environment. The environment is no longer something to be feared as a contaminant or a source of pathogens, but as an integral part of a healthy livestock ecosystem. Disease happens when the environment is out of balance, Wells says, and preventative medicine works by managing the environment.

“Livestock don’t have to get sick,” she said. “A holistic approach looks at animals and the environment together.”

Holistic animal health views animals and the environment as one in the same, as components of a whole system, and the interactions of which determine how well the system works together, Wells says.

“Inter-relatedness helps improve the whole system,” Wells explained. “Change one part of

the system to improve the health of the whole system.”

THE SILVER BULLET

Wells doesn’t want to call it a silver bullet, because people are wary of anything that sounds too good to be true, but there’s a reason why so much emphasis has been placed on rotational grazing and why so many producers swear by it: Rotational grazing is the best environment for raising livestock.

Livestock are created to be ruminants, so the best environment is in a grazing system, she said. Disease occurs more in confined, dry lot, grain-based environments because they are not the natural environment for ruminants.

In a rotational grazing system, the foundation of health begins in the pasture’s health: soils, grazing management, and drinking water.

“If you focus on these, you don’t have to focus on the rest as much,” Wells said — the rest being animal breeding, housing, equipment, and finally traditional-model veterinary care, such as vaccinations and disease treatments.

BUILDING THE FOUNDATION

Before focusing on the specifics of livestock management, producers need to become experts in grazing management on their operations, Wells said. They need to know the ins and outs of their farm’s system, and what they have on hand and what they need to get to where they need to go. The first step is in taking an inventory of what they have now:

1. Map the soil types — obtain a soil map from the local Natural Resources Conservation Service (NRCS) and double-check it with soil tests in various parts of the pasture. “You want to study the results, not the recommendations, because often what the recommendations are for is not the type of operation that you’re doing,” Wells said.

2. Map the forage types — write a pasture history, whether by memory or talking to former owners. Take photographs or write in a diary of how different parts of the pasture react to the seasons, weather, grazing pressure, and so on. Identify forage types, and send samples to a university lab for nutrient analysis.

3. Review animal histories — write the management history for each animal owned, not only in the current operation but also inferred from past producers. This goes beyond birth weight, percent calf crop, average daily gain, and other data that are important, but also includes details such as

whether a management system is grain- or forage-based, continuously or rotationally grazed, and so on. For example, “A lot of producers go out and buy a bull and then him out in the pasture. If that bull was fed a lot of grain, that bull will just melt away. If you know his management history, you can bring him in and wean him off grain and onto a forage system slowly,” Wells explained.

Once the producer has taken an inventory of his system, he can determine what needs to be done moving forward. Before making big changes, however, Wells recommends acquiring a NRCS Conservation Plan Map of the farm, on which the producer the draw out plans for fences according to natural contours of the grazing areas, water accessibility, and position of permanent features such as buildings and roadways.

This is also the time to write down goals and the steps needed to reach them, including a timeline. This can be a tedious chore for producers, but it’s a crucial step to get a big-picture idea of future plans in light of what’s going on now on the farm.

“You can draw lines and draw new lines, and it won’t cost you a dime, but if you go out and build a fence and find out a year later that it wasn’t a good spot, it’s going to cost you a lot — in money and labor,” Wells said.

Finally, it is during this getting-started phase in designing a preventative health program for producers to study up on what a healthy animal looks like. Because of the current veterinary model of less prevention and more treatment, many producers have lost touch with what healthy behavior looks like in animals, such as alertness, bright eyes, erect ears, sleeping and eating patterns, chewing cud, having a full rumen, not limping, no diarrhea, and so forth. There are abnormal behaviors that show up before an animal can be diagnosed with an actual disease, that can signal that the environment is out of balance and that disease is imminent.

“When you have a sick animal, that animal is going to cost you money because you got to treat it,” Wells said.

Part 2 of this series will look beyond pasture inventory to assessing individual animals that have potential for both profitability and natural disease resilience, as well as how to manage a livestock production system based on preventative veterinary care.

Symposium Speaker To Discuss Breeding Healthier Cattle

BROOKINGS — Among the topics at the SDSU Extension Seedstock Symposium will be a discussion on Disease Susceptibility, its effect on the cattle industry, and how highly or lowly inheritable they may be. The SDSU Extension Seedstock Symposium will be held June 27-28 at the SDSU Extension Regional Center in Sioux Falls.

Leading the discussion on disease susceptibility will be James Reecy, an Iowa State University professor.

“Environmental and genetic factors impact disease susceptibility/resistance in all species,” Reecy said.

He adds that the combined impact of environment and genetics need to be optimized to improve the resistance to any given virus, bacteria or stress that causes diseases.

Throughout the presentation, Reecy will use Bovine respiratory disease, BRD or BRDC as an example disease, because it cost the beef industry \$6.92 million in 2005. For perspective, the number two factor resulting in cattle losses was roughly half at \$3.67 million.

Reecy points out that genetic resistance to diseases is a popular topic and has been shown to work; examples include nematode infec-

tion, mastitis, cattle ticks and enhanced immune responsiveness.

“Selection for disease resistance can be implemented in a number of ways, including the observation of the disease. Challenge all animals, challenge relatives to breeding stock, observe pathogen products and finally examine biological immune response,” Reecy said.

Breed differences in resistance and sensitivity to BRD have shown big differences in morbidity and mortality across the breeds. Reecy will discuss the differences and the genetic correlation between the disease resistance and other traits

usually used in beef cattle evaluation and selection — growth, carcass weights, palatability daily gain and energy intake.

The Seedstock Symposium has been developed through a partnership with the SD Beef Breeds Council. The Seedstock Symposium begins June 27 with registration at noon on and wraps up at 3 p.m. June 28. More information on topics and speakers can be found at www.igrow.org and registration can be done through the iGrow store. Call the SDSU Extension Regional Center in Sioux Falls with questions, 605-782-3290.

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