Farm Focus - Fall 2009

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POTOMAC HORSE FEVER

It is that time of year again. The East Tennessee summer is stretching out and providing one last blast of heat before segueing to temperate days and bursts of color that make fall feel as if it were made just for riding and horsing around. This also heralds the peak season of Potomac Horse Fever (PHF). PHF is endemic in our area and has potentially serious implications for the health of your horse. Neorickettsia risticii causes PHF. The life-cycle of this organism includes a trematode (fluke, parasite) that parasitizes snails, aquatic flies (May flies, caddis flies, etc.), and bat intestines. Horses become infected through eating or drinking the fluke itself or the aquatic insects. Additionally, barn swallows or bats may eat the snails and flies and then pass the *N. risticii* in their feces, which may subsequently be ingested by horses. Therefore, while PHF is found in higher numbers near water, horses may be infected even if they do not live directly by or near bodies of water.

The most well-known manifestation of disease in horses affected with PHF is colitis, or diarrhea; however, the diarrhea is only present in about 60% of clinical cases. Signs and severity can vary significantly between horses and different symptoms may include fever, anorexia, depression, or colic. Decreased appetite due to fever is often the first observed sign of illness, which may then progress to more serious symptoms, including diarrhea, which may result in the need for hospitalization. Horses with PHF respond well to treatment with oxytetracycline antibiotic and supportive care (fluid support, anti-inflammatories, etc.); the oxytet is given intravenously for 3-5 days, and hospitalization is usually required. Up to 30% of horses who become clinically sick can develop laminitis (founder), and half of the horses who founder are euthanized. PHF also causes abortion; mares affected in early to mid-gestation abort an average of two and a half to three months following the initial signs.

Owner awareness and early recognition are key to minimizing the impact of the disease. While a vaccine is available, it produces a variable response and is not effective against all strains of the disease. Anecdotal reports suggest vaccination may decrease the severity of illness, but these claims have not been validated. If the vaccination is administered, it should be given twice a year. Management changes such as keeping water away from lights that may attract insects at night may also aid in preventing the disease.

Diagnosis involves simple blood testing (PCR and serology for antibodies). It is essential to contact your veterinarian early if your horse shows signs of depression and decreased appetite to minimize the potential for the development of the more serious signs and complications associated with PHF.

Acting fast and working with your veterinarian can help you and your horse enjoy each other's company for many autumns to come.
Genes are the things that make us what we are. All mammals get half their genes from their mother and half from their father. Genotype is the genetic information in chromosomes and phenotype is what you see when you are the genes are expressed (red hair, blue eyes, short, tall, dark complexion, etc.). The different variations of a gene are called alleles. A dominant allele “trumps” a recessive allele. The inheritance pattern of most genetic congenital defects is simple recessive. The defective calf inherits a recessive gene from its sire and one from its dam. The parents of a genetically defective calf will generally have at least one ancestor in common. When more than one genetically-caused defective calf is born in a herd in the same calving season, their dams are usually related (for example, half sisters) and are sired by the same bull. A change in the breeding program is required to correct this situation.

So what about your cattle? Are they carrying some defective genes that cause congenital defects in calves? Don’t jump to conclusions until consulting all the facts. Remember, not all congenital defects are inherited and many are due to environmental factors. If the defect appears to be inherited, and a test is available, submit samples for testing and parentage verification. Finally, if some of your cattle are carriers of a heritable defect, all is not lost. With testing and proper breeding management, valuable genetics can be retained.

In addition to testing affected calves, one of these defects is properly immunizing calves in order to protect them against disease. Vaccination of beef cattle is a type of insurance, protecting cattle against catastrophic disease. Often, producers consider vaccinating cattle with a cost with little likelihood of a return on their investment. However, vaccination is a proven method to increase weight gains in calves and decrease reproductive failure. If you haven’t already vaccinated your herd during the spring, it is not too late. If you have, then you primarily need to booster various vaccines. The food animal team at the University of Tennessee College of Veterinary Medicine can design an individualized vaccination program for your herd. The vaccination program listed below is generic. Although it may fit some herds as is, it is intended to be used as a guide that can be customized. Consult your veterinarian for a protocol to fit your specific operation.

- IBR, BVD, PI-3, BRSV - in combination to protect against Bovine Respiratory Disease Complex. These are common viruses that frequently cause pneumonia, diarrhea, and other issues in calves. Reproductive problems such as abortions are also seen.
- Leptospirosis - causes kidney disease, abortions, and death and can spread from infected cattle, rodents, stagnant water, dogs and other animals.
- Johne’s Disease - causes weight loss and is a risk to human health.
- Calves’ vaccination history determines if they will require booster vaccinations.

Utilizing MLV (modified live vaccines) versus killed vaccines is another option for the producer to consider when vaccinating calves. This may depend on whether the calves are to be retained, backgrounded, sold at a stock yard, delivered to a feedlot, etc.

Another important task each fall is to have cows checked for pregnancy status. Feeding an open cow through the winter months is very costly. Potentially vaccinating a cow for IBR, BVD, PI-3, BRSV.

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The common clinical signs in adult horses are stretching, pawing the ground, looking at the flank, laying down and rolling. Extreme pain can cause horses to get up and down repeatedly and roll. Most horses that are colicking will not be interested in feed, some will continue to eat, especially if their pain isn’t severe. Horses have increased heart rate and normal heart rate for a horse is 36-44 beats/minute. Your veterinarian can easily show you how to check your horse’s heart rate.

Call your veterinarian immediately if you notice any signs of colic because some horses become sick very fast (within hours of the first signs). Things to do while waiting for your vet:
- Do not get hurt trying to control a violently colicking horse. If your horse is experiencing severe pain, he is unable to be controlled or consolled. Leave him in a relatively bare stall or paddock so the horse can’t hurt himself.
- Remove the food and hay from any horse that is showing clinical signs of colic.
- While most horses will not eat when they are painful, there are some conditions that can worsen with feed. Your veterinarian can help you determine when and what you should feed your horse after a colic episode.
- Walk your horse if he doesn’t resist and it seems to calm him. Avoid excessive exercising as this can lead to dehydration and may worsen the colic.
- Determine with your veterinarian whether to administer flunixin meglumine (Banamine®) before the vet arrives. Only give one dose of this medication every 12 hours at the most because it can cause kidney disease and gastrointestinal irritation. If one dose doesn’t decrease the horse’s pain within 12 hours you will likely help and may cause more problems. Dealing with a painful horse is a high-stress and emotional situation. Try to remain calm and keep your horse as calm as possible without getting hurt while waiting for your veterinarian to arrive.

Call your veterinarian immediately if you see any signs of colic because some horses become sick very fast (within hours of the first signs).

**All in the Family:** Heritable Defects of Cattle continued from cover.

**Routine Fall Herd Work**

Fall brings the time of year when many beef producers are getting calves ready for weaning and other activities. One of those activities is properly immunizing calves in order to protect them against disease. Vaccination of beef cattle is a type of insurance, protecting cattle against catastrophic disease. Often, producers consider vaccinating cattle with a cost with little likelihood of a return on their investment. However, vaccination is a proven method to increase weight gains in calves and decrease reproductive failure.

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UTCVM’s field service team brings you “FARM FOCUS”: information to help you provide the best care for your animals.

You can visit www.vet.utk.edu/departments/LACS for this and other information. To receive “FARM FOCUS” electronically, please visit our site to sign up.

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When: Saturday, December 12, 2009
Location: UT College of Veterinary Medicine, Room A118
Cost: $15/individual

UT GOAT PRODUCER CONF.
When: Saturday, February 20, 2010
Location: UT College of Veterinary Medicine, Room A118
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