October 2009

**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.

All in the Family: Heritable Defects of Cattle

After breeding one of your best cows you were hoping she would have a heifer, but this was much different because she had a “monster” instead. It took the vet almost two hours to deliver the calf and the cow almost died. Worst yet, you heard the vet say that the abnormal calf may have been caused by genes carried by the cow. What are you supposed to do? Could your cattle be harboring defective genes?

While the cause of many congenital birth defects is unknown, some are caused by environmental factors and some are inherited. The environmental factors include: an excess or shortage in the level of certain nutrients; toxic plants or other toxic substances; infectious diseases; and/or extremes in temperature during pregnancy. Inherited congenital defects, however, are caused by genes.

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

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 will "trump" a recessive allele. The inheritance pattern of most genetic congenital defects is simple recessive. The defective allele inheres 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 only one genetically-caused defective calf is born in a herd, it is 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 any of these genetic traits? A hereditary trait can be present in a carrier before it is expressed. In the case of the abnormalities you see, it is the manifestation of the gene(s) that is showing clinical signs of colic. Call your veterinarian immediately if you see any signs of colic because some horses are painful, there are some conditions that can worsen with feed. Your veterinarian can help you determine what to do while waiting for your vet.

Do not get hurt trying to control a violently-collecting 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 feed 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 flumazine meglumine (Bananine) 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 another dose within 12 hours will not 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.

Things to do while waiting for your vet:

- Do not get hurt trying to control a violently-collecting 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.
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Future articles will discuss different types of colic and some of the treatments available.

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Calf is one of the most common emergencies that equine veterinarians treat. Calf, or abdominal pain, can be caused by an endless list of things not all of them directly related to the gastrointestinal tract. Most horse owners and enthusiasts know how colicking horses act, but it never hurts to review the clinical signs and discuss things you can do while waiting for your veterinarian.

The clinical signs of colic vary between horses and often depend on their level of pain. Foals typically paw their tails and lay down. If the pain is more severe foals often roll on their backs and stay in the fetal position. Some foals that are colicking appear to be nursing, but on closer inspection, they are just fidgeting at the teats and not actually drinking.

The most common clinical signs in adult horses are stretching, pawing the ground, looking at their 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. Most horses have increased heart rate (normal heart rate for a horse is 36-44 beats/min). Your veterinarian can easily show you how to check your horse's heart rate.

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

DO YOU WANT COLIC USES?

Herd Fall

PROACTIVE POLICY USES

Herd

FALL

WORK

Welcome to the team.

Dr. Betsy Coffman is our new field services veterinarian. She was raised in Albuquerque, NM and Denver, CO, and her family relocated to Clinton, TN in 2001. Since then, her blood has turned orange as she completed both her undergraduate and veterinary degrees at the University of Tennessee. When not on duty, she spends as much time as possible riding her horses along the numerous trails in the area.

Your Field Services Team 2009-2010:

- Brian Whitlock DVM, PhD, DACVIM, Maria E Prado DVM, MPH, DACVPM
- Matt Wellborn DVM, MPH, DACVPM
- Amy Plummer DVM, DACVS
- Kristie J Steuer DVM
- Betsy Coffman DVM

EQUINE AND FOOD ANIMALS:

- Herd Health/Production Medicine: Blood Work, Deworming, Health Papers, Herd Health Management, Nutritional Evaluations and Recommendations, Vaccination, etc.
- Field Restraint: Anesthesia, Portable Chute, etc.
- Field Medicine & Surgery: Gastrointestinal, Musculoskeletal, Reproduction, Wound Management, etc.
- Reproduction: Artificial Insemination, Assess Fetal Sex, Breeding Schedules, Prefix Exams, Progesterone Exams (Including Ultrasound), etc.
- 24 Hour Emergency Care: Birthing Assistance, Choke, Colic, Down Animal, Founder, Wounds, etc.

EQUINE SPECIFIC SERVICES:

- Dental Work (Including Mechanical Teeth Float)
- Endoscopy, Insurance Exams
- Lameness Workup (Including Digital X-Ray Capabilities)
- Pre-Purchase Exams
- Acupuncture

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Please contact Claire Eldridge, UTCVM Development Director, at (865) 974-6477 or celdridge@utk.edu

Pledges must be paid in full by March 15, 2011 to qualify.

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**UT CATTLE HEALTH PRODUCER CONFERENCE**
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
Cost: $20/individual

For more information on either one of these conferences please contact:
Dr. Jerry Roberson at (865) 974-5707 or visit www.vet.utk.edu/clinical/lacs

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