ARMOR ANIMAL HEALTH

Professional Services Veterinarian Department

TECHNICAL BULLETIN

CALF SCOURS IDENTIFICATION

Calf scours or diarrhea can be a devastating disease: it can infect numerous animals, create large treatment costs and have a prolonged impact on animal health and performance. Scours is the primary cause of calf death before weaning. Preventative measures during this critical period are important to reduce incidence of sickness and mortality.

Contributing factors to the development of scours include:

- Inadequate amounts of colostrum
- Poor quality colostrum
- Contaminated colostrum
- Difficult calving
- Dirty environment
- Weather extremes

Clinical signs include:

- Diarrhea, sometimes with blood or mucus
- Dehydration
- Loss of suckle reflex
- Weight loss
- Weakness
- Sometimes fever
- Death

Calves develop scours when they are exposed to particular pathogens in the environment that then grow in their intestines. **There are four main causes of diarrhea: bacterial, viral, protozoal and nutritional.** Bacteria cause diarrhea by producing toxins that cause the lining of the intestines to release fluid into the gut. Both viruses and protozoa directly damage villi, which are tiny projections in the lining of the small intestine that are responsible for nutrient absorption. Thus, the gut can't absorb nutrients or electrolytes into the bloodstream. Nutritional diarrhea develops when calves are on a poorly digestible milk replacer that allows nutrients to reach the large intestines, permitting harmful bacteria to grow. There is no research to show that feeding healthy calves excess milk will cause diarrhea.

Scouring calves will lose 5-10% of their body weight per day from water loss. Regardless of the cause, all calves require continuous fluid replacement for as long as the scours continues or calves will die from dehydration alone.

Dehydration	Symptoms	Treatment
0-5%	Mild depression, standing, strong suckle	Oral electrolytes
6-8%	Depression, weakness, sunken eyes, dry mouth/ nose, skin tents, some suckle	Oral electrolytes
8-10%	Marked depression, down, very sunken eyes, pro-longed skin tent, no suckle	IV fluids
10-12%	Comatose, down, cold	IV fluids
12-14%	Death	NA

****Preventing diarrhea with good hygiene and colostrum management are the best management practices.** Please note that these are general recommendations only and are not all-inclusive, as there are additional causes of scours. If you have further questions, please contact your veterinarian.

DETECT. *DEFEND.* DELIVER.

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Calf Scours FAQs:

Q: My calf has scours, how can I tell what is causing it?
A: The best way to determine the cause is to have your vet necropsy a dead calf and send tissue samples to the lab for testing. In the meantime, ***look for the following distinguishing features that can help pinpoint the pathogens, especially the time at which calves break with diarrhea.***

Cause of Scours	Specific Agent	Age of Onset	Distinguishing features
Bacterial	*E. coli*	Less than 5 days	Septicemia (blood poisoning), severe diarrhea, sudden death
	Salmonella	Any time	Blood/mucous in feces, high fever, pneumonia
Viral	Rotavirus	5 days - 2 weeks	Often paired with another cause
	Coronavirus	5 days - 3 weeks	Sneezing, coughing, runny nose
Protozoal (Parasites)	Cryptosporidium	1 - 4 weeks	Long lasting diarrhea (over 2 weeks)
	Coccidia	1 - 6 months	Blood/mucous in feces, overcrowded, thin, unthrifty
Nutritional	Poor quality milk replacer	Any time	Otherwise healthy

Q: How do I treat calf scours?
A: Regardless of the cause, all calves require fluid replacement therapy via either oral electrolytes or intravenous (IV) fluids while the scours continue.

- **Fluids:** If a calf is down and unable to stand, then IV fluids are required until the calf can suckle on its own. If a calf is bright, alert, still drinking, doesn't have a fever or blood in the manure, then fluid therapy alone can be used without having to resort to antibiotic treatment. **A minimum of two quarts of oral electrolytes should be given at least twice a day** while the scours continue, and should be offered between regular milk feedings. **Calves should not be kept off milk for more than 24 hours as they need the energy in milk to grow and heal.**
- **Antibiotics**: Antibiotics will not directly help if the cause of the diarrhea is viral, protozoal or nutritional. In general, if a calf is not eating, is dehydrated, feverish, depressed, or has blood or mucus in its stool, then antibiotic and anti-inflammatory treatment is advised. **You should consult your veterinarian to determine which antibiotic is recommended for your farm.**
- **Additional Treatment Options:** Probiotics are commonly recommended for scouring calves. Intestinal protectants such as kaopectate and bismuth may help coat the lining of the gut and decrease scours. Activated charcoal helps absorb toxins in the gut and can be beneficial for bacterial causes of scours. Calves with coccidia need to be treated with oral amprolium or sulfas.

**Please note: Humans can also become sick from *E. coli, Salmonella,* and Crypto. Anyone handling sick calves should thoroughly wash their hands or wear gloves. Children and the elderly should stay away from scouring calves as they are more prone to becoming ill. If you suspect you or a family member is infected, consult a doctor.

For More Information Contact:
1.800.255.1181
info@armorah.com

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