

Scours in livestock: Prevention and treatment

By: Lark L. Burnham, Ph.D. | Animal nutrition

Pathogens like *E. coli* exist in small numbers, both in the soil and in animals. Many can live indefinitely in a protective state, waiting for just the right conditions to cause mayhem. Stress is usually the determining factor.

Healthy mammals have a robust immune response that usually suppresses incursions by small numbers of pathogens. Infection is more likely if a) the immune response is impaired, as in stressed animals; b) the numbers are large; or c) the pathogen is virulent. The combination of an impaired immune response, large numbers, and virulence can almost guarantee illness.

Stress (environmental, nutritional, or emotional) triggers a rapid series of biological events in the animal that redirect energy to the large muscles for the “flight or fight” response. This redirection can interrupt the flow of nutrients to the beneficial microbes in the gut which depend on everything to come to them. They die of starvation and leave gaps in protection. Opportunistic pathogens rapidly expand their numbers to fill the available gaps.

The severity and duration of the stress will determine whether the pathogen numbers become large enough to become a problem.

Young mammals are born with a gut that is empty of any microorganisms except for the fecal microbes ingested during birth. That collection of 400 or so species takes about two weeks to populate the gut. It is a race against time, will the beneficial microbes get established before environmental or nutritional stress allows pathogens to beat them to it?

Livestock neonates, like most ruminants, are often born during very challenging weather conditions. The challenge is even greater with wide fluctuations in temperature. Survival depends on newborns’ innate hardiness or external protection such as a barn. Mature ruminants are better equipped to withstand these conditions because they have an internal furnace: microbial fermentation is inefficient, a lot of energy is lost as heat.

Scours is usually initiated in a herd by environmental stress, it can spread if enough infected calves leave deposits of viable pathogens to inoculate others. Since bad weather is often a given, the only way to prevent an epidemic is by prevention. Scours can quickly kill a calf/cria/lamb, by a combination of dehydration and the loss of essential electrolytes.

Neonates are most vulnerable during the two week period between birth and full gut proliferation. Protection from both environmental and handling stress can be minimized with the oral application of either MSE Microbial Drench or Paste at the time of processing.

MSE Microbial Drench is economical and may be given orally by syringe. A dose from 1 to 3 cc/calf, cria, or lamb is recommended (1 cc/20 lb. bodyweight). MSE Microbial Paste is convenient and is pre-loaded into a syringe. Scours from handling can be avoided with the addition of either Scour-aid from Natur’s Way, or bentonite clay, mixed with water. It can be given orally at the same time as MSE Drench.

Scours can still happen in young pre-ruminants, especially if conditions are extreme and enough time has passed since processing. The same products, MSE Drench or Paste, and Scour-aid or bentonite, are recommended for treatment of affected animals. Rapid identification and treatment will reduce the damage and insure quick recovery.

Bentonite is a very finely ground clay that is commonly used to seal ponds and water tanks. It is usually available in 50 lb. bags from feed stores. Scour-aid contains bentonite, pectin (which

also stops diarrhea), and electrolytes. Bentonite and Scour-aid are quick-fixes, they do not address the cause of the diarrhea. The scours will return unless MSE Drench or Paste is administered at the same time.

A two-fisted approach, MSE + bentonite/Scour-aid, is strongly recommended a) at neonatal processing, branding, and castration; and b) at the first appearance of scours. Be proactive, stop scours before it starts and save more animals.

About the Author:

Lark Burnham received a B.S. in Animal Science (1979) from Kansas State University and an M.S. in non-ruminant nutrition (1995) from Kansas State University, Manhattan, and a Ph.D. Doctorate in ruminant nutrition (2004) from Texas Tech University, Lubbock. Her special interests are comparative nutrition, the role of the micro flora in all mammals, fiber digestion, and probiotics. Lark currently works for Natur’s Way, Inc., Horton, KS which produces MSE probiotics.

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