

Calf Scours: Causes, Signs, Prevention, and Management

BROOKINGS, S.D. - Once calves are safely on the ground, many cattle producers continue to worry about the possibility of neonatal calf diarrhea or calf scours, explains Janna Kincheloe, SDSU Extension Research Associate. "Calf scours is one of the primary health problems in baby calves. Digestive problems such as calf scours are the reason for 14 percent of death loss of calves less than three weeks old," said Kincheloe, referencing a 2007-08 study conducted by the USDA National Animal Health Monitoring System (NAHMS). Scours cases typically can be blamed on infectious agents which include: bacteria such as E. coli and Salmonella; viruses such as rotavirus and coronavirus; or protozoan parasites such as Cryptosporidia and coccidia. "Even so, management-related issues play a large role in allowing these organisms to affect calves," said Russ Daly, SDSU Extension Veterinarian, SDSU Professor. Daly highlighted two of the main factors: inadequate nutrition of the dam, which may lead to poor colostrum quality and quantity; and wet cool weather, which results in cold stress for the calf and good survival conditions for scours-causing germs. "Because there is such a long list of factors that contribute to this ailment, it is often difficult to pinpoint one single intervention that will eliminate the problem," Daly said. He and Kincheloe encourage cattle producers to consult their veterinarian in order to select effective treatment options and help develop management strategies to prevent future scours outbreaks.

What to do when calves get scours

Daly explained it is the loss of water and electrolytes experienced by scouring calves which causes dehydration and alters a calf's acid-base balance of body fluids. He said oral fluid replacement using a calf feeder should be the initial method used to restore water and electrolytes in a calf with diarrhea. A variety of dry electrolyte powders are available that can be mixed with water for oral administration. "These products contain sources of minerals, energy, and buffers in the correct proportion to sufficiently address the needs of the calf," he said. He added that solutions which contain acetate or propionate as buffers are preferred over solutions using

bicarbonate. "These solutions should be fed separately from milk," Daly said. "Calves should be encouraged to nurse (or be fed by hand) during treatment since they need the protein and energy supplied by milk to effectively fight off the infection."

When calves show clinical signs that indicate severe (greater than 8 percent dehydration; Table 1), oral electrolytes may not be sufficient, and intravenous (IV) fluid therapy will be necessary.

"Most dehydrated calves will also suffer from hypothermia, and may need to be placed in a hot box or under a heat lamp during treatment," Daly said.

Colostrum's value

Severe scours outbreaks are often associated with bad weather conditions and storms. Since weather conditions are often unpredictable, a

clean, dry place for calves early in life is very important. "Calving areas should be separate from standard wintering areas in order to reduce the incidence of bacteria and other infectious agents," Kincheloe said. She added that consumption of sufficient colostrum within hours of birth is extremely important in ensuring immunity against the various infectious diseases that cause scours.

A broad-spectrum scours vaccine given to pregnant heifers and cows up to 16 weeks prior to calving and again within 4 weeks prior to calving will build antibodies in the colostrum to protect against pathogens that may cause scours. "However, a vaccination program alone cannot prevent the incidence of scours due to poor sanitation, inadequate nutrition and facilities, and poor calving management," Daly added.

"These are all critical components in preventing disease and ensuring a healthy calf crop."

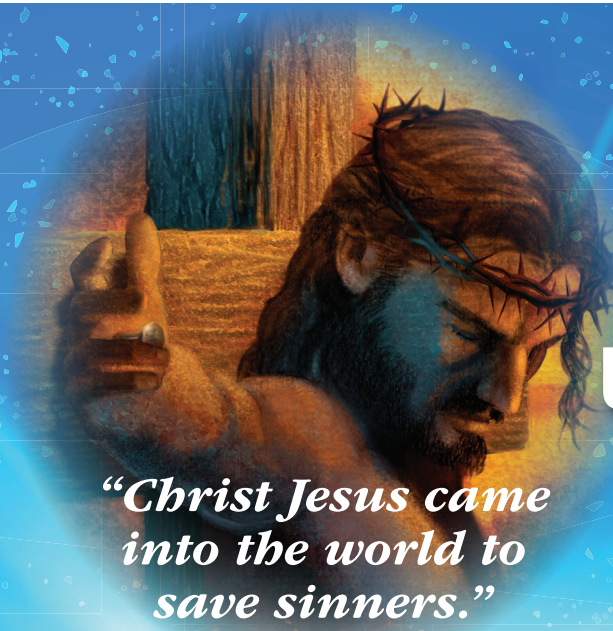
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Table 1

Dehydration (%)	Acidosis Level	Eyeball Sunkness	Skin tent time (sec.)	Mucous Membranes	Clinical Presentation	Fluid Therapy
0-4	1	None/slight	1-4	Moist	Bright and alert, strong suckle reflex, warm mouth, cannot be caught	None or possible oral fluids
5-8	2	Slight separation between eyeball and orbit	5-10	Tacky	Standing or sitting quietly, weak suckle reflex, walks away when approached	Oral fluids and electrolytes
9-10	3	Up to 0.5 cm between eyeball and orbit	11-15	Tacky	Depressed, will not stand, no suckle reflex, cold mouth, readily caught	IV fluids required
11+	4	Gap between eyeball and orbit is 0.5-1.0 cm	>15	Dry	Collapsed, moribund, lateral recumbency, no suckle reflex, very cold mouth	IV fluids required

Where will you spend Eternity?



"Christ Jesus came into the world to save sinners."

Where will all unbelievers spend Eternity?

In Him we have redemption through His blood, the forgiveness of our trespasses.

"He that believeth and is baptized shall be saved."

"He that believeth not shall be damned."

HEAVEN

"Enter by the narrow gate, for the gate is wide and the way is broad that leads to destruction and many are those who enter by it."



HELL

"For the gate is small and the way is narrow that leads to life and few are those who find it."

"Go into all the world and preach the Gospel to all creation."

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