

CALF ENTERITIS INVESTIGATION

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Detection of Rotavirus in Feces of Diarrheic and Non-diarrheic Calves

Fecal samples of calves with clinical diarrhea and those not exhibiting clinical diarrhea were examined by three different laboratory methods to determine the presence or absence of the rotavirus. Rotavirus is considered one of the major causes of diarrhea in neonatal calves as well as other farm animals and humans.

The testing procedures utilized included culturing of the fecal specimens on cells (cell culture), and enzyme-peroxidase test (Rotazyme) and electron microscopic examination of feces (EM).

The fecal specimens were examined from 20 calves exhibiting clinical diarrhea and 29 calves exhibiting no clinical signs of diarrhea.

The results of this investigation indicated no correlation between the testing procedures and based on the testing procedures, the rotavirus was not a factor in the cause of clinical diarrhea in these experimental animals. See Table 1.

Table 1.			
Clinical Cell			
Diarrhea	Culture	Rotazyme	EM
20+	-	2+	-
Calves			
29-	-	3+	-
Calves			

Solar Radiation in Relation to Calf Diarrhea

Temperature, humidity, and solar radiation were recorded in the environment of 39 new born beef calves. No significant relationship of clinical enteritis was detected for humidity and temperature only.

Solar radiation (recorded as Kjoules/m² (K)) was 12,000 to 25,000 K through April and up to May 9. During this period 89.4% of the cows involved in this investigation had calved. On May 9, solar radiation decreased to 5,000 – 10,000 K and remained at this level until May 18 when it increased to 20,000 – 25,000 K. On May 16, six days following the initial decrease of solar radiation, 2.6% of the calves exhibited clinical diarrhea. Clinical enteritis was exhibited on May 17 (2.6%) and May 18 (13.0%), one day after the solar radiation increased (May 19), no clinical signs of enteritis were recorded.

Preliminary data obtained would indicate that solar radiation is a major contributing factor to the prevention of calf enteritis.

Vaccination with E. coli Bacterins

The cows involved in this investigation had been vaccinated one year previously, thus only a booster or single vaccination was given in 1981-82 calving season. The results of this investigation are presented in Table II.

Table II			
	Controls	K99 Vaccine	Coligen Vaccine
Total No.	34	29	27
Clinical Enteritis	4	5	7
Percent Clinical Enteritis	11.8%	17.2%	26.0%

Based on the results of this investigation, vaccination with E. coli bacterins had no demonstrable preventive activity to clinical enteritis in the neonatal calf.