

Effect of Pinkeye on Weaning Weight of Beef Calves

A. B. Cobb, R. R. Frahm and R. H. Mizell

Story in Brief

At weaning time in September of 1975, 88 Hereford calves and 184 Angus calves were carefully examined for evidence of Pinkeye. Among Hereford calves, 17 percent exhibited symptoms of Pinkeye in one or both eyes, whereas among Angus calves only 2.2 percent of the calves were infected. On the average, calves with Pinkeye were 33 lbs. (8.5%) lighter at weaning time than calves that did not have Pinkeye.

Introduction

Pinkeye is a specific contagious disease that affects the eyes of cattle. It is known under the medical terms of ophthalmia, conjunctivitis and infectious Keratitis. Pinkeye is characterized by photophobia, lacrimation, conjunctivitis and varying degrees of corneal opacity and ulceration.

Pinkeye is a problem that has plagued cattlemen for many years. Although it has been observed in animals of all ages, it is more prevalent among younger cattle, especially calves. The disease is more common during the summer months. Factors such as strong sunlight, tall grasses and weeds, insects and perhaps many other factors are more prevalent during the summer that can cause irritation and injury to the eye; thus, causing the eye to be more susceptible to Pinkeye infection. Animals that have less color or pigment about the eye seem to be more susceptible to Pinkeye infection than animals with darker pigmentation about the eye.

Although Pinkeye is more prevalent in certain years and certain areas, the disease is widespread throughout the United States, especially among range and feedlot cattle. It has been estimated that Pinkeye is observed annually in nearly half of the beef cattle herds in the U.S. and affects 3% of all beef cattle. Hundreds of thousands of dollars are spent each year to prevent and treat Pinkeye. This study was conducted to determine the effect of Pinkeye on calf weaning weight.

Materials and Methods

Calves involved in this study were produced in purebred Hereford and Angus herds that are involved in a long term genetic improvement study at the Southwestern Livestock and Forage Research Station at El Reno, Oklahoma. The calves were born in February, March and April of 1975 and remained with their dams without creep feed until weaning. The cattle were managed on native range and bermuda grass pastures as a single herd except for a 60-day breeding season (May 1 to July 1), when they were allotted to 24 different breeding pastures.

The calves were weaned on September 18, 1975 at an average age of 205 days. Weaning weights were adjusted to 205 days of age and further adjusted for age of dam. At the time of weaning, each calf was examined for evidence of Pinkeye in either or both eyes and also as to the severity of the disease as to the extent of ocular damage caused by it. In the data summarization, severity of the Pinkeye infection was not considered.

Results and Discussion

The incidence of Pinkeye in bull and heifer calves for the Hereford and Angus herds is shown in Table 1. Of the 88 Hereford calves examined, 15 (17.0%) had Pinkeye. On the other hand, out of 184 Angus calves examined only 4 (2.2%) had Pinkeye. Nine of the 15 Hereford calves had Pinkeye in both eyes and 6 were infected in only one eye. Among Angus calves, two were infected in both eyes and two in only one eye.

Average weaning weights for noninfected and infected calves are presented by breed and sex in Table 2. Consistently, calves infected with Pinkeye were lighter at weaning for each breed-sex category. The num-

Table 1. Incidence of Pinkeye In Weaning Age Calves

Breed	Sex	Total Calves	Calves with:		Incidence of pinkeye, %
			Pinkeye Absent	Pinkeye ¹ Present	
Hereford:	Bulls	44	35	9	20.5
	Heifers	44	38	6	13.6
	Total	88	73	15	17.0
Angus:	Bulls	96	94	2	2.1
	Heifers	88	86	2	2.3
	Total	184	180	4	2.2

¹Pinkeye present in either or both eyes.

Table 2. Average Weaning Weights of Calves Infected and Noninfected with Pinkeye

Breed	Sex	Pinkeye Absent		Pinkeye Present ¹		Difference (lb.)
		No. Calves	Weaning ² Weight, lb.	No. Calves	Weaning ² Weight, lb.	
Hereford:						
	Bull	35	452	9	417	35
	Heifer	38	427	6	416	11
				Average Difference		23
Angus:						
	Bull	94	427	2	369	58
	Heifer	86	407	2	339	68
				Average Difference		63
Over Both Breeds		253	19 Weighted	Average Difference ³		33

¹Pinkeye present in either or both eyes.

²Weaning weights adjusted to 205 days of age and further adjusted for age of dam.

³Average differences between noninfected and infected calves pooled over breeds and sexes.

ber of calves with Pinkeye infection were too few, particularly for Angus bulls and heifers, to make critical comparison between breeds or sexes relative to how much weight loss occurred as a result of Pinkeye. Thus, the results were pooled over both sexes and breeds. On the average, the 19 calves infected by Pinkeye were 33 lbs. (8.5%) lighter at weaning time than the noninfected calves. A 33 lb. (8.5%) reduction in weaning weight would result in a \$12.54 reduction in income for each calf infected with Pinkeye when weaning age calves are selling at \$0.38 per pound. Thus, Pinkeye represents a serious economic loss to infected herds and to the industry.

Thrift (1975) reported Hereford calves infected by Pinkeye sometime between birth and weaning weighed an average of 38 lbs. less than those calves that did not have Pinkeye during this preweaning period. This study also indicated carryover effect in the postweaning period. Those calves infected by Pinkeye weighed an average of 44 lbs. less at one year of age than the noninfected calves.

In summary, Pinkeye is seldom fatal. However, it is a prevalent infectious disease in beef cattle herds that results in reduced weight gain and condition. The 8.5 percent reduction in weaning weight for infected calves represents a serious economic loss to individual herds and to the total beef industry. Any procedures or treatments that can prevent, control or reduce the adverse effect of Pinkeye on performance will have a very favorable economic impact on the beef industry, and research programs seeking solutions to this problem should be encouraged.

Literature Cited

- Thrift, F. A. 1975 Impact of Pinkeye (Infectious Bovine Keratoconjunctivitis) on Weaning and Post Weaning Performance of Hereford Calves. Kentucky Beef Cattle Research Report 218:40.