

# INFECTIOUS KERATITIS IN FEEDER CATTLE

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Infectious keratitis, often referred to as "pink eye," has been and remains a frequent problem confronting the feeder calf operator. Several causal agents and aspects of husbandry have been suggested as the cause of this condition. These include the viral agent of Infectious Bovine Rhinotracheitis and vitamin A deficiency.

Suggested approaches to prevention and therapy have been numerous. Two of these included vaccination with IBR vaccine and supplementation of the ration for calves with vitamin A.

## Problem

A feedlot operator reported a progressively greater incidence of pink eye in his feeder calves. The feeder calf operation involved consisted of approximately 500 head of cattle, separated into four adjacent pens. The general management and nutrition was excellent. The majority of calves were local range-reared, had been castrated, dehorned, vaccinated for blackleg and malignant edema, treated with a grubicide and acclimatized to feedlot conditions previous to being placed in the feedlot. The majority of calves had been vaccinated with either of two commercial viral shipping fever vaccines. The vaccines were administered at least 3 weeks previous to weaning and again upon weaning. Each animal received a bivalent *Pasteurella* bacterin administered along with the viral vaccine. One viral vaccine was a killed **Parainfluenza-3 virus**, the other vaccine was an attenuated

**Parainfluenza-3 virus** plus an attenuated viral agent known to cause infectious bovine rhinotracheitis (IBR). All vaccinations were made by or under the supervision of a competent veterinarian.

The calves received 50,000 units of vitamin A per day for one and one-half months following weaning, after which the amount of vitamin A was decreased to 20,000 units per day.

When the calves had been in the feedlot for approximately two months, a progressively increasing incidence of an eye infection was observed by the owner. Upon detailed examination, it was observed that an acute conjunctivitis accompanied by a profuse tear production existed in approximately 10 per cent of the calves. Closer examination revealed that most involved animals also exhibited a dry cough. Animals examined had a temperature of 103° - 104° F.

A second feedlot in another state received 150 head of calves from the same source. No signs of

Figure 1. Incidence of eye involvement as related to two "shipping fever" vaccines.

	Parainfluenza-3 killed	Parainfluenza-3 attenuated IBR Virus attenuated	Controls - no vaccination
Total number of calves	215	118	132
Number calves exhibiting symptoms	14	18	21

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eye involvement and only minor respiratory problems were observed for a period of four months.

Specimens were collected from the eyes and nasal cavities of four involved calves and examined for viral agents. The IBR virus was isolated from the nasal and lacrimal secretions of all four calves. Three of the calves from which the IBR virus was isolated had been vaccinated with the viral vaccine containing the attenuated IBR virus.

#### Treatment

The systemic administration of various antibiotics or combinations of chemotherapeutic agents decreased body temperature but had no apparent affect on the eye involvement or the respiratory symptoms. Administration of 10cc sterile condensed milk intramuscularly **per calf** was of some apparent benefit in relieving the eye and respiratory symptoms. Vaccination with an IBR vaccine was avoided because of the possible danger of the stress of vaccination triggering an even greater herd problem.

#### Summary

Observations of calves in the above described feeder operation indicated that **Parainfluenza-3 vaccine** killed or attenuated, with or without IBR vaccine, was of no benefit in protecting calves against

conjunctivitis (pink eye) and of doubtful value in the protection of respiratory infection.

Isolation of the IBR agent from lacrimal and nasal secretions of vaccinated animals is indicative of several possibilities. One of these is that some of these calves could have been missed during vaccination; however, this is doubtful in that two administrations were made and all vaccinations were made by a competent veterinarian. A second possibility is that several strains of IBR virus exist and that the vaccine was of a different strain than the agent isolated from the involved animals. A third possibility is that the vaccination did not produce sufficient immunity to ward off infection.

The existence of respiratory symptoms in vaccinated calves can be accounted for in that the vaccine consisted of only two viral and bacterial agents associated with respiratory symptoms in animals, while numerous viral and bacterial agents are known to cause respiratory problems.

The calves were on luxuriant pasture previous to weaning and immediately and continuously supplemented with Vitamin A following weaning. The supplementation of Vitamin A under the conditions described appears to be of no value in the prevention of either the respiratory syndrome or conjunctivitis of feeder cattle.

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