

Tongue Mutilations in a Beef Backgrounding Feedlot

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Introduction

Over 1,000 beef cattle have been observed with tongue lesions over a 12-month period in an ongoing problem in a backgrounding feedlot having 11 pens and about 3,000 head capacity. The objective of this case investigation is to characterize and determine causation of the lesions.

Materials and Methods

Observational and diagnostic data have been collected. Investigations have utilized histopathology, epidemiology, bacteriology, virology, toxicology, clinical pathology and serology.

Results and Conclusions

Cattle with tongue lesions have been observed in each of the 11 pens at the feedlot. Estimates suggest about 10% of the cattle entering the lot have been affected. A twelfth pen where the processing facility is located, about two miles from the affected feedlot, has had no cases reported even though commingling of affected cattle occurred and animals are fed the same rations. Cattle affected are primarily British and Continental crossbreds originating from midwestern and southeastern states with entry weights of 400-500 pounds (182-227 kg). The ration consists of sorghum silage, ground sorghum hay, high-moisture corn, liquid protein supplement, and at times a corn syrup by-product. The feed truck is large and the unloading auger is out of the reach of animals. No cases have been reported in the finishing feedlot, where these animals have been placed after they reach about 800 or more pounds (364 kg).

Early clinical signs of tongue lesions include hemorrhage, excessive salivation, anorexia and difficulty con-

suming feedstuffs. Feed accumulates on muzzles and in nostrils. Gross lesions are limited to tongues. Tissue losses range from about 10-80% of the tongue anterior to the frenulum. Lesions vary in appearance and severity, with some being transverse and laceration-like, while others may be slight lacerations of the edge of the tongue. The tip of the tongue may be missing in some, while lesions are more superficial and involve only the dorsum in others.

Time of onset for new cases has ranged from months to as few as five to seven days on feed. There may be clinical signs predictive of onset with animals exhibiting increased tongue activity, including extension of the tongue outside the mouth and twirling-like activity. Increased licking and chewing on objects such as pipe and barbed wire fencing is noted.

Histologically, biopsies from affected animals indicate an inflammatory response comprised of neutrophils, macrophages, lymphocytes, plasma cells and eosinophils. Eosinophils were quite prominent in some sections. Microscopic examination of tongue from a sacrificed, acutely affected animal revealed presence of an acute to subacute necrotizing stomatitis. The mucosal surface was often absent, and an intense neutrophilic inflammatory response was present in the underlying submucosa and muscularis. Eosinophils were observed, but in lesser numbers than in biopsied cases. Bits of hair, pieces of plant material, and bacteria were embedded in the tissues and exacerbated the inflammatory response. Evidence of a foreign body or infectious agent was not detected in multiple sections of tongue examined from all animals. No pathological changes were observed in sections of the hypoglossal, trigeminal, facial nerves, both trigeminal ganglia, and salivary glands.

Potential causes and factors associated with these cases are under investigation. Automutilation is suggested as the immediate cause for onset of lesions.