

TONGUE LESIONS: INCIDENCE AND EFFECTS ON PERFORMANCE OF FEEDLOT CATTLE

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Story in Brief

During the National Beef Quality Audit a unique tongue lesion was observed at slaughter on 7.89% of the 14,952 cattle checked. The incidence of the lesion was similar at each of the five plants audited. These plants were in Kansas, Illinois and Wisconsin. The lesion, called a 'hair tongue' by packing plant and USDA inspection personnel, has been observed for as long as inspection personnel can remember. At the plant, the lesion is removed from the tongue. The small trim loss, causes the tongue to be discounted as a number 2 product. This lesion always occurs in the same place, in the center where the tongue thickens. The size of lesions range from about .25 to 1.5 inches in diameter. The lesion usually contains feed and hair particles, with hair being from external sources. The lesion may reduce feed intake. In one group of Oklahoma State University test cattle, 13 of 94 cattle had small tongue lesions at slaughter. Cattle with the lesion were 53 lb lighter at slaughter and had gained 7% slower than cattle free of the lesion. The cause of the lesion is unknown.

(Key Words: Beef Tongue, Lesion, Hair Tongue, Fed Cattle.)

Introduction

Carcass pathology may explain why cattle vary in feedlot performance. Severe liver abscesses reduce feedlot rate of gain (Rust et al., 1980; Shin et al., 1988). The presence of lesions on the tongues of cattle at slaughter also may affect feedlot performance. Beef tongue frequently is exported unblemished for \$4 to \$5 lb. and tongues weigh 3 to 5 lb. Blemished tongues are discounted about \$1 lb, so tongue lesions represent an economic loss.

Materials and Methods

Oklahoma State University personnel collected tongue data from five major packing plants on 14,592 fed cattle in the spring and summer of 1995. These plants were located at Liberal, KS, Garden City, KS, Emporia, KS, Joslin, IL, and Green Bay, WI. The incidence of 'hair sores' on the tongue was

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determined. The cattle sampled in each plant usually consisted of one day's slaughter on each of two shifts. Samples of the trimmed lesion were examined at the pathology laboratory at Oklahoma State University College of Veterinary Medicine. Individually weighed cattle from a grain processing experiment conducted at Goodwell, OK by Oklahoma State University personnel were examined at slaughter for tongue lesions. Small lesions were found on 13 of the 94 cattle in this experiment. The SAS (1985) model used to analyze data from the grain processing experiment was modified to analyze data including presence of a tongue lesion at slaughter.

Results and Discussion

Anatomically the lesions are usually single, round, crescentric or irregularly shaped, $\frac{1}{4}$ to $1\frac{1}{2}$ inches in diameter and located just in front of the dorsal eminence of the tongue. Depending on their age they may be ulcerated and slightly elevated with a red granular surface; frequently hair protrudes from surface. Long standing lesions are represented by a depressed white scar. When cut for examination the lesion extends into the substance of the tongue about the same distance as is visible on the surface. Some lesions exude pus; others are composed in greater proportion of firm inflamed connective tissue. The lesions may be correctly termed lingual pyogranuloma, ulcerative glossitis, or foreign bodygranuloma of the tongue.

The lesions represent the reaction of the tongue to penetration of its surface covering by foreign material, probably stiff, sharp plant material. Hair often becomes embedded in the ulcerated surface when cattle groom. A few lesions become secondarily infected with certain bacteria (*Actinobacillus spp*) leading to condemnation of the entire tongue.

Photographs of infected tongues are shown in Figure 1. Note the consistency of the location of the lesion. Figure 2 shows a typical large lesion and Figure 3 shows a cross section of a lesion removed from the tongue.

Average daily gain of the OSU test cattle described elsewhere in this publication averaged 3.64 lb/day for cattle with the lesion vs 3.93 lb/day for cattle free of the lesion at time of slaughter ($P < .02$). At slaughter, cattle with tongue abscesses weighed 1,203 lb vs 1,257 lb for cattle free from abscess ($P < .1$). Additional cattle need to be examined for tongue lesions similar to those described in this paper. Presence and size of these lesions may depress feed intake and performance of feedlot cattle.

Table 1 summarizes observations from packing plants. The percentage of groups of cattle entering the packing house as a single lot that had no abscesses is dependent on the lot size at the plant. At the Wisconsin location there were many small lots (10 to 20 cattle) present. In the plants that had large lots (100 to 300 cattle) it was very rare to find a lot in which none of the cattle had an

abscess. Other audit team members have found a similar or higher incidence of 'hair tongue' in other plants across the country.

Literature Cited

Rust, S.R. et al. 1980. Okla.Agr. Exp. Sta. Res. Rep. MP-107:148.

SAS. 1985. SAS Users Guide: Statistics (Version 5 Ed.). SAS Inst. Inc., Cary, NC.

Shin, I.S. et al. 1988. Okla.Agr. Exp. Sta. Res. Rep. MP-125:204.

Table 1. Observations from quality audit.

	WI	IL	KS1	KS2	KS3	Total/ Average
Cattle inspected	2717	1311	4043	3079	3802	14952
Tongues w/lesion	171	75	441	212	281	1180
Percent w/lesion	6.29	5.72	10.91	6.89	7.39	7.89
Max % lesioned in lot	52.94	21.43	23.61	66.67	54.72	
Lots with none	15/60	7/36	0/28	3/36	4/37	14.72
Lots over 10%	10/60	6/36	18/28	9/36	7/37	25.38
Lots over 15%	4/60	5/36	5/28	6/36	8/37	14.21

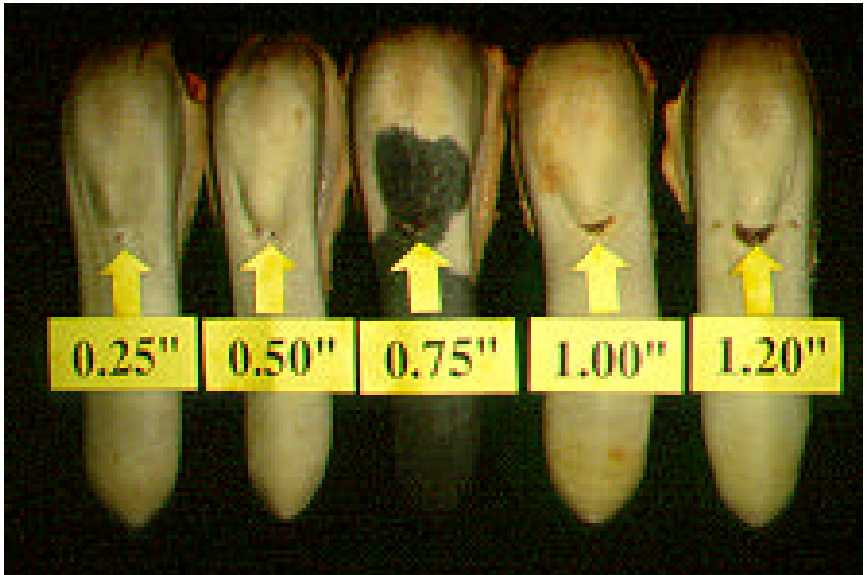


Figure 1. Different sized tongue lesions. Photo courtesy of Mike Driscoll, EXCEL Corp., Dodge City, KS.

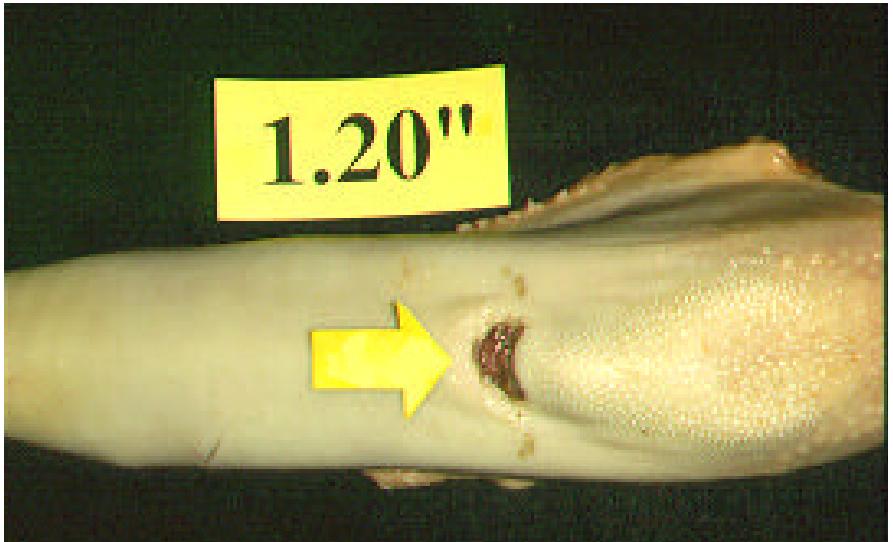


Figure 2. Tongue lesion.



Figure 3. Tongue lesion cross section.