

Toxic Myopathy in Dairy Cattle Caused by *Cassia obtusifolia* in Greenchop

Steven S. Nicholson, D.V.M.

Room 231, Knapp Hall

Louisiana State University

Baton Rouge, Louisiana 70803

John T. Thornton, D.V.M.

Route 2, Box C

Franklinton, Louisiana 70438

Alfred J. Rimes, Jr., D.V.M.

P.O. Box 51

Kentwood, Louisiana 70444

Toxic myopathy and marked decline in milk production were noted in two dairies being fed greenchop containing sicklepod (*Cassia obtusifolia*). Myopathy due to coffee senna (*Cassia occidentalis*) poisoning is regarded as an economically important cause of cattle losses in Texas (1,2). Experimental toxicosis involving 26 beef type calves fed senna beans was reported including clinical signs dosage rates, clinical and pathologic features (2).

This report deals with response of cattle ingesting considerable amounts of the foliage of sicklepod, also called coffee weed locally. Sicklepod, like coffee senna, is an annual shrub indigenous to the southern United States (3). It is found in abundance in locations such as fields of corn, soybeans, sorghum, and millet, as well as in pastures. In Louisiana this plant is much more prevalent than coffee senna. The authors have observed clinical disease in cattle that have browsed sicklepod in recent years. The paresis, myoglobinuria, pale skeletal muscles, markedly elevated SGOT and CPK levels were similar to coffee senna myopathy. Larger amounts of foliage and beans appear to be required to produce sicklepod toxicosis.

In two recent herd problems dairy cattle were fed either green-chopped corn or sorghum hybrid forage heavily contaminated with immature sicklepod. In both cases the amount of greenchop fed daily was estimated at 50 pounds per cow. Intake of sicklepod was estimated at 12 to 25 lbs. per cow during the 8 to 12 days in which the material was fed prior to death.

Milk production in both herds declined by one-third within two days after feeding of the greenchop began and remained at this level for one to two weeks after feeding was discontinued.

The three clinically affected cows in the two herds were mature Holstein-Friesians in mid-lactation. In the Reynolds herd one cow was noticed to be weak, with a staggering gait just prior to becoming recumbent. Dark colored urine was observed. A presumptive diagnosis of cassia myopathy was strengthened later in the day when necropsy revealed areas of pale skeletal musculature in the upper pelvic limbs and

lumbar region. The rumen was full. Identification of parts of sicklepod in rumen contents was difficult. No additional cases were observed in this herd.

In the Ott herd two cows presented as alert downers two days apart. One responded temporarily to a commercial calcium gluconate solution but became recumbent and died several hours later. Dark urine and areas of pale musculature were noted at necropsy.

The other cow was dehydrated but alert on the second day of recumbency. Serum-GOT and CPK levels were 1390 and 82,400 international units respectively. The BUN was 18 mg/dl. Myoglobinuria was observed.

Discussion

Greenchop was mentioned as a source of coffee senna toxicosis in a herd located in central Florida by Gibbons (4). In that case the plants were apparently fed prior to bean formation with a considerable amount consumed before development of paresis. The foliage of the plant was thought to be much less toxic than the beans.

Cattle have been observed to browse the leaves of sicklepod in Louisiana without developing clinical disease but the amounts ingested were not known.

Another consideration is loss of milk production that might accompany subclinical toxicosis since a marked decline ($\frac{1}{3}$) in milk production occurred in these herds and persisted for at least one to two weeks after removal of sicklepod from the ration. In the Ott herd milk losses alone exceeded \$2000.

Silage feeding operations are becoming more commonplace in this region and the possibility of encountering problems related to *Cassia spp.* in ensilage must be considered. This could be overlooked unless obvious signs of myopathy were present. When myoglobinuria is present the condition might be misdiagnosed as leptospirosis (1). Differential diagnosis might include vitamin E-selenium myopathy, a point discussed by Pierce (1). In fact, use of vitamin E-selenium injections in treatment of cattle affected with coffee senna myopathy was thought to hasten the demise of the animals (2).

References

1. Pierce, K.R., and O'Hara, P.J.: Toxic Myopathy in Texas Cattle. *Southwest Vet.* 20, (1967): 179-184. — 2. O'Hara, P.J., Pierce, K.R., and Read, Kay W. Degenerative Myopathy Associated with Ingestion of *Cassia occidentalis* L.: Clinical and Pathologic Features of the Experimentally Induced Disease. *Am. J. of Vet. Res.*, Vol. 30, (Dec. 1969) No. 12, p. 2173-2180. — 3. Weeds of the Southern States, Louisiana Cooperative Ext. Publ. 1516, Revised March 1975, p. 29. — 4. Gibbons, Walter J., *Gibbons Casebook*, MVP, 52:65, Sept. 1971.