



**SOUTH DAKOTA
STATE UNIVERSITY**

Department of Animal Science

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Cow/Calf

Evaluation of ruminal net wrap accumulation in cows fed ground hay

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Objective

To determine how rapidly net wrap accumulation occurs in the rumen when hay is ground without net wrap removal.

Study Description

In November 2019, complete rumen evacuations were conducted using six ruminally cannulated cows based at the SDSU Cottonwood Field Station. Digesta was hand sorted to remove any net wrap in the rumen from previous feedings and net wrap was discarded. A 12 cm x 12 cm piece of net wrap was placed into the rumen of three cows to determine if net wrap will build up more rapidly when there is a larger piece in the rumen to “catch” other pieces. Cows will be individually limit fed ground hay at 74% of predicted intake to keep cows from gaining excess condition through the mid- and late-gestation feeding period. They will be fed their allotted hay every other day for approximately 5 months or until all cows have calved. During this period, cows will be weighed and BCS will be determined every 28 days to ensure limit feeding does not negatively impact performance. At the end of the first 5 months, complete rumen evacuations will be conducted for a second time. All digesta will be hand sorted to remove net wrap, and net wrap will be weighed. Once all net wrap is removed, digesta will be returned to the rumen of each cow and the remaining three cows will have a 12 cm x 12 cm piece of net wrap placed in their rumens. The cows will continue to be individually fed ground hay based on weight and BCS. At the end of the second feeding period, digesta will again be removed and sorted to determine net wrap accumulation.

Net wrap accumulation will be compared to quantity of net wrap in ground hay by weighing bales with net wrap and weighing net wrap itself to quantify amount of net wrap in ground hay.

Take home points

More frequently cows are dying from plastic disease or the buildup of net wrap or other plastic materials in the rumen. Net wrap also causes problems in meat processing facilities as it can plug their drainage systems. Our goal is to conduct this project to determine if these issue can be prevented by removing net wrap prior to grinding and feeding forage. Another longer-term question and potential area of study is if accumulation of net wrap affects longevity of cows in the herd.

Keywords: cows, hay, net wrap, rumen