



AMERICAN SOCIETY OF ANIMAL SCIENCE

Comparing the effectiveness of different roughage sources in Brazilian cattle feed.

ASAS EDITORIAL



Fiber is an important part of our diet — but it's important for beef cattle, too. To stimulate chewing and maintain a healthy rumen pH, high-fiber roughage and coproducts are added to nutrient-rich concentrate feeds.

In Brazilian feedlots, a wide variety of roughage and coproducts are used in a range of concentrations. Coproducts are higher in fiber than traditional roughage but have a smaller particle size and may not stimulate chewing as effectively. Despite the importance of fiber for cattle digestion, little research has been done comparing the effectiveness of different fiber sources used in Brazilian feedlots.

A healthy rumen pH prevents digestive disorders.

RUMEN



Six diets were compared: (concentrations as %aNDF, or total fiber in the feed)



DIET

RECOMMENDATION

10% CORN SILAGE



CAUTION

- INCREASES RUMINAL ACIDITY

20% CORN SILAGE



EXCELLENT

- HELPS MAINTAIN HEALTHY RUMINAL PH

10% CORN SILAGE



10% SUGARCANE



10% CORN SILAGE



10% LOW OIL COTTONSEED HULLS



EXCELLENT ALTERNATIVE

- FOR HIGH CONCENTRATE DIETS
- AVOIDS LOWERING DMI WHEN USED IN A LOWER CONCENTRATION (10% CORN SILAGE AND <10% SUGARCANE BERGASSE)

10% CORN SILAGE



10% SUGARCANE BERGASSE



CAUTION

- HIGHER CONCENTRATION MAY BE NEEDED TO STIMULATE CHEWING AND AVOID REDUCTION IN RUMINAL PH

10% CORN SILAGE



10% SOYBEAN HULLS



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Chewing time and particle size alone were not good predictors of rumen pH. More work is needed on how to best measure the effectiveness of fiber sources in cattle diets, along with other characteristics of roughage that affect cattle health, such as fermentability and absorption of fatty acids.

INFOGRAPHIC

Comparing the effectiveness of different roughage sources in Brazilian cattle feed

Fiber is required for high concentrate diets to maintain proper rumen function. The type and amount of roughage included in the ration exhibit regional variability due to costs, availability and type of cattle. Recent papers have addressed rumen fiber digestion in response to live yeast products (Cagle et al., 2019), recombinant xylanase (Ran et al., 2019) and mixed fibrolytic enzymes (Kondratovich et al., 2019) with variable results. In this issue, Goulart et al. (2020a and 2020b) examines the effects of atypical roughage sources and dietary inclusion rate on rumen function in Nelore cattle. The papers provide new insight into the importance of particle size, chewing time and rumen acidity.

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