

South Dakota Rancher®

Management tips for South Dakota livestock and grassland managers

Eric M. Mousel. Range Livestock Production Specialist. SDSU. 605-688-5455

November 15, 2005

Alfalfa as a Source of Supplemental Protein

Cornstalks, prairie hay, and winter range are all common winter feed sources that generally do not contain enough protein to meet dietary requirements of livestock. Diets containing low protein roughage typically are supplemented with additives to increase protein concentration to improve digestive efficiency and animal performance.



Selection of these additive protein supplements is important, both in its efficiency and cost. Many cheap protein sources contain mostly urea and other forms of non-protein nitrogen. These supplements are not as effective when livestock are eating mostly low quality winter forages.

A better alternative may be to use protein supplements that contain natural protein. Often times the cheapest source of natural protein is alfalfa, even when the cost of alfalfa is high.

Most winter forage diets need between one-half pound and one pound of extra protein per day. The quality of the alfalfa you are using will dictate how much needs to be fed on a daily basis. This often times can range from 2 pounds per head per day with high quality alfalfa to 8 to 10 pounds per head per day with lower quality alfalfa. Since the forage test of your alfalfa will tell you how much protein it contains, you can easily contact your local SDSU Extension Educator and calculate how much alfalfa to feed each day. Supplementing livestock with effective, low cost protein sources can reduce winter feeding costs and increase profits.

Nitrates in Small Grains

Oats, winter wheat, and winter rye all are excellent feed sources in late fall, but they also can contain toxic levels of nitrates.

Last year, many areas in the Great Plains experienced problems with nitrates because of the abnormally dry conditions. But just because we have had some good rain this fall, don't assume nitrates won't be a problem.

Drought is one of the major factors that contributes to rapid nitrate accumulation in plants, but several other factors influence the amount of nitrate accumulation in plants such as heavy fertilization, heavily manured areas, stage of maturity when grazed, and plant species can all play a role. These other factors also can lead to high nitrate concentrations even when growing conditions are good.

When dealing specifically with small grains, oats have high nitrate concentrations most

frequently, but winter wheat and rye also can readily accumulate nitrates.

Before grazing pastures with small grains, always have a laboratory test conducted on pasture samples for nitrates before turn-out. Results of a nitrate test can tell you whether grazing small grains is safe and can help avoid illness or death of livestock.

Copyright ©, 2005. SDSU and Eric M. Mousel. All rights reserved.