

VETERINARY CALL

by Bob Larson, Kansas State University

Using Crop Residues

Turn fall crop residue into feed for the herd.

As we move into the fall harvest season, residue from crops such as corn, milo, soybeans, potatoes and sugar beets can be used as feed for cows. Crop residues can be grazed or baled, but regardless of how the cows access the feed, several important constraints must be considered.

Inadequate water availability while grazing residues can be an overlooked cause of health and production problems. Insufficient space for animals to drink, low flow rates, low storage capacity or unfamiliar taste can all discourage water consumption to the point that intake is reduced or health is compromised. In addition, heavy snow or ice may make residue grazing impossible. Thus, it is advisable that producers have a supply of emergency forage to use if needed.

The residues from different crops have very different nutrient profiles and risks, so it is important to be familiar with the residues you are likely to graze or feed. While residue from soybean fields provides very little energy and protein once the residual beans are gleaned, corn and milo fields provide a great deal of forage with an estimate of about 50 pounds of residue per bushel of corn harvested. Because cows prefer to eat downed ears, leaves, and husks and delay or avoid eating stalks and cobs, about 20-25% of the available residue can be expected to be consumed

— meaning each acre of harvested corn can provide 40 or more days of grazing if the field had a yield of at least 120 bushels per acre.

Since cattle will consume the parts of the plant with the greatest level of nutrition first (grain and leaves), the amount of energy and protein provided by residue grazing will start relatively high and decrease the longer the cattle are on the field as the cows are forced to consume lower-quality plant parts such as the stalk and cob.

Protein is important for its role in enhancing appetite and increasing forage digestibility, and providing supplemental protein may be needed in some residue grazing situations. When protein or energy supplementation is needed to maintain good body condition for cows grazing crop residues, it is often possible and preferable to provide the supplement on the residue field to minimize manure hauling and to allow the cattle continue to pick at the residue as weather conditions permit.

One potential problem when grazing standing residues from corn, sorghum and other crop fields is the risk of nitrate toxicity. Nearly all plants contain nitrate, but some plants are more likely to accumulate nitrate than others. Nitrate content generally



In many parts of the country, cow herds and crop fields are located close enough together to provide the opportunity for access to low-cost forage in the form of crop residues.

is highest in young plant growth and decreases with maturity. But nitrate will accumulate in mature plants if they are stressed due to drought, frost, hail or disease.

Challenges to provide adequate fencing and water availability as well as risk of heavy snow or ice or nitrate toxicity can limit use of crop residues. Yet in many situations, grazing crop residues can provide benefits to both the cattle producer and the crop farmer. **AJ**

Editor's note: Robert L. Larson is a professor of production medicine and executive director of Veterinary Medicine Continuing Education at Kansas State University.