

Use Corn Stalks as Dairy Heifer Feed

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Producers short on forage may want to consider including corn stover in their cattle's forage ration, especially for young stock and dry cows, when it becomes available, according to North Dakota State University Extension Service dairy specialist J.W. Schroeder.

Stover, which is fodder minus the ears, is comparable in energy content to average hay on a dry-matter basis, he says.

The biggest drawback in feeding corn stalks is their physical nature. Ensiling the stalks while they still are green or mixing dry material with higher moisture hay-crop forage this fall after a killing frosts may make stover more acceptable to cattle. Corn stalks also may be baled, particularly as large packaged bales, for self-feeding.

Schroeder says producers may apply liquid anhydrous ammonia to the stalks to increase their protein equivalent content and help preserve them. He suggests applying 20 to 35 pounds of liquid anhydrous ammonia per ton of dry stover with bale injectors or equipment on the baler. This should increase the protein content of stover to 10 percent to 14 percent on a dry-matter basis.

He also cautions limiting the amounts fed to about 20 percent of the normal forage dry matter if fed to milk cows because stover is relatively devoid of vitamins A and E. Stover may provide up to one-third of the forage dry matter for dry cows or bred heifers until two to four weeks prior to expected calving. Then it should be limited to 20 percent or less. This means producers can feed a large-breed cow about 5 to 6 pounds of stover dry matter, while a 700-pound heifer might require 3 to 5 pounds daily.

" The key to its use is to include it in a well-balanced ration with proper amounts of protein, minerals and vitamins," he says.

Researchers at South Dakota State University looked at using byproducts to supplement or complement residue feeds. One of their studies involved blending wet distillers grains with corn stalks.

They found wet distillers grains (WDG) are a good match to feed with low-quality, high-fiber feeds, such as crop residues, because they provide more protein, fat and phosphorus than what growing dairy heifers require. The researchers say corn stalks or small-grain straws are an excellent complement for heifers fed crop residues because these feeds can provide recommended nutrient concentrations when blended together at adequate levels.

Dairy researchers at SDSU fed a WDG-corn stalk blend to dairy heifers to evaluate their growth characteristics, compared with heifers fed a traditional diet. The researchers fed heifers either a traditional diet consisting of alfalfa and grass hays, alfalfa haylage, corn silage, dry distillers grains, earlage and a mineral/vitamin pack, or a diet that consisted of 86 percent of a blend of 69 percent WDG ensiled with 31 percent corn stalks, rye straw, minerals and vitamins. Both diets were formulated for similar nutrient concentrations on a dry-matter basis of 0.41 megacalorie net energy for gain per pound, 18.6 percent protein, 25 percent acid detergent fiber and 37 percent neutral detergent fiber.

The heifers fed the traditional diet gained more weight than those fed the diet formulated with the WDG/corn stalks blend (2.82 vs. 2.31 pounds per day). However, both provided greater gains than those the National Resource Council for Dairy recommends. These results suggest corn stalks and WDG can be incorporated in heifer diets successfully without negatively affecting growth, Schroeder says.

The average daily cost of feeding decreased from 86 cents per day for heifers fed the control diet to 52 cents per day for heifers fed the WDG-corn stalks diet.

"I realize these values will fluctuate with market prices, but they illustrate that utilizing low-cost, alternative feeds can potentially decrease costs without sacrificing heifer growth, especially if you are close enough to the plant to negate extreme transportation costs associated with today's exorbitant fuel costs," Schroeder says.

Heifers will gain more weight than recommended when fed high-energy diets free-choice, so their feeding may have to be restricted for them to meet the targeted average daily gain, he adds. However, high-roughage, low-energy diets fed free-choice may be a low-cost alternative when compared to high-energy diets. High-roughage diets fed free-choice are self-restricting as a result of rumen fill, although they still can meet nutrient requirements if adequately balanced.

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