



## Maximizing use of corn stalk residue

Corn stalk residue is an economical forage resource that becomes increasingly important as hay prices continue to rise; however, to adequately utilize corn residue, there are a few items to consider.

### Quality of Corn Stalks

Corn residue is unique in that all of the feed is available at the beginning of grazing (no subsequent growth to rely on), and forage quality is highest when cattle are turned in. The quality of individual plant parts such as husk, leaf, stem, and cob (Table 1) change very little during the grazing period; however, cattle continuously grazing a field will select the highly digestible husks and leaves, resulting in a decline in quality of the remaining field residue.

For spring calving herds, initial quality of the available forage will

adequately maintain weight and desired body condition. But, because the husks and leaves represent only approximately 39 percent of the available forage, nutrient intake can quickly drop below the threshold level to maintain weight and to also adequately digest the remaining forage.

Recognizing the disappearance of husks and leaves from fields is important. Provide supplemental feed to improve utilization of the remaining field residue and to maintain weight and body condition of the cow herd.

### Stocking Rates

Consider several factors when estimating the correct stocking rate, such as grain yield of the field (used to estimate the total amount of grazing residue available), desired performance of the cattle, and the length of the grazing period.

With high-producing corn, there will be about 16 pounds of leaf and husk per bushel of corn produced. The specific relationship is pounds of leaf and husks per acre =  $([\text{bushel/acre corn yield multiplied by } 38.2] + 429)$  multiplied by 0.39. (2004 *Nebraska Beef Report*).

If 50 percent utilization of the leaf and husk is estimated, 1 acre of 150 bushel corn residue would carry a 1,200-pound cow for approximately 44 days or a 600-pound calf for 88 days.

### Supplementation

While initial forage quality of corn stalks is adequate for mature, pregnant cows, additional protein will improve forage utilization, forage digestibility, and overall performance. This becomes increasingly important after cattle have selectively grazed the highly digestible leaves and husks. In addition, weaned and backgrounded calves will require additional protein and energy to maintain acceptable gains, especially when weather becomes a factor. Backgrounded calves are calves that have been weaned in the fall, and remain on the ranch for approximately 60 days, either in drylot or grazing meadow regrowth. Backgrounded calves are typically sold as 750- to 800-pound steers and heifers in January and February. Many operations choose to background their calves because they can put relatively cheap weight gain on the calves while also avoiding the seasonal low prices in October and November.

Three to five pounds of alfalfa

has traditionally been an excellent complement to corn stalk residue, with the amount of alfalfa increasing as cattle continue to graze stalks; however, as hay prices continue to climb, additional byproduct feeds such as corn gluten feed and dried distiller's grains (DDG) are excellent sources of supplemental energy and protein.

DDGs are high in protein (28 to 32 percent crude protein), energy (100 to 125 percent the value of corn), and phosphorous (.5 to .6 percent). Additionally, DDG is a safer "high-fiber" energy source that complements low-quality forages very well. The amount of supplement fed will depend on the amount and quality of remaining forage as well as the desired cattle performance and cattle type. A general recommendation would be to provide .5 to .9 pounds of supplemental protein (1.7 to 3.0 pounds DDG per day).

### Summary

Corn crop residue is an important forage resource where available. Dry, pregnant cows are perfectly suited to utilize this unique feed resource. While forage quality and quantity are essentially "set," continued grazing and selection of



the higher-quality leaves and husks mean overall forage quality and quantity declines. Supplementation strategies utilizing higher protein supplements will help maintain diet digestibility and cow performance.

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### Maintaining Cow Body Condition

As producers continue to try to minimize production costs while maintaining an acceptable level of performance and as hay prices continue to rise this fall, the tendency is to "over" graze these alternative forage resources. Watching cattle closely and maintaining adequate condition as winter approaches is critical. Although reducing feed costs is an important way to reduce overall operating expenses on the operation, it may ultimately be counter-productive. Research continues to stress the importance of nutrition during pregnancy and its ultimate impact on the subsequent calf crop.

Cattle need adequate fat cover to maintain body temperature during colder weather. Several studies indicate thin cows require about 6 percent additional feed just to maintain weight during the winter months. This amounts to a minimum of an additional 1 to 1.5 pounds of feed per day just to bring the thinner cows up to "par" with cows in average condition.

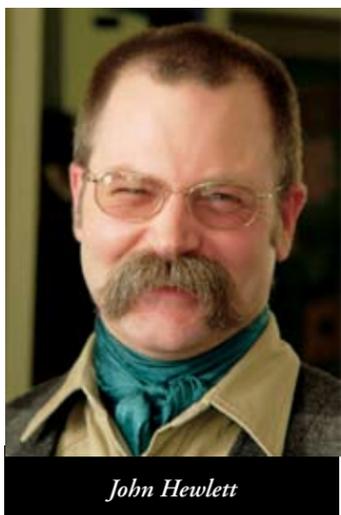
## Insuring Success for Wyoming Agriculture

Agriculture in Wyoming is diverse and challenging. Obstacles take many forms, including changing weather, drought conditions, uncooperative markets, and developing risks from unfamiliar sources. There are new tools for managing these diverse sources of risk.

The University of Wyoming Cooperative Extension Service has teamed with the U.S. Department of Agriculture (USDA) Risk Management Agency (RMA) and several producer organizations to assist farm and ranch managers across the state.

### Insuring Success through on-site education

Onsite presentations have been offered to livestock and crop producer audiences. Some of the topics include heifer development, genetics testing, animal identification, irrigation management with a limited water supply, crops for biodiesel and other alternative energies, manure management, insur-



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ance options for livestock operators, crop insurance, and Ag Survivor (a RightRisk™ simulation).

### Insuring Success through multi-media education

A second thrust is a computer CD entitled Insuring Success for Wyoming Agriculture: Insurance and Risk Management. This

course covers topics ranging from a description of the sources of risk, strategic planning and goal setting, to an overview of RMA insurance products, risk management in the absence of RMA products, and livestock insurance. A final presentation walks users through a self-assessment designed to help farmers and ranchers identify holes in their risk-management strategies. The user-friendly menu system helps users locate the information without stepping through the entire course.

### Insuring Success through the popular press

A third focus of the Insuring Success program has been popular press-based educational articles. These have appeared under the banner "Barnyards & Backyards" in the Wyoming Livestock Roundup and through inserts in many of the state's newspapers. More than 75 articles have been published, including management information

for commercial agriculture, such as "Web-based tools help estimate and reduce ag energy use," "Top 10 reasons to consider participating in a feedlot test," "Roundup Ready alfalfa: New technology for hay production," "Resilient ranch families cope with economic stress," "Irrigated sunflowers may prove alternative to sugar beets in times of limited water," and "Early detection/rapid response efforts for new weeds in Wyoming."

Another set of articles has targeted smaller operators or operators new to Wyoming. Each publication also includes information on risk management and insurance products available to help reduce risks. Some of the titles include: "Catastrophic coverage insurance provides low-cost crop insurance protection," "Risk management options for Wyoming cow-calf producers," "Alternative crop insurance options: The noninsured crop disaster assistance program," "GRP

Rangeland Insurance Program: A new risk management option for livestock producers," and "A summary of federal crop insurance options."

### Insuring Success using the World Wide Web

Tying it all together, the Insuring Success Web site provides information on locations for on-site programs and a place to register to attend, a link to the Web version of the Insuring Success CD, and links to the growing library of articles. Take a look at <http://InsuringSuccess.org> for insuring your success in Wyoming agriculture. Click on the Barnyards&Backyards link to access Insuring Success articles.

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	Plant Parts			
	Husk	Leaf	Stem	Cob
Percent of residue dry matter	12	27	49	12
Crude protein, % of dry matter	3.6	7.8	4.5	2.2
In vitro dry matter disappearance, %	67	47	45	35
Palatability	High	High	Low	Low