

Stalk Up on Strip-Grazing



Strip-grazing cornstalk residue offers benefits to cattle producers.

Story & photos by
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Drive along the Corn Belt following fall harvest and a common sight is cattle, mainly bred cows, grazing cornstalk residue. But there's more going on in that field than just cows munching on corn, especially if the field is managed with strip-grazing practices.

To learn more about managing cattle on strip-grazed crop residue, three things need to be kept in mind: management practices, supplementing vitamins and minerals, and soil compaction issues.

Stalk sense

It is generally thought that cornstalks are one of the most economical and highest-quality winter feed resources cattle producers can find.

"Under most conditions, one acre of residue from a combined field can provide 30 to 45 days of grazing for a 1,200-pound (lb.) pregnant cow," says Cody Wright, Extension beef specialist at South Dakota State University. "However, this can be quite variable." Other projections put a 1,000-lb. bred cow on an acre of cornstalks for 1.5-2 months.

Cattle on cornstalks are generally thought to eat some 20%-30% of the total residue on the field. These numbers are helpful when considering a stocking rate for a harvested field of corn.

Dangers to cattle out on stalks are bloat, acidosis and founder.

"The risk for these conditions varies

greatly with the amount of grain in the field," Wright says. It is recommended to scout the field for piles of corn that may have spilled during harvest, and any other large concentrations of grain.

Moveable management

The nutritional quality of grazed cornstalks is high early in the grazing period, supplying about 70% total digestible nutrients (TDN) and 8% crude protein (CP), Wright says. However, nutritional quality gradually decreases over time to roughly 40% TDN and 5% CP.

The decrease is caused by cattle selecting the highest-quality feeds first, he explains. Being choosy, cattle generally eat grain, which is the most nutritious and has the highest palatability, first. Second, they choose to eat cornhusks and leaves, which, compared to grain, are low in nutrients but are still palatable. Finally, cattle are forced to eat some of the stalks, which are low in

both nutrients and palatability. But there is a solution to selective grazing.

Strip-grazing is a management practice that gives cattle a fresh allotment of cornstalks on a regular basis — once every few weeks — thus keeping nutrients available for longer periods of time. Strip-grazing practices are most useful where there is an abundance of feed early in the season, and where providing the livestock with access to a larger area would result in wasted feed.

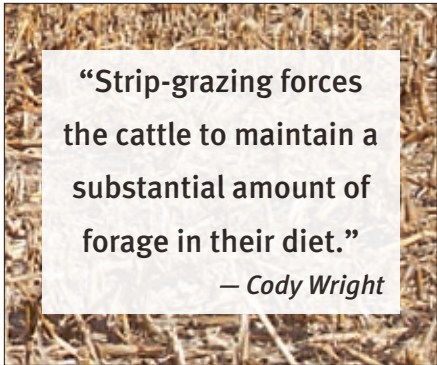
Strip-grazing, or limiting access to only a small portion of the field at a time, can extend grazing time and make the quality of the diet more uniform over the grazing period, Wright says. "Essentially, the cattle are forced to more thoroughly utilize the forage component — leaves, husks and stalks — in addition to any downed corn. Strip-grazing forces the cattle to maintain a substantial amount of forage in their diet."

Another benefit to strip-grazing is a more uniform diet composition throughout the grazing period.

"Each time the cattle are exposed to a new portion of the field, they will generally consume the grain fairly quickly, then move onto the more digestible forage components," Wright says. "Rather than extending the grain consumption over several days or weeks, the cattle get some grain whenever a new area is grazed, but it is only a small portion of their diet."

Jim Russell, Iowa State University (ISU) beef cow-calf nutritionist, also supports strip-grazing, especially in muddy conditions.

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“Mud is always a concern in cornstalk fields,” he says. “I recommend that producers strip-graze their fields to minimize trampling of the stalks into the mud.”

Echoing Wright, Russell says cows tend to eat more desirable portions, such as the grain and husks, and skip the stalks. “By controlling access to some extent, you still maintain high quality of cornstalks in the winter, which is particularly important for spring-calving cows,” he says. Russell concludes that strip-grazing is most effective in cold, dry weather.

Like any crop-residue-grazing situation, limiting factors with strip-grazing include fencing and water.

“To effectively strip-graze a field of cornstalks, the cattle should only have access to small sections of the field at any given time. To do so requires fencing,” Wright explains. “Generally, alternating between two temporary fences works well. Once the current grazing area has been utilized, the fence is simply removed and the cattle have access to the next area to be grazed. The fence that was removed is then placed ahead of the new grazing area to prepare for the subsequent move.” Single-strand hot-wire is generally thought to suffice for temporary fencing on cornstalks.

Weather, to a certain extent, is also a factor when considering whether to strip-graze. When snow accumulates to a foot or more in depth, or a crust begins to form on the snow, the cattle are likely done grazing cornstalks for the year.

“Unfortunately, sometimes this happens before a field can be completely grazed,” Wright warns, explaining that, while this isn’t a common challenge, it can limit the use of the corn and best-quality forage to the areas that have been grazed.

Another potential drawback is the need to haul water, Wright says. However, this is an issue related to grazing cornstalks in general, and isn’t necessarily specific to strip-grazing.

Supplement supply

“Vitamin A, phosphorus, and trace mineral salt should always be supplemented with cornstalks,” Russell advises. “If cow body condition begins to drop below 5 on a 9-point scale, supplementation with energy and/or protein would be desirable.”

Wright agrees, saying a well-balanced vitamin and mineral mix should be provided free-choice the entire time cattle are out on cornstalks.

“In a spring-calving herd, the cows are typically in mid-gestation and not lactating while out on cornstalks. As such, their requirements are quite low,” Wright explains. He concurs with Russell, though, saying, “Cornstalks are typically not high in vitamin and mineral content, so it is wise to provide a



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well-balanced mineral package to the cattle, particularly one high in vitamin A.”

As the nutritional quality of the corn residue decreases over time, producers may need to provide supplemental protein. Without supplemental protein, digestibility will decrease and the feed will not be able to meet the nutritional requirements of the animal, Wright says. Pay extra attention to protein, vitamin and mineral supplementation when grazing cornstalks in larger strips, especially in whole-field grazing situations.

To determine when protein supplementation is necessary, watch the manure of the cows. As the corn in the manure begins to disappear, protein supplementation needs to begin. Wright again recommends vitamin A and white salt be provided at all times.

Foot loose

“Soil compaction is also a concern when grazing crop residues,” Wright warns. However, he says, “research indicates that if cattle graze on either dry or frozen ground, compaction is not as much of a concern as it is when the ground is soft.”

“We did see some soil compaction in the upper 4 inches (in.) of the soil in fields that we grazed in October and November before the soil had frozen,” Russell notes. “However, there was no soil compaction in fields that were grazed from December through March.”

Studies in Illinois, Iowa and Nebraska indicate that soil compaction from cows grazing corn residue is limited to the top 6

in. of soil. The two main factors that affect the severity of compaction are soil moisture and soil type.

In a University of Nebraska trial comparing conventional tillage (discing) and ridge-tilling, which is a variation of no-till farming, Terry Klopfenstein, resident animal scientist, says, “Compaction was not directly measured, but subsequent crop yields suggest it is not a problem.”

Similarly, Russell found no effects of stalk-grazing on subsequent soybean yields if fields were disced or grazed after soil was frozen, and only a small decrease in no-till soybeans after stalk-grazing in November in one of three years.

Producers concerned about compaction could graze the residue immediately after harvest, removing the livestock after 60 days to allow the soil’s freeze-thaw action to minimize surface compaction. It is recommended producers pay attention to soil types of the crop fields and remove livestock when fields are extremely muddy.

Wright, however, doesn’t worry much about mud.

“There is generally enough residue that the cattle can find a dry place to bed,” he says. However, he warns, if the consumption of the forage is extensive, then the potential for dry bedding diminishes, and the risk for mud increases. Also, he adds, in muddy conditions, the compaction concerns are far greater than in drier or frozen conditions.

