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## Winter grazing management

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# Winter grazing management

## **Abstract**

Why winter grazing? Beef cow herd and sheep flock records show that winter feeding costs are livestock producers' single largest production expense. Managing through winter weather while keeping feeding costs low is an essential part of maintaining a profitable operation. Iowa's climate generally allows forage growth only during a 7-to-8 month period. Extending the grazing of this forage--even an extra 3 or 4 weeks in late autumn and winter--is an economical way to maintain or increase livestock profitability. Some producers extend the grazing season by using stockpiled forage, whereas others use crop residue, and many combine the use of stockpiled forage and crop residue. Producers who graze livestock during the winter need to know techniques that optimize their resources, provide consistent, high-quality forage, and conserve soil

## **Keywords**

Agronomy, Animal Science

## **Disciplines**

Agricultural Science | Agriculture | Agronomy and Crop Sciences | Animal Sciences | Natural Resources and Conservation

# INTEGRATED CROP MANAGEMENT



## Winter grazing management

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### How to graze

Iowa's typical pasture species usually quit growing by November. But when coordinated with grazing crop residue, useful grazing can be extended far into the winter. To have adequate forage ready for fall and winter grazing, producers need to plan and manage for it.

Grazing livestock are very selective. When animals are provided an entire field of stockpiled forage or crop residue, they eat the best first and trample and waste much of it, contributing to a very low-quality diet during the later days or weeks of the grazing period. To improve the efficiency of fall and winter forage, use temporary fencing to divide fields into smaller units, subpastures, or narrow strips. This strategy stretches the forage supply over a longer period and provides more uniform diet quality.

Corn residue has lower digestibility and tends to decrease in digestibility more quickly than stockpiled pasture forage. If the cornstalks and stockpiled forages are located in two separate locations, the corn crop residue should be grazed first. If the crop residue and stockpiled pasture are located adjacent to each other (such as in a strip-cropping system), both of these resources may be grazed simultaneously. This approach allows the stockpiled pasture to supply some of the protein that might be deficient in the corn crop residue.

### Impact on soil

Winter grazing on frozen soil causes minimal damage, but grazing on stockpiled pasture when soil conditions are muddy can lead to soil compaction and long-term damage to pasture sod. Grazing crop residue in wet conditions can disrupt soil structure, increasing soil bulk density and soil strength. Compacted areas in pastures often have decreased infiltration, and increased surface runoff and erosion. Damaging the surface soil structure can lead to the

formation of cracks as the soil dries, which, in turn, allows water from subsequent rainfall to bypass the biologically active zone where nutrient cycling, root activity, and other processes are greatest. Recovery after severe damage can take several years, reducing subsequent forage or crop production. It also can reduce aeration, thus increasing the potential for denitrification.

If you are grazing livestock in fall and winter, have an area identified and fenced as a "sacrifice" grazing area for use when conditions are muddy. Because livestock on muddy pasture slopes can produce areas of bare soil, which slows grass sod recovery and generally adds to the potential for later soil erosion, the sacrifice area should be on a relatively level site, be suitable for reseeding, and be accessible for supplemental feeding if necessary.

## Winter grazing: your choice

Many unanswered questions about winter grazing issues are being addressed in a new project funded in part by the Leopold Center for Sustainable Agriculture, the Foreign Agricultural Service, Iowa State University, and the Agricultural Research Service. This research project is designed to measure and evaluate the effect of grazing corn residue or stockpiled forage on soil quality, infiltration rates, and sediment loss, and whether simple site measurements can be used to predict potential runoff and the impact on subsequent crop productivity.

Winter grazing of stockpiled forage and crop residue can save producers money and add to the efficiency of their operation. However, it requires careful management to maintain the health of the livestock and to protect the soil.

More information related to this article can be found in ISU Extension publication Pm 1772, Stockpiled Forages: A Way to Extend the Grazing Season [1] (November 1998).

### Is crop residue cost-efficient cattle feed?

Crop residue is a very cost-effective alternative to hay. ISU Beef Cow Herd Business Records estimate that it costs \$.05 cents per day to have a cow grazing cornstalks compared with feeding hay at between \$.60 and \$1.20 per cow per day. Even when the additional cost of protein supplement is calculated, the cost of grazing cornstalks increases to approximately \$.25 cents per cow, per day--still a considerable savings. For the producer with a 100-cow beef herd, a day of cornstalk grazing plus protein supplement would cost \$25 compared with between \$60 and \$120 for hay feeding. But, neither crop residue nor stockpiled forage is sufficient as a stand-alone ration. Supplemental feeding is needed to meet the nutritional needs of livestock.

### What is stockpiled forage?

Stockpiled forage is forage that is allowed to grow and accumulate for use at a later time. Nearly any grass or legume species can be stockpiled, but tall fescue is used most often for its fall growth and persistence under grazing. Although the palatability of tall fescue is relatively low during the grazing season compared with other grasses, it maintains its quality when exposed to adverse autumn and winter weather.

The physical effect of snow on grazing of stockpiled forages is not as great as might be expected. Although snow restricts access to forage, cows are willing to graze through relatively deep snow (up to 9 inches) for high-quality stockpiled forage. However, as little as 0.25-inch of ice on top of snow may halt grazing.

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