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## IMPACTS OF CATTLE GRAZING CORN STALKS

In Southeast Nebraska, a winter source of feed for cattle is often underutilized. Grazing corn residues can benefit both the cattle and crop producer. It is a low cost source of winter feed for cattle and an additional source of income for crop producers that own the stalks. If managed correctly there isn't detrimental effects on the land.

Some common concerns you hear about cattle in fields are compaction of the soil, loss of nutrients, loss of soil organic matter or a yield loss of the next crop. Studies conducted by the University of Nebraska at seven locations have found that grazing in the late fall or winter does not result in biologically significant compaction of cropland or negative impacts on subsequent crop yields.

Sixteen years of corn residue grazing research in Eastern Nebraska did not result in detrimental effects on soil properties including bulk density of the soil and penetration resistance or crop yields. These were no-till fields in a corn-soybean rotation. In fact, soybean yields improved by an average of 3-4 bushels per acre with fall November to February grazing and removing cattle at the appropriate times.

In 16 years of grazing corn residue research, an increase in soil microbial community was observed when compared to other areas not grazed. That may be one of the explanations of soybean yield increases. If it is really muddy after a thaw and you don't remove the cattle, you can create a lot of surface roughness and pugging. That's when in no-till situations seed placement can be an issue. I observed a no-till field this year that was a "sacrifice" field. I was quite surprised the producer could harvest 58-62 bushel non-irrigated soybeans in a very rough, planted field.

Proper grazing management only removes a small percentage of residue (target is 15%). Grazing removes volunteer corn and better allows for a no-till corn into corn sequence. There can always be a few exceptions with topography or steep slopes or low yields where grazing would not be recommended.

What about the soil organic matter concern and exporting of nutrients such as N-P-K-Ca etc.? Most of the nutrients are excreted back onto the land. UNL research, over 16 years, indicated no differences in soil organic matter or when N-P-K were measured in the soil.

The key is stalling rates that are being used and not leaving cattle too long. The following example is for an irrigated 225 bushel corn field. There is 2.1 acres needed for 30 days for one cow or 64 grazing days stocked at one 1,200 lb cow per acre. To graze 50% of the husks and leaves on an 80 acre field with 150 head of cows here is the math. An 80 acre field times 64 days per cow equals 5,120 cow days. Divide that by 150 head there is 30 days available to graze. Downed corn changes the situation. There is an excellent tool available to calculate grazing days and potential payment rates UNL created at:

<https://beef.unl.edu/learning/cornstalkgrazingcalc.shtml>

A recent survey of 50 crop producers in Nebraska that had not allowed grazing in the past were asked what rental rate would it take to change. There were seven that said they would offer for free. Fourteen or 28% said \$1 to \$15 per acre. Four or 8% said \$16 to \$25 per acre. Five or 10% said between \$26 to \$35 per acre and 40% or 20 out of 50 would not allow it regardless of price.



Cattlemen know while corn stalks may appear to be economical to lease, the transportation cost and the cost to supervise and care for them may need to be considered carefully since they may increase dramatically the cost of using the crop residue.

Please get an agreement in writing with responsibilities as it really helps both parties for a win-win situation. In Nebraska, unless in writing otherwise, if it is cash rent, the tenant owns the stalks. If it is crop share, each party owns their relative share of the stalks (if 50-50, then each owns half) or same share as for the crop.

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