

Grazing wind damaged, down corn

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Many producers are asking if it is possible to graze corn in the field without harvest. The answer is yes with some precautions. In fact, grazing may provide more salvage value and clean up the field better than mechanical harvesting. Most research related to grazing corn stover is based on full maturity corn lost during or just prior to harvest. Little work has been done with immature corn and with no mechanical harvest, so there are many assumptions built into this discussion. Producers need to modify these thoughts based on their individual field conditions.

The major concerns are 1) fencing, 2) water sources, 3) determining the amount of corn grain in the field, and 4) limiting the amount of grain the cattle have access to. Most cattle producers traditionally graze corn stover fields in the fall/winter so probably have at least some fields with adequate fencing and water sources.

Determining the amount of grain and forage available

Normal corn silage would yield 22-26 ton per acre at 35% dry matter, or 16,800 lbs. of dry matter. If the corn would yield 200 bu. of grain that would be approximately 9500 lbs. of dry matter from grain. The rest or 7300 lbs. of dry matter is forage from the stalk, leaves, husks, and cob. Some assumptions will need to be made to adjust for immature corn, how much is readily available for cattle grazing and how efficiently they will be able to graze.

Assumptions to adjust for down corn

There is no research on making these assumptions so it's important to be flexible and monitor the cows. Here are suggested adjustments to consider when grazing the down corn.

- 10% reduction in dry matter lbs. per bu. due to immature corn, so instead of 47.6 lbs. DM/bu it would be 43 lbs.
- 80% of corn grain available for grazing (lots of variability expected) and 90% grazing efficiency.
- 70% of the forage available for grazing (less as the corn matures or dies) and 70% grazing efficiency.

By making these adjustments an acre of down corn that would normally yield 200 bu corn or 24 ton of silage would provide 6200 lbs. of corn grain and 3600 lbs. of forage dry matter per acre as calculated below.

$$200 \text{ bu.} \times 43 \text{ lbs. DM per bu} = 8600 \text{ lbs. of corn DM per acre} \times 80 \% \text{ available} \times 90 \% \text{ grazing efficiency} \\ = 6200 \text{ lbs. of corn grain DM}$$

$$7300 \text{ lbs. forage DM} \times 70\% \text{ forage availability} \times 70\% \text{ grazing efficiency} = 3600 \text{ lbs. of forage DM}$$

As the corn plant matures and dries less forage will be available. The longer the crop is in contact with the soil, the more it will deteriorate and spoil, so the feed availability and grazing efficiency will need to be adjusted over the grazing season.

Area to allow in a strip graze system

Strip grazing is the best solution to limit the amount of corn cattle consume on a daily basis. In this example we start with a goal of providing a dry cow in 1st trimester 10 lbs. as fed or 8.5 lbs. dry matter of normal corn per head per day. That would provide about 75% of her energy needs and 50% of her protein requirement. Considering the assumptions and example above, it would only take .0014 acre per cow per day or 60 sq. ft. That is eight linear feet of three 30-in. wide rows.

The amount of forage dry matter that could be consumed per cow from that area would be approximately 5 lbs. Another 15 lbs. of dry matter would be needed to meet dry matter intake expectations and provide the additional

energy and protein needed. Some forage from previously grazed areas would be available depending on how completely those areas were grazed initially, but supplemental hay or other forage would likely be needed.

Fencing for strip grazing

Electric fence is the best option for strip grazing. Access to electricity or a solar power fencer is needed. Mowing or bush hogging paths would allow for easier fence construction. Determine a length of paddock and put a fence on both sides of the area. Cross strips that allow a number of feet or rows would only need two cross fences. Back fences are not necessary allowing cows to go to the water source and provide access to any ungrazed forage. Two front fences are encouraged, one for today's grazing and one for tomorrow's allotment. This prevents cows from accessing the whole field if they manage to get the first fence down, and also simplifies the fencing process by allowing cows access to a new day's feed while rolling up and moving the next day's fence.

Management recommendations

It is assumed most cattle that have previously grazed cornstalks will readily eat ears of corn first before consuming forage. They may overeat on grain, which creates risk for laminitis, excessive body condition, acidosis, bloat, and death.

Adjust cattle and their rumen to starch intake by feeding corn before starting to graze. Start with 2-3 lbs. of supplemented corn per head per day and increase to 7-10 lbs. over a 7-10 day period. Also, make sure cows are full before turn out.

Nursing cows would need more energy and protein so area allocation would need to be larger. 15 lbs. of corn would provide a similar 75% of energy and 50% of protein requirements for those cows in late lactation. Unweaned calves would likely consume a limited amount of grain while nursing. If calves seem to be eating a lot of grain, they may need to be weaned or steps should be taken to limit their intake.

Fall calving cows would also need more energy than spring calvers so additional energy supplementation would be required, also around 15 lbs. per head per day.

Feeder calves could be grazed but if not accustomed to grazing corn stalks, initially they would not consume corn as readily as cows. Like cows, calves are susceptible to grain overload and care should be taken to control intake. Calves should be limited to 1% of body weight of corn initially if they have not been fed grain previously.

If it gets too wet and muddy it may be necessary to stop grazing as excess trampling could occur. Strip width or area allocated can be adjusted if it appears cows need more energy as grazing progresses. As cows become acclimated to corn intake and/or if cows are not readily consuming ears of corn, it may be possible to provide more than one day's allocation at a time.

Other considerations

Open cull cows can be used to graze fields first to reduce the corn available for the main cow herd. Work cull cows up to about 15 lbs. of corn grain per day either prior to turn out or by limiting access to increasing downed corn for grazing over time.

Some protein source will likely be needed for all cattle after the stover begins to die and turn brown. Providing monensin is also recommended.

Cattle should be observed regularly and carefully to watch for signs of grain overload.

Remember, flexibility and individual adjustments are critical.

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