Science Societies

Grazing cornstalks and cover crops: What advisers need to know

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Photo courtesy of Adobe Stock/Peter.



As more producers look to integrate crops and livestock, advisers are increasingly asked about the impacts of grazing on cropland. Learn what research across the Corn Belt reveals about managing cattle on cornstalks and cover crops while balancing profitability, soil health, and long-term productivity.

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Stalks, stover, fodder…by any name, corn residues are an important source of soil organic matter. But cornstalk grazing is also a cost-effective source of forage for beef and dairy producers.

Once common anywhere cattle were raised east of the Rockies, grazing cornstalks is today more often observed across the western Corn Belt and adjacent Great Plains cow-calf country, as well as some dairy-intensive regions. But some corn producers are reconsidering grazing stalks as a way of improving bottom line returns per acre.

Grazing cornfields planted in a cover crop (CC) also continues to be examined. Advisers ranked grazing cover crops as one of the emerging trends as cover crop

acreage continued to increase, according to the 2025 *National Cover Crops Survey Report*.

Here is a summary of key concerns for producers in the Corn Belt who are considering grazing cornstalks and CCs. We focus on information that advisers may find useful when walking corn producers through common concerns about grazing corn residues and highlighting related research and other useful references.

Compaction questions

Compaction and soil trampling have long been concerns when grazing any lands. "What is needed is an animal that can graze with its feet off the ground," stated a 1959 USDA Forest Service report.

Compaction concerns remain—even in regions where cow-calf producers have long depended on cornstalks. As recently as 2017, half of Nebraska corn producers said compaction was a concern for winter cornstalk grazing.



Compaction and soil trampling have long been concerns with grazing. But research in Nebraska has established that there is "little impact on soil physical properties under normal grazing conditions during winter months." Photo courtesy of iStock/DarcyMaulsby.

But research in Nebraska has established that there is "little impact on soil physical properties under normal grazing conditions during winter months." A summary of research from the University of Nebraska–Lincoln (UNL) reports that soybeans planted into grazed cornfields do not suffer yield losses. A 16-year study with cattle grazing corn residue at Mead, NE, observed slightly improved soybean

yields and no corn yield impact when cattle grazed cornstalks in a corn–soybean rotation on irrigated ground.

What about spring grazing? Nebraska research published in 2022 evaluated spring grazing cornstalks at different cattle stocking densities. Researchers put three 600-lb calves per acre on cornstalks for 45 days starting in mid-February. For comparison, nine 600-lb calves per acre grazed for 15 days starting in mid-March.



Moving or rotating supplemental feeding and cattle watering locations is part of good grazing management at temporary sites. Photo courtesy of Shutterstock/symbiot.

There was no difference in soybean emergence between the spring-grazed ground and the control fields. Yields even increased. "Spring grazing may cause minor compaction, and increase surface roughness but improves subsequent soybean yields in an irrigated, no-till, high yielding field," states that research summary. The researchers acknowledged the study had been done to create a worst-case scenario for grazing in muddy conditions; yet there was still a soybean yield boost recorded in the grazed plots compared with the controls.

Research in other locations tells a similar story: Proper grazing management will avoid damage to soil structure on grazed cornfields. That does not mean to ignore possible compaction. Moving or rotating supplemental feeding and cattle watering locations, for example, is part of good grazing management at temporary sites.

Positive economics

Calves in the 600-lb range, along with dry cows, make good sense for grazing corn residues after harvest. "If a cattle producer has access to fenced ground and the fields are dry enough to run cattle on—the economics make sense," says Kenny Burdine, University of Kentucky extension professor of livestock economics.

The main reason is the far lower cost of forage, explains Travis Meteer, University of Illinois beef extension specialist. Meteer says the cost of hay per cow is around $2 per day, using winter 2025–2026 hay values. Winter or spring grazing puts the forage cost at $0.60, or less, he says.

There can be significant management and fencing costs when cattle graze corn residues. "Temporary fencing is so much better today, but in a lot of places, we still need strong perimeter fences for winter grazing," says Kenny Burdine. "If you're a grain producer, and a cattle producer approaches you to lease cornstalk ground, you'll want assurances that they have a strong fencing plan. You also want to be sure they'll be able to move those cattle quickly if the soil moisture suddenly changes."

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There can be significant management and fencing costs when cattle graze corn residues. Photo courtesy of Shutterstock/ron99.

One advantage in 2026 for cattle producers looking to utilize corn residues: current high beef profits may mean more capital for cow-calf producers to consider investing in ways that can help lower feed costs when cattle prices are lower. “Cow-calf operators should be using today’s income levels to set them up for sustained profitability in the future. Investing in a system that lowers feed costs going forward could put the operation in a better financial position to manage future calf price declines.”

Soil health, nutrient management

With proper management, grazing cropland in the winter and spring will have minimal impacts for soil health and future crop yields. The longest-term published research on grazing corn residues, the 16-year Nebraska study, suggests “no detrimental effects on soil properties even in the long term,” under the irrigated/no-till conditions.

Other research, conducted in Illinois in 2020–2021, shows grazing corn residues can provide potential nutrient management benefits. This is likely because cattle manure and urine return nutrients from husk and leaf back onto the soil surface in forms more easily utilized by future crops.

The Illinois study was the first documenting a decrease in phosphate-P leaching when grazing cornstalks. The ungrazed cornstalk plots had a phosphate-P leaching load of 5.2 lb/ac. Plots that were grazed had a phosphate-P leaching load less than 2 lb/ac. The researchers reported grazing “effectively retards the downward movement of P and recycles it to the surface.” They speculated this leads to increased surface soil P levels for crop uptake.

But Corn Belt grain producers are usually not lining up to find cattle to graze corn residues. “It is very difficult to find crop producers that want cornstalks grazed in Illinois,” says Travis Meteer, who participated in that University of Illinois study. “I hope that changes in some regards and potentially opportunities will come with virtual fence and other technologies.”

What about fences?

Although fencing can be perceived as limiting CC and corn residue grazing, temporary fencing equipment and materials have improved in quality, ease of installation, and portability. Experienced cattle producers often already own temporary fencing setups. Crop producers may want to quiz prospective cornstalk or cover crop grazing tenants

about the reliability of their fences.



Animals in a virtual fence system wear GPS-linked collars. Photo by Peggy Greb/USDA-ARS.

Virtual fence technology may offer even more nimble solutions for managing grazing, including on cornstalks and CCs. Animals in a virtual fence system wear GPS-linked collars. This lets the producer monitor cow location and set grazing boundaries. The collars provide sounds, electrical stimuli, and vibrations when the cattle approach the boundaries. There is a period of introduction and training for the collars, and physical perimeter fences are still recommended in virtual fencing systems. A virtual fence collar cost-share program open to Nebraska and Missouri producers will be coming this summer.

Understanding corn residue consumption and rental rates

If a local cattle producer and grain producer are talking about grazing cornstalks, crop advisers may find themselves fielding questions like, “No one around here has leased cornstalks forever. How do I know what to charge?”

The crop producer’s first step is to understand what the cattle will be eating—the residue that will be rented. Cattle graze corn residues selectively starting with any stray grain they might find, then the husks, and then the leaves. The closer to harvest, the higher the nutritional content of the corn residue.

The amount of corn husk and leaf residue (per bushel) decreases as corn yields rise. University of Nebraska research, in 2021 and 2022, found 200-bu corn averaged 13.7 lb of

leaf and husk per bushel; 300-bu corn averaged 12.9 lb of leaf and husk per bushel. Cattle will not use all the residue. The UNL spreadsheet tool for cornstalk grazing assumes half of the residue available for consumption.

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Nutritional quality of the leaf and husk declines as corn yields rise. “Corn residue is a little bit lower quality, or a little bit lower energy, in higher-yielding fields than in lower-yielding fields,” says Mary Drewnoski, UNL beef specialist. Higher-yielding fields also have thicker residue, which cattle may trample before eating.

The old rule of thumb in Nebraska used to be one month of grazing per non-lactating cow for every 100 bu of corn yield. Beef specialists at UNL updated those recommendations in 2024 to 27 days of grazing per cow per every 100 bu.

Cornstalk grazing leases are often reported on a per acre/per month basis. The *Cash Rental Rates for Iowa 2026 Survey* reported per-acre rental rates for cornstalks from

$9 to $21/ac/month, with $12 to $15 rates most common. Those per-acre rates are often based on a grazing charge per cow per day. For example, an 80-ac field stocked at two cows per acre would cost $15 to $30/mo/ac at a rate of $0.25 to $0.50/cow/day.

What about cover crops?

One-third of crop advisers surveyed in the 2024 *National Cover Crop Survey* expected grazing cover crops (CCs) to be an emerging trend. Grazing is feasible on cereal rye and triticale, the most common winter annuals planted after corn and before soybeans across the Corn Belt.



Grazing cover crops is an emerging trend that if feasible on cereal rye and triticale, the most common winter annuals planted after corn and before soybeans across the Corn Belt. Photo courtesy of Shutterstock/ Tony Campbell.

Compaction is also a concern when producers consider grazing CCs. Grazing under proper moisture conditions and stocking rates also minimizes compaction when grazing cover crops, according to an *Agronomy Journal article* published in 2023 by soil scientists from Nebraska and Kansas. Even under proper soil conditions and stocking levels, soil compaction indicators do increase after winter grazing CCs. That increase, however, "generally remained below the root growth threshold level."

Research on grazing CC plots in upstate Missouri, published in *Agronomy Journal* in 2022, also documented increased compaction after cattle grazing. That study reported slightly lower corn yield on grazed ground (about 6 bu/ac) compared with the

controls. There was no soybean yield impact after grazing CCs compared with the control plots.

The Illinois research that documented lower phosphate-P leaching on grazed cornstalks also evaluated impacts of grazing cover crops planted after corn harvest. Decreased phosphate-P leaching also occurred after cattle grazed three cover crops or cover crop mixes planted into corn residue: cereal rye, cereal rye plus clover, and triticale plus clover. Using only triticale resulted in a higher, but variable, phosphate-P load. Results of that study identified cereal rye with crimson clover as the CC option that least penalized soybean yields regardless of grazing.

Spring grazing cover crops can be challenging. Some cattle producers will plant a winter annual or cover crop mix with the intention of mechanical harvest to aid cover crop termination. “Triticale many times leads to a higher quality feed product when harvested as baleage or hay silage, mainly because cereal rye can mature so quickly,” notes Travis Meteer. He recommends Illinois Extension’s *Quick Guide to Cover Crops for Forage* for producers thinking about grazing or possibly leasing land for grazing.



Some cattle producers will plant a winter annual or cover crop mix with the intention of mechanical harvest to aid cover crop termination. Photo courtesy of rawpixel.com. CC0 1.0

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Crop insurance and government programs generally allow grazing cover crops if the grazing meets the soil and nutrient management goals. There may be restrictions on mechanically harvesting cover crops, depending on program participation.

Nationally, dairy operations are more likely than beef operations to mechanically harvest annuals for forage, according to a 2024 USDA report. The practice is more common on dairies in Ohio and the Northeast, especially Pennsylvania. Researchers at Penn State, publishing in the *Journal of Dairy Science*, reported reduced soil erosion and less P lost when corn acres were double cropped. The best economic case for double cropping a forage with corn is during periods of average to high dairy feed prices, according to that analysis.

Researchers from the University of Illinois probably say it best, in an article published in *Applied Animal Science* evaluating the impact of grazing cornstalks on cattle performance, residue characteristics and subsequent crop yield: "Utilization of crop residues for cattle grazing could lower feed costs in the livestock enterprise without negatively affecting grain production in the crop enterprise."

Dig Deeper

Keys for Corn Stalk Grazing (University of Nebraska)

Grazing Cover Crops (University of Missouri Extension)

Corn Stalk Grazing Calculator (University of Nebraska)

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1. According to the article, what has Nebraska research generally found about winter cornstalk grazing and soil physical properties?

a. It causes substantial compaction and consistent yield losses.

b. It increases corn yields but decreases soybean yields.

c. It requires annual tillage to correct compaction.

d. It has little impact on soil physical properties under normal grazing conditions.

2. In the Nebraska spring grazing study, which stocking treatment represented the higher stocking density?

a. Three 600-lb calves/ac for 45 days.

b. Six 600-lb calves/ac for 30 days.

c. Nine 600-lb calves/ac for 15 days.

d. Twelve 600-lb calves/ac for 10 days.

3. What was observed in soybean yields following spring grazing of cornstalks in the Nebraska study?

a. Yields decreased significantly.

b. No measurable yield effect occurred.

c. Yields increased compared with the control.

d. Yield responses varied too much to draw conclusions.

4. Which class of livestock did the article identify as particularly well-suited for grazing corn residues after harvest?

a. Dry cows and 600-lb calves.

b. Lactating dairy cows and feedlot cattle.

c. Bulls and replacement heifers.

d. Finishing steers and dairy calves.

5. Based on winter 2025–2026 values cited in the article, what approximate daily forage cost did Travis Meteer associate with hay feeding per cow?

a. $0.60.

b. $1.00.

c. $1.50.

d. $2.00.

6. Why did Illinois researchers suggest phosphate-P leaching decreased in grazed fields?

a. Grazing reduced fertilizer applications.

b. Manure and urine recycled nutrients near the soil surface.

c. Grazing accelerated phosphorus volatilization.

d. Corn residue completely captured phosphorus runoff.

7. According to the article, what do cattle typically consume first when grazing corn residues?

a. Corn stalks.

b. Leaves.

c. Husks.

d. Stray grain.

8. University of Nebraska recommendations updated in 2024 suggest approximately how many days of grazing per non-lactating cow for every 100 bu of corn yield?

a. 20 days.

b. 27 days.

c. 35 days.

d. 45 days.

9. Which cover crop treatment in the Illinois study was identified as least penalizing soybean yields regardless of grazing?

a. Triticale alone.

b. Cereal rye alone.

c. Cereal rye plus crimson clover.

d. Triticale plus crimson clover.

10. What was the overall conclusion highlighted from the *Applied Animal Science* article cited at the end of the story?

a. Grazing crop residues improves grain yields every year.

b. Grazing crop residues should replace harvested forages whenever possible.

c. Grazing crop residues can lower livestock feed costs without negatively affecting grain production.

d. Grazing crop residues is only economically viable in dairy systems.

This quiz was drafted with AI assistance and reviewed by the editorial team for accuracy and appropriateness.

Corn Belt content

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Back to issue

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