With extreme drought conditions persisting throughout much of Nebraska, there is a growing shortage of forages and pasture for beef production. This likely will increase the need for using corn stalks (or corn residue) as cattle feed this fall.

Corn residue removal, through grazing or baling, is already widely practiced in Nebraska for a variety of reasons. However, the recent drought has piqued interest about this practice and has many producers considering it for the first time.

Corn stalks are an abundant and desirable feed resource. Grazing corn stalks with beef cows results in good cow performance and is an inexpensive winter feed. Grazing removes much less residue than does baling. Cows preferentially eat leaves and husks which are a fraction of the total residue. Responsible grazing is a good option for the majority of corn acres in Nebraska. Baling residue also can be sustainably accomplished in most cases. Baled corn stalks are a versatile feed that can work well in many situations, especially when combined with ethanol co-products.

Several factors should be considered when adopting corn residue removal practices, some of which are specific to drought conditions. As a rule, in most years, corn residue can be harvested from most Nebraska corn fields without concern for undesirable consequences.

Following are several factors to consider when deciding whether to harvest residue from your fields:

• What is the suitability of the land for residue removal? Crop residue is a valuable resource in terms of soil conservation and soil quality. If the land is highly erodible, corn residue should not be removed as this will increase the potential for erosion.

• Retaining adequate levels of corn residue is important for subsequent crops. The residue is vital for nutrient cycling, soil organic matter, soil water retention (minimizes evaporation), and soil structure (maximizes water infiltration).

If large percentages of residue are removed, crop yields in subsequent years may be adversely affected, especially during drought. Research is being conducted at UNL to determine acceptable removal rates; however, guidelines have not yet been set.

Currently, we think removal rates of 50 percent are acceptable on irrigated ground, however, this is likely site specific and will depend on the initial level of residue. If the field has never been grazed, more removal may be acceptable than on a field that is grazed annually.

• Climate varies significantly from western to eastern Nebraska, thus location should be considered. Light to moderate grazing may be acceptable on dryland corn in eastern Nebraska, but we generally do not recommend grazing on dryland farms in western Nebraska due to significantly lower amounts of residue. During drought conditions, such as this year, grazing may not be appropriate in eastern Nebraska dryland operations either, since dryland corn in eastern Nebraska in a drought year may look a lot like dryland corn in western Nebraska in a “normal” year.

• Leaving more crop residue on the soil decreases the potential for water loss from evaporation and runoff. If this drought is a one-year occurrence, this may not be a big issue.

However, if this is the beginning of a longer drought cycle, it may be prudent to plan for the future. By leaving as much residue as possible, producers give themselves the best conditions for next year’s crop.

Also, corn heights are shorter than normal this year due to the drought, and less residue will be produced. Growers may want to remove less than in a typical year to maintain the status quo.

• Residue removal has both short- and long-term economics effects. While you can save money by using corn residue rather than other cattle feed, the corn residue itself has value, especially in terms of 1) nutrients added to the soil, 2) water savings, and 3) protection from soil erosion. Three UNL Extension resources can help you further evaluate the economic impact for your operation:

• NebGuide G1846, Harvesting Crop Residue, can help you determine the economics and soil quality/erosion issues associated with corn residue removal.

• NebGuide G2000, Tillage and Crop Residue Affect Irrigation Requirements, can help you determine the effect of residue removal on soil water.

• EC711, Baling Corn Residue, is a decision support tool (publication and downloadable spreadsheet) that can help you evaluate the pros and cons of baling corn residue for your operation.

Corn residue is a valuable resource available to crop and cattle producers which can be suitably utilized.

Even during drought conditions, responsible crop residue removal is appropriate and can help feed cattle in tough times. However, it is also important to think long term. The beneficial soil properties related to crop residue take many years to develop.

This should be taken into account when deciding how much residue to remove.