

WILL GRAZING CROP RESIDUES AFFECT MY NEXT CROP?

With dry conditions in recent years, there has been a lot of discussion about grazing corn stalks. There is a big demand for corn stalks for grazing. Each year there are many acres of corn stalks left ungrazed. Some of this may be due to the uncertainty of the impact of grazing on subsequent crop yields. Crop farmers may be reluctant to rent out corn stalks for grazing to beef producers if there is a chance that next year's crop yield will be affected. This is a valid concern. The University of Nebraska has been conducting research over the past several years to address this question.

From the early 90's until recently, research on the impact of grazing crop residues on subsequent crops has been conducted at the University of Nebraska's Agricultural Research and Development Center (ARDC) near Mead. An article in the September 20th, 2012 issue of *CropWatch* by Dr. Charles Wortman and Dr. Terry Klopfenstein report on grazing stalks in no-till fields at the ARDC. This article can be accessed at: http://cropwatch.unl.edu/archive/-/asset_publisher/VHeSpfv0Agiu/content/4994401. This article reports data from an experiment on grazing corn stalks from 1996- 2011. In a corn/soybean rotation study, the effects on yields of the following crops were measured for fall/winter grazing (November to February), spring grazing (February to mid-April) and ungrazed. These three treatments were maintained in the same area since 1996. This field was irrigated and stocking was with 2.5 times the normal level since 2000. On average, yield of the following soybean crop was increased 2.0 bu/ac for fall/winter grazing and 1.3 bu/ac with spring grazing compared to no grazing of corn stalks. Yield of corn as the second crop after grazing was not significantly affected, with corn yields for fall/winter grazing averaging 209 bu/ac, spring grazing averaging 207 bu/ac and ungrazed averaging 206 bu/ac.

An earlier study in the 1990's evaluated cows grazing corn stalks under a center pivot irrigation system and compared this to an ungrazed field. Soybean yields were measured the following year. This study was repeated on adjacent fields the next year as well. Results of this study showed no significant differences in soybean yields between grazed and ungrazed fields. The effect of grazing on subsequent crop yields was also studied on dryland fields at the ARDC from 1993-1997 where crop residues were grazed each winter for five years. Results of this study indicated that yields were not affected if cattle were removed in the spring before field conditions became muddy. While residue cover was reduced, percent residue cover remained at levels high enough to keep soil erosion at an acceptable level. In some fields, cattle were left on corn stalks during muddy conditions. Under this type of environment, when soybeans were planted in this situation, they appeared to compensate and yields were not affected.

The results of this research indicate that grazing of corn stalks is compatible with no-till management in eastern Nebraska and probably is for irrigated throughout the state with no loss in average grain yield expected. With wet soil conditions in the spring consider removing cattle from the field or taking other management steps to minimize

effects of compaction. The use of forage crops (cover crops) after corn may be an alternative strategy to increase productivity, reduce compaction issues and maintain and conserve soil along with the crop residues. It is important to follow herbicide label restrictions if planting and grazing a forage crop following corn or soybeans. This issue has recently come to light due to many producers grazing forage crops (cover crops) following wheat, soybeans or corn. For questions contact Gary Lesoing at (402) 274-4755.

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