Crop Residues Have Value

by **KATIE PRATT**

Biofuels continue to be a hot topic in many grain crop producers' circles, with some of the most recent discussions surrounding the use of crop residues, such as corn stover, to produce ethanol. As Kentucky farmers begin to explore this new form of alternative energy, they need to be aware of the value of their crop residue, according to a soil scientist in the University of Kentucky (UK) College of Agriculture.

John Grove, associate professor for soil nutrient management, recently released the first-year results of a study that explores the short-term effects of various amounts of crop residue left in fields. The study showed that fields with a normal amount of corn stover yielded 9 more bushels (bu.) per acre than fields with no crop residue. With the current price of corn around $4 per bu., completely removing the corn stover would cost producers about $36 an acre.

"The 9-bushel-per-acre difference is due to improved water use efficiency," he said. "The stover was able to help the soil retain some of its water during the last year's drought."

The study also showed that removal of crop residues resulted in considerable nutrient removal. This could cause producers who remove corn stover to apply more fertilizer to compensate for those losses. If fertilizer prices are high, this could be a costly venture.

Removal of crop residues resulted in considerable nutrient removal, which may translate to fertilizer expenses down the road.

"Producers need to realize that corn stover is a lot more than just carbon," Grove said. "It also contains nutrients, such as nitrogen, potassium and phosphorus that the soil will retain and cycle for the next crop. When you remove stover, you change the soil's fertility status."

Producers need to regularly evaluate crop residue values because they can change according to the dryness of the growing season and the price of fertilizer nutrients.

Grove said because of their benefits to the soil and subsequent crops, residues should not be removed every year. Studies published in several soil science publications have found that long-term continuous crop residue removal could lead to a rapid decline in soil organic matter resulting in soil structure and erosion problems.

If producers decide to remove crop residues, they should plant a winter cereal cover crop in the fall and consider applying either compost, poultry litter or other animal waste to the field in the spring to make up for the organic matter and nutrients that were lost as a result of residue removal.

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