Impact Of The Drought On 2013 Fertilizer Rates

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Reduced yields can have implications for fertilizer need in the year after a drought. Intuitively, farmers recognize that substantially reduced yield can lead to less removal of nutrients from a field. When nutrient use is reduced there is an opportunity to estimate a drought nutrient credit from the stricken crop that can be used to reduce fertilizer need in the year following the drought.

Farmers have used a range of strategies to deal with drought stricken corn and soybeans. How they managed fields this year will directly affect the amount of fertilizer carryover to the next year. This year, corn and soybean fields have been harvested for grain (with substantially reduced yield), mechanically harvested (as green chop, baled forage or silage), grazed as forage, or been abandoned with no removal of any crop material.

Each of these scenarios has implications for how many nutrients applied from this year can be credited to next year's crop. In some cases these strategies may actually increase fertilizer need next year by removing more nutrients than would have been in the planned grain harvest.

Drought nutrient credits can be important particularly on fields where little or no material was harvested in 2012. Recognize that chopped corn can increase potash requirements for next year's crop. Also recognize that there is potential for nitrogen estimated in by the drought nitrogen credit to be lost through leaching or de-nitrification if we have excessively wet conditions between now and next year's crop.

Some farmers may question if the calculated drought credit is really available. This can be a real concern, especially for nitrogen where there is the potential for the excess nitrogen from this year's drought stricken corn to be lost over winter or in spring from excess moisture. Give the exceptionally dry condition of the soil in early fall, it is less likely we will have substantial leaching of nitrogen over winter. The potential for losing the drought nitrogen credit to excess moisture is much lower if the next crop is wheat compared to corn. A cover crop may also serve to limit nitrogen losses under high moisture conditions.

If farmers are planning to grow wheat or corn and think there is a drought nitrogen credit but want a quantitative test to measure the nitrogen in the soil, they can use the Soil Nitrogen Test. This test is fully explained in the MU Extension Publication: Preplant Nitrogen Test fort Adjusting Corn Nitrogen Recommendations (MU Guide G9177). This text requires taking multiple cores to a depth of at least two feet in the spring. Δ

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