Harvest – Soil Management
August 21, 2012 Webinar

Question: Any comments on the need for fall tillage this fall?
One of the issues farmers need to consider before attempting to do any tillage this fall is to consider whether they need to do any, considering the input cost, potential damage to soil and water quality, and potential erosion.

I would encourage farmers to consider not tilling, especially those who will be rotating into soybean next season. Research shows that soybean yields are very similar for all tillage systems including no-till. Keeping residue on the ground will definitely help build soil structure and soil organic matter, as well as help recharge subsoil by capturing more moisture during winter and spring rain events to prevent any surface runoff that is associated with tillage. This is especially true on high sloped ground.

If you decide to do tillage, I would encourage you to consider other options, such as strip-tillage if you have relatively flat area, or minimum tillage by leaving at least 50 percent residue cover.

I would not recommend any tillage or removal of residue on high slope ground.

Question: Will potentially higher soil nitrate levels increase the decomposition of corn residue that would be fall tilled?
Research has shown that additional nitrogen to the soil environment or applied on corn residue did not increase decomposition or breakdown of corn residue. Similarly, shredding or tilling residue in the ground has limited effect in increasing residue breakdown.

Residue decomposition is influenced by soil moisture, soil temperature, soil pH, and carbon to Nitrogen ratio among many other factors. The addition of N can have some negative effect on slowing residue decomposition. Also, access nitrate alone will not change the rate of residue decomposition if you do not have the right soil temperature and moisture availability. Keep in mind residual nitrate is very leachable and its availability is very temporary to increase residue decomposition, where corn residue decomposition is very slow and long process.