Ripple Effect #24

Preparing Farmland for Spring Erosion

Diesel fuel prices are at an all-time high as are concerns of how farming practices affect water quality. Many of the streams and rivers in the Red River Basin are in trouble – they are too muddy and too rich in nutrients such as nitrogen and phosphorus. The quality of the surface water tracks closely with the surrounding land use and the more exposed soil on the landscape, the greater the potential for water and wind erosion.

How can farmers prevent erosion on their land? When analyzing the whole field, it may be as simple as changing the direction of tillage. Orienting tillage perpendicular to the prevailing winds of the fall / winter / spring months can add enough "roughness" to the soil surface to minimize wind erosion. Similarly, following the contour of the slope of a hill (not up or down the hill, but across the slope) with tillage can reduce the potential for water erosion. Reducing the frequency of tillage also prevents erosion, while saving fuel and improving the health of the soil. Depending on the soil type, it may be beneficial to seed directly into the previous year's stubble (no-till) without pre-seeding tillage. No-till has gained in popularity in American farming, but participation rates are still relatively low. Ultimately, a minimum of 30% residue maintained after tillage will effectively control soil erosion.

Soil erosion can also be prevented by establishing nonstructural conservation practices in specific areas. Grassed waterways, field windbreaks, field buffers and filter strips can assist the farmer in reducing erosion, maximizing economic gain, and creating habitat for a variety of wildlife. Federal and State agencies, along with sportsmen conservation groups provide several different financial assistance programs to producers to establish these vegetative plantings and tillage programs. Financial assistance can range from 50% to 100% cost-share, with varying lengths of contract periods.

Lastly, structural conservation practices can help to control soil erosion due to specific, concentrated sources. Diversions, terraces, sediment control basins and contour farming can control and direct runoff to areas designed to convey it. In the flatter terrain, side inlet structures can reduce the sediment delivered to large ditch systems from field ditches, and grade control structures can limit the erosive damage to natural stream channels or ditches by slowing the water and dispersing the energy.

Before farmers head into the field for fall tillage, they should ask themselves three questions:

1) Can I change my crop rotation or tillage practice to reduce tillage, save fuel, and leave 30% crop residue on the ground after I am done?

2) Where are my worst erosion spots and what can I do to prevent erosion and loss of crops? and

3) Where can I reduce loss of inputs and maximize my efforts and outputs through enrollment of "problem areas" into conservation programs?

Farmers concerned about soil erosion and how to prevent it should contact or visit their local Conservation District.

Until the next Ripple Effect,

The Red River Basin Commission (RRBC)