Keynote Speaker

CONSERVATION TILLAGE: INCENTIVES AND SUCCESSES IN NORTH CAROLINA

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ABSTRACT

Conservation tillage is the foundation for a large number of the cropland conservation systems planned and applied through NRCS technical assistance in North Carolina. According to our 2002 survey, 36% of our row cropped land is planted using no-till techniques. There is good reason for our reliance on conservation tillage technology. Conservation tillage saved the day for many of our state's farmers in meeting the Conservation Compliance provisions of the 1985 Farm Bill. Much of our highly erodible land is used for cotton or corn, and conservation tillage technology at that time provided a solution that could be economically incorporated into these operations and reduced soil erosion rates significantly. This was fortunate because our landscapes in North Carolina are not well suited to some of the other erosion control technologies, such as contour farming or structural practices to reduce slope length. Now, conservation tillage is emerging as a tool to help address a newer resource concern. Since 1999, phosphorus transport off-site has been a critical aspect of USDA's nutrient management policy and standards. This is particularly important in our State due to the large number of confined animal operations and the associated land application of organic sources. North Carolina's new phosphorus loss assessment tool estimates losses from each potential transport pathway. Based on available research and models, the tool incorporates the significant reduction in rainwater runoff from sites with heavy surface residue, and consequently identifies important reductions in soluble P losses. Similarly, conservation tillage reduces particulate phosphorus losses associated with soil erosion. There will be animal growers in this state who are able to stay in business because of the runoff and erosion reduction benefits of conservation tillage. North Carolina uses aggressive criteria in its federal and state cost-share programs to "raise the bar" on ground cover and residue management. We believe the research is demonstrating that we are missing significant potential benefits if we strive for only 30% ground cover. The impacts on soil quality and increased organic matter, nutrient loss reductions, pesticide loss reductions, and moisture conservation from a more aggressive use of residue is becoming apparent. Our federal and state cost share program guidelines have been revised over recent years to push us forward and utilize conservation tillage more effectively. We do grow a number of other crops, such as tobacco and vegetables, on land susceptible to erosion. And although we do have some growers using conservation tillage successfully to produce some of these crops, we still have a ways to go with both the technology and educational aspects of residue management in these operations. Again, we have designed some aggressive incentives for producers who are willing to be leaders in conservation tillage on these crops.