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WEST TEXAS NO-TILL SYSTEMS UTILIZING BOLLGARD®WITH ROUNDUP READY®VARIETIES

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Abstract

The West Texas sales territory for Monsanto consists of 131 counties which includes counties in Southwest Oklahoma, and most counties in New Mexico. Cotton production in this area ranges between 4.5 and 5.5 million acres depending primarily upon rainfall and weather conditions The majority of acres planted to cotton in the West Texas sales territory consists primarily of stripper cotton varieties which were developed to be highly storm resistant due to highly volatile weather patterns during harvest seasons. However, there are areas within this territory which have adopted and grown large acreage of picker type cotton varieties. Average annual rainfall for this territory is around eighteen inches. Moisture conservation along with a reduction in wind erosion are the two most important reasons for the adoption of conservation tillage practices in this region. Cover crops such as wheat are the primary choice for ground cover to protect seedling cotton in the early stages of development. However, moisture consumption from cover crops can deplete soil moisture at planting. The need for alternative no-tillage systems utilizing existing crop residues need to be investigated. In 2002 and 2003, stacked gene (BOLLGARD®WITH ROUNDUP READY®) picker type cotton varieties were evaluated in No-Tillage systems utilizing crop residue left from the previous year compared to Roundup Ready picker type varieties in a conventional tillage system.

Large plot (10 - 30 acre) side by side grower trials were initiated the year of 2002 and 2003 to determine the economic benefits of the Bollgard® with Roundup Ready® picker type cotton varieties in no-tillage systems compared to Roundup Ready® picker type cotton varieties in a conventional tillage system. Three trials were conducted in 2002 along with three trials in the year 2003. In 2002, stacked gene cotton varieties in no-tillage systems averaged 13.67 pounds more lint per acre than conventional tillage systems. Net returns for the no-tillage systems averaged $31.47 more profit than the conventional tillage system. In 2003, stacked gene cotton varieties in no-tillage systems averaged 261.17 pounds more lint per acre than the conventional tillage systems. Net returns for the no-tillage systems averaged $128.27 more profit than the conventional tillage system. Averaged across 2002 and 2003, stacked gene cotton varieties in no-tillage systems averaged 137.42 pounds more lint per acre which resulted in and average of $76.12 more net returns than conventional tillage systems. No-tillage systems utilizing crop residue from prior year crop production practices provided economic advantages compared to conventional tillage systems.