

**PERFORMANCE OF XTENDFLEX™ COTTON GERMPLASM IN OKLAHOMA IN 2014****R. Boman****S. Osborne****J. Goodson****Oklahoma State University****Altus, OK****J. Cuarezma****Monsanto****Lubbock, TX****D. Albers****Monsanto****St. Louis, MO****K. Lege****Americot, Inc.****Lubbock, TX****Abstract**

Monsanto's XtendFlex™ cotton trait imparts tolerance to dicamba, glyphosate and glufosinate herbicides. Trait deregulation is anticipated soon. After trait deregulation, it is assumed that several varieties will be available for sale to producers. The objective of this study was to evaluate the performance of several germplasm lines containing the XtendFlex™ trait compared to current standard entries. In 2014, two separate regulated trials (Monsanto/Deltapine and Americot/NexGen) were established under center pivot irrigation at the Caddo Research Station near Fort Cobb. The site is classified as a Binger fine sandy loam, 1 to 3 percent slopes. Four replicates of entries were used in both trials. Plot size was two 36-inch rows by 30 ft in length. Both trials were managed in a Roundup Ready Flex® herbicide system, thus no dicamba was applied. Harvested area was two rows by plot length and harvesting was accomplished using a modified John Deere 482 plot stripper. At harvest, samples were taken from each plot. These samples were used to determine lint turnout for each plot and were used to convert plot bur cotton weights to lint per acre. Lint from these samples was submitted to the Texas Tech University Fiber and Biopolymer Research Institute to obtain HVI data. Loan value was determined using the 2014 Upland Cotton Loan Valuation Model. Analysis of variance was performed using SAS ver. 9.4 for Windows. Monsanto/Deltapine trial results indicate that when comparing lint yield and fiber properties, the B2XF entries were very competitive with standard entries. For lint yield, 4 of the 6 entries in the upper statistical tier of significance were B2XF types. One Monsanto B2XF entry (DP 1518B2XF) produced higher yields than standard types such as DP 1044B2RF and FM 1944GLB2. Americot/NexGen results show that 3 of 4 entries in the first statistical tier of significance were B2XF germplasm. The NG 1511B2RF entry has exhibited excellent yield stability for several years in our area and 3 entries statistically produced the same yield at this site. Fiber quality results for this trial were not yet available at time of printing. Results from these trials conducted simultaneously at one site indicate that at first glance, the B2XF and XF entries evaluated are highly competitive with currently planted standard entries. When the XtendFlex™ technology gets deregulated, additional multi-site and multi-year research is needed to evaluate the new varieties across a series of environments.