



Overview of 2012 Extension Cotton On-Farm Variety Testing

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Two types of on-farm cotton variety trials were planted in 2012. The Replicated Agronomic Cotton Evaluation (RACE) trials were planted and harvested working directly with producer-cooperators in their fields using their commercial equipment. Usually, 7-8 entries per site (typically one entry per brand name), with 3 replicates are planted at these sites. It should be noted that Americot 1511 B2RF had a designation change that occurred on June 8th. Therefore, this germplasm was entered as Americot 1511 B2RF, but due to the name change it is reported as NexGen 1511 B2RF. Plot weights were captured using a Lee weigh wagon with integral digital scales. A total of 9 sites (5 irrigated, 4 dryland) were planted in 2012. Good to excellent stands were obtained at all sites planted. All dryland sites failed. These locations included Union City (due to hailout), Tipton, Hollis, and Canute (due to drought). The one irrigated site located in the Lugert-Altus Irrigation District failed due to lack of irrigation capability and thus drought. The remaining 4 irrigated sites included Hollis, and locations near the I-40 corridor including Erick, Hydro, and Carnegie.

An additional 5 County Replicated Small Plot (CRSP) sites closer to Altus were planted. A total of 4 replicates of about 12 total entries were planted in each trial. Good to excellent stands were obtained at these locations. These included 3 irrigated (Altus, Granite, and Tipton) and 2 dryland sites (Altus and Granite). Both dryland sites failed, and the irrigated site located within the LAID and the one near Granite failed due to lack of irrigation. The surviving CRSP trial near Tipton was challenged by limited furrow irrigation. This crop was severely moisture stressed by the end of the season. The seeding rate was 52,000 seed/acre and was planted and harvested by our Extension crew using our Extension project small plot planter. It was harvested with a John Deere 482 plot stripper (without a field cleaner).

Grab samples were taken from each individual plot from both RACE and CRSP trials and ginned on plot-type ginning equipment. Lint samples were submitted to the Texas Tech University Fiber and Biopolymer Research Institute (FBRI) for high volume instrument (HVI) analysis. CCC Loan value was determined based on the 2012 loan chart using an Excel spreadsheet provided by Cotton Incorporated. It should be noted that color and leaf grades were standardized to 21 and 2, respectively at all sites due to the nature of our plot ginning equipment.

Surviving irrigated test yields were generally a function of available water and delivery efficiency in these fields. Test average yields ranged from a low of 800 lb/acre in a furrow irrigated trial to over 1500 lb/acre in subsurface drip and in center pivot trials. Fiber properties at most sites were remarkably good. Based on 2012 irrigated trials, we can say that we have some excellent cotton genetics available, and these can do well in a tough year. Results from producer-cooperator fields indicated that variety selection is very important. When yield, fiber CCC loan value, ginning costs, and seed and technology fees are considered, the statistically significant difference in top and bottom variety performers with respect to net value per acre averaged over \$200 across sites. In our region, storm resistance is also important (the higher the better), and all tests were visually scored for this characteristic.