

CONVENTIONAL BREEDER SEED INCREASE PROGRAM**Don C. Jones****Cotton Incorporated****Cary, NC****Fred Bourland****University of Arkansas - Northeast Research and Extension Center****Keiser, AR****Gerald O. Myers****LSU Agcenter****Baton Rouge, LA****Jay Subramani****University of Arizona****Maricopa, AZ****Abstract**

Based on interest and inquiries from grower leadership, Cotton Incorporated initiated a conventional breeder seed increase program in 2008 in conjunction with public breeders across the cotton belt. The site chosen to increase seed was the Maricopa, Arizona Experiment Station [MAC] due to the historical high quality seed produced in the dry environment. After reviewing data from many experiments from preceding growing seasons, five varieties were selected for increase based on yield performance. Equally important for inclusion was the variety's fiber quality as measured by both HVI and AFIS instruments. Three varieties from the University of Arkansas and two from Louisiana State University were planted at MAC on April 11th, 2008 and grown along with one check variety. The acreage grown for each public variety varied according to the available seed, but it ranged from 1/4 to 8/10 of an acre. From each variety ninety-six plants from the middle rows were sampled and checked for adventitious presence of all commercial cotton transgenes using PCR based protocols for indicated targets. Only two of the 480 plants sampled showed presence, and they were promptly rogued. The breeders or their representatives also visited the plots during the growing season and rogued for off-types. Bolls from all sampled conventional plants were hand harvested, ginned and fumigated. Remaining cotton was harvested on November 22nd using a two row bulk picker. Between each variety all vents, basket and spindles were completely cleaned. The five varieties and the check were ginned on a 25 saw gin system, packaged, and shipped to Cary, North Carolina. HVI and AFIS analysis was completed on all varieties. In addition to standard fiber qualities parameters being determined, enough fiber was produced to spin both 22/1 Ne and 30/1 Ne singles from each variety. Data presented shows the relative yield, fiber quality, and spinning performance of each variety compared to one or more commercial checks.