

A PRIVATE/PUBLIC SECTOR PARTNERSHIP TO ADDRESS FOV4

Don C. Jones
Cotton Incorporated
Cary, NC
Jim and Mike Olvey
O & A Enterprises
Maricopa, AZ

Abstract

A unique partnership between O & A Enterprises and Cotton Incorporated began in late 2017 to address the discovery of FOV4 in Texas. The first field screening trials occurred near Clint, Texas in 2018. Based on a thoroughly proven FOV4 field screening protocol developed by O & A Enterprises, nearly 1000 public sector lines were screened in 1 replication in a uniform, heavy FOV4 spore count field. Known proprietary pima checks developed over the past 20 years whose reaction to FOV4 pressure is well understood were immediately adjacent to each plot, or in other words each entry was flanked on either side with two known checks. This 1000 entry project was part of a larger 4000 accession screening effort involving most private seed industry partners with O & A Enterprises. The O & A Enterprises screening protocol called for selection of a uniform, high FOV4 spore count site and early season planting to ensure maximum cotyledon pressure. Data collected each year included a) early season cotyledon reaction, b) late season vascular stain ratings, and c) a productivity score. Entries deemed tolerant in the single replication test in 2018 were rescreened using 10 replications in 2019. The same data as mentioned previously was collected, but the number of flanking checks increased from two to eight per entry (plot). If entries were again determined to be highly tolerant, a third test was repeated in 2020 using the 10 replications. This effort identified the first FOV4 highly tolerant germplasm in the U.S. since Cotton Incorporated began financially supporting FOV4 screening efforts approximately 15 years ago. The unique partnership has identified highly tolerant upland germplasm that will benefit U.S. cotton growers and the greater cotton improvement community.