# PEST RESISTANCE AND AGRONOMIC PERFORMANCE OF ADVANCED BARBREN LINES COMPARED TO COMMERCIAL CULTIVARS AND THE GERMPLASM LINE BARBREN 713

**Alois A. Bell**
**Jose Quintana**
**U.S. Department of Agriculture-ARS-SPARC**
**College Station, TX**
**Robert L. Nichols**
**Cotton Incorporated**
**Cary, NC**

## Abstract

The germplasm line BARBREN 713, that has resistance to both root-knot and reniform nematodes was released in 2012. Its major resistance to reniform nematodes is due to the *Ren*$_2$ gene derived from *Gossypium barbadense* GB 713 and located near the DNA marker BNL 3279_105 on chromosome 21. Sixty lines, that carry the same marker but were developed from GB 713 using various other lineages, were compared with commercial cultivars and BARBREN 713 during 2011 and 2012. Most lines provided significantly greater nematode suppression and fiber yield compared to non-transgenic commercial cultivars; average increase in yield was 60%. The line BAR 41 had more than twice the yield of TAMCOT Prema and a yield notably greater than BARBREN 713. In addition, it had considerably greater fiber length and strength. It is proposed for germplasm release in 2013. Progeny rows for 12 other lines had yields even greater than BAR 41 and will be evaluated further in 2013 as possible germplasm releases.