Effect of a Minor Soybean Cyst Nematode Resistance QTL from PI88788. (C01-glover155125-Poster)

Authors:

- K.D.Glover South Dakota State University, Brookings, SD
- S.R.Carlson -
- B.W.Diers University of Illinois, Urbana IL

Abstract:

The primary source of resistance in soybean (Glycine max) to soybean cyst nematode (SCN) (Heterodera glycines) in the northern USA is PI88788. PI88788 has resistance at rhg1, a major quantitative trait locus (QTL) on linkage group (LG) G and a minor QTL on LG J near the simple sequence repeat (SSR) marker Satt431. In an attempt to more fully characterize the LG J QTL, our objective was to confirm its presence and more accurately estimate its phenotypic effect. Three populations of near isogenic lines that were segregating for resistance on LG J were developed to test the gene in a nearly homogeneous background. These populations were each developed from a different F4-derived line from a cross between the SCN resistant cultivar Bell and the susceptible cultivar Colfax. The lines were tested for resistance to the SCN population PA14 (HG type 1.3.5.6.7, race 14) in two greenhouse assays. Female index (FI) values were calculated for each line and they were tested for segregation of Satt431. In all populations, lines with the Bell SSR marker had significantly lower FI values than those with the Colfax marker. FI scores within population marker classes differed by from 9.7 to 14.6.

Corresponding Author Information:

Karl Glover South Dakota State University NPB 247 Box 2140-C Brookings, SD 57007 phone: (605) 688-4769 fax: (605) 688-4452 e-mail: karl_glover@sdstate.edu

Presentation Information:

Presentation Date: Tuesday, November 12, 2002 Presentation Time: 4:00-6:00 pm Poster Board Number: 1215

Keywords:

soybean, Soybean Cyst Nematode, resistance, SSR markers