Molecular Mapping of Resistance to Soybean Cyst Nematode Races 2, 3, and 5 in Soybean Line PI90763. (C07-sleper100414-Poster)

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Abstract:

Soybean cyst nematode (Heterodera glycines ichinohe, SCN) is a major soybean disease in the USA. It is estimated that damage from SCN causes annual yield losses ranging from 2 to 6%. Use of resistant cultivars has been proven to be the most effective means of controlling this pest and also proven to be environmentally friendly. Soybean line PI 90763 is resistant to SCN races 1, 2, 3, 5, 6 and moderately susceptible to 14. It is an important resistant source in soybean breeding that has been under utilized. It is one of the four differentials in the race determination test and one of the seven indicator lines in the new HG type SCN classification. PI 90763 has been mapped for resistance to SCN races 1, 3, and 6. No information is available for resistance to SCN races 2 and 5. Currently SCN races 2 and 5 are becoming increasingly prevalent in the USA. Objective of our research was to identify QTLs for resistance to SCN races 2 and 5 in PI 90763. Approximately 120 polymorphic SSR markers were identified for use in mapping SCN resistant QTLs, which covered all 20 linkage groups.

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