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Evaluation of diverse soybean germplasm towards resistance to multiple nematode species: *Heterodera glycines*, *Meloidogyne incognita*, and *Rotylenchulus reniformis*

*Mariola Klepadlo**, Department of Plant Science, University of Missouri, Missouri, USA
Clinton Meinhardt, Department of Plant Science, University of Missouri, Missouri, USA
Tri Vuong, Department of Plant Science,
Gunvant Patil, Department of Plant Science, University of Missouri, Missouri, USA

Multiple nematode species cause serious losses throughout soybean production areas of the United States. Lack of genetic diversity causes constraints in development of elite soybean germplasm lines with enhanced durability to this pest, and identification of additional sources of resistance becomes critical. The objective of this study was to determine new sources of SCN resistance in 584 diverse soybean accessions representing maturity groups 00 to II using SCN Race 2 and 3; and 636 accessions representing maturity groups III to V using Race 1, 2, 3, 5, 14 and LY1. Based on the results, a subset of 67 accessions was selected for further phenotyping with seven SCN races, root-knot and reniform nematodes. The same subset was genotyped using currently available diagnostic molecular markers. The results revealed 56 lines resistant to two nematode species in various combinations, and 12 lines resistant to three nematode species. Moreover, extremely high correlation was observed between Peking-type of SCN resistance and RN resistance. Based on molecular marker data, RN resistance might be controlled by *Rhg1* rather than *Rhg4* locus. The identified soybean accessions resistant to single and multiple nematodes provide promising material for genetic studies and multiple nematode resistance breeding to overcome yield loss in the future.