P198. Preliminary report of Asian soybean rust reaction on soybean accessions planted in Brazil, China, Paraguay and Thailand with seedling reactions from greenhouse screens in the United States

M.R. Miles[1]; W. Morel[2]; J.T. Yorinori[3]; Z.-H. Ma[4]; S. Poonpogul[5]; G.L. Hartman[1]; R.D. Frederick[6]

[1]USDA-ARS, Urbana II, USA; [2]Itapúa, Paraguay; [3]Londrina, Brazil; [4]Beijing, China; [5]Bangkok, Thailand; [6]USDA ARS FDWSRU, Ft. Detrick, MD USA.
e-mail: mrmiles@uiuc.edu

Asian soybean rust, *Phakopsora pachyrhizi,* has been an important pathogen of soybean in Asia with yield losses of 40 to 80% commonly reported. The pathogen has moved into Africa, where it was reported in Uganda in 1996, then Zimbabwe (1998) and South Africa (2001). The pathogen was first found South America in Paraguay then Brazil during the 2001 growing season. A set of 174 soybean accessions was evaluated against local soybean rust populations in field or greenhouse studies in Brazil, China, Paraguay, and Thailand. The materials were also evaluated in the USDA BSL-3 containment greenhouse in Ft. Detrick MD against a mixed collection of *P. pachyrhizi* from Brazil, Paraguay, Thailand and Zimbabwe. Among the set were soybeans that had previously been reported to have resistance to either *P. pachyrhizi* or *P. meibomia*, including the sources of the four identified resistance genes. The pathogen is known to have a complex and diverse virulence pattern with many phenotypes seen within a field collection. This was observed as mixed resistant (RB) and susceptible reactions on several lines within each location. Disease severity and reaction phenotypes on individual lines differed by location. These differences were due to local environmental conditions, which reduced rust severity as well as differences in the virulence of the rust population at each location. No lines were found to be resistant at all locations.