

Breeding Improved Soybean Cultivars for Alabama

Research Summary 2007

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During 2007, experimental soybean lines were tested only in regional, USDA tests. The development and testing of new experimental genotypes has been discontinued, except for cooperative work with Clemson University on the development of improved germplasm with photoperiod insensitivity (long juvenile lines). Advanced lines in Maturity Groups VI, VII and VIII, were tested at multiple locations in the Southeast in the USDA Cooperative Preliminary and Uniform Tests. Complete data are not yet available as of the writing of this report, however, preliminary reports indicate that two Auburn lines that ranked 1st and 3rd in yield in the Uniform test in 2006 have continued that outstanding performance at several locations in 2007. In a cooperative project with Clemson University, we tested approximately 80 advanced lines with a combination of the long-juvenile trait (lack of photoperiod response, or photoperiod insensitive) and Roundup-Ready technology. Soybean cultivars that do not begin reproductive growth in response to daylength (photoperiod insensitive) have the potential to expand the range of planting dates with no detrimental effects on yield. A germplasm or cultivar release is anticipated within the next year when all data become available. In cooperation with the USDA, we evaluated 293 plant introductions from a wide range of maturity groups (groups IV, V, VI, VII, VIII, and IX) that have been previously screened at several locations in 2006, along with several check cultivars. These lines were evaluated in the field at Fairhope for resistance to Asian soybean rust. Several lines were identified that consistently showed low development of rust symptoms at several locations across the Southeast. We also are continuing to be a cooperator in the USDA Uniform Cooperative Tests, growing 12 tests in 3 locations (Tallassee, Belle Mina, and Fairhope) and evaluating over 200 public breeding lines of Maturity Groups V, VI, VII and VIII in both Preliminary and Uniform Tests.