Harrisburg, SD Asgrow® Soybean Breeding Program

- The Asgrow soybean breeding program has developed market-leading soybean products through a complex plant breeding process that involves years of yield testing and trait evaluation.
- The breeding program at the Monsanto Harrisburg, SD station is focused on developing soybeans with high yield potential and protection against soybean cyst nematode and the *Phytophthora* disease complex.
- South Dakota’s unique production environment is factored into line development testing to insure commercial soybean products will have the proper defensive package, stress tolerance, and yield characteristics.

Asgrow soybean breeders incorporate the proper defensive and agronomic traits into each potential “product-to-be.” This is accomplished through a process called marker assisted breeding where locations on the DNA are examined and compared to known standards to determine if a product candidate has a certain type of resistance, for example resistance to soybean cyst nematode. Candidates without the proper traits are often discarded before expensive yield testing.

Once a group of product candidates with proper traits is identified, the process of yield evaluation begins. Products are tested each season for several years to be sure that they have a yield level that is higher than existing products and consistent from year to year under different seasonal conditions. Breeders focus on pest resistance, agronomic performance on regionally representative soils, and stress tolerance. In addition to extensive large acre testing within the region, breeders utilize winter testing in South America to advance the breeding cycle and generate as much information as possible on the performance of potential commercial products.

**Grower Focus**

The Harrisburg, South Dakota Monsanto breeding program is focused on developing soybean with high yield potential and protection against soybean cyst nematode and the *Phytophthora* disease complex. The unique production environment in South Dakota is factored into line development testing to insure commercial soybean products will have the proper defensive package, stress tolerance and yield characteristics to perform across the diverse conditions in South Dakota.

**Germplasm**

Superior soybean genetics that perform consistently under challenging conditions are a testament to the high quality of the research and field testing teams. Rapid incorporation and advancement of new agronomic and quality traits, biotech improvements, and disease protection helps keep Asgrow products in a leadership position. Product development is complimented by a testing program that progressively uses the best management practices for soybean production to develop market-leading soybean products.

**Regional Testing**

Broad testing operations evaluate soybean products across the region, producing a reliable database that represents the environmental and soil conditions as well as pest complexes. Products are tested in small plots in the environments in which they will be sold in to ensure they will perform in fields of local growers. Then the products are tested in a broader set of environments and in nurseries where they are exposed to diseases and stresses to make sure they offer robust protection. Finally, the products are tested in grower fields using commercial equipment and varied agronomic practices. Asgrow breeders and agronomists take detailed notes on product candidates to determine their ability to resist pests, grow on different soils, and react to seasonal stresses. Winter testing in South America helps speed products to market and expand the data base on product performance prior to commercialization.

*Individual results may vary, and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible.*

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