

Elite Soybean Test—South

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Introduction

The purpose of this test was to evaluate the experimental elite soybean lines adapted to southern Iowa. The 2013 Elite Test for comparison of agronomic traits included SCN resistant, general use, large seed and high protein, and lipoxygenase-free varieties released by Iowa State University. These varieties are used in the production of soy foods.

Materials and Methods

The elite soybean test for the southern district was planted at four Iowa locations including Ames, Agency, Carlisle, and Greenfield. At each location, three replications of four-row plots were planted. The plots were 13 ft long with row spacing of 27 in. The seeding rate was nine seeds/ft. Agronomic characteristics evaluated at Greenfield included plant height and lodging susceptibility.

The center two rows were harvested using a self-propelled research plot combine. The moisture and weight of each plot were measured on the combine during harvest. The harvested seed was brought to Ames for seed weight calculation and oil and protein analysis.

Results and Discussion

The test results of the general use varieties, the large seed and high protein varieties, and the lipoxygenase free varieties, including the new variety IA3053RA12, are summarized in Table 1. The data obtained from the test helped determine that IA3053RA12 should be released to interested growers.

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Table 1. 2013 Elite soybean test south at Ames, Carlisle, and Greenfield, Iowa.

Entry	Yield bu/a ¹	Maturity date ²	Lodging score ³	Height in.	Seed weight mg/sd	sds/lb	Protein % ⁴	Oil % ⁴	Chlorosis score ⁵	Character
IA2102	51.4	9/17	1.8	28	162	2790	34.3	20.4	2.8	SCN resistant, yellow hilum
IA3042	44.2	1/19	1.4	25	143	3170	35.3	20.0	3.5	General use
IA3052	48.0	9/23	1.5	28	151	3000	34.6	20.5	3.0	General use, yellow hilum
IA3024	49.8	9/26	1.6	30	169	2680	33.4	21.1	3.3	General use
IA3050	49.3	9/27	1.5	28	171	2660	35.6	20.0	3.1	General use
IA3023	46.5	9/29	1.6	26	172	2630	32.4	21.4	3.6	General use
IA4005	50.0	10/3	1.5	25	153	2960	34.5	20.2	3.3	General use
IA3051	46.8	9/19	1.6	26	202	2250	38.3	19.2	3.0	Large seed, high protein
IA3027	46.7	9/19	1.7	26	213	2130	37.7	19.2	2.5	Large seed, high protein
IA3047	45.3	9/19	1.8	29	221	2050	37.4	19.4	3.9	Large seed, high protein
IA3045	48.5	9/23	1.7	30	208	2180	38.6	18.8	2.9	Large seed, high protein
#IA3053RA12	45.7	9/19	1.7	27	210	2160	37.5	19.4	3.0	Large seed, high protein, aphid resistant
IA3027RA12	43.5	9/22	1.4	27	217	2090	37.3	19.5	2.0	Large seed, high protein, aphid resistant
IA3045RA12	45.0	9/24	1.7	28	205	2210	38.0	19.0	2.4	Large seed, high protein, aphid resistant
IA3045LF	49.1	9/23	1.7	30	210	2160	38.2	19.2	2.8	Lipoxygenase free
IA3027LF	41.5	9/23	1.6	27	211	2150	37.5	19.6	2.6	Lipoxygenase free

¹Yield: bushels/acre at 13% moisture.

²Maturity: month/day

³Lodging: 1=erect, 5=prostrate.

⁴Protein and oil: 13%-moisture basis.

⁵Iron-deficiency chlorosis score: 1=no chlorosis, 5=severe chlorosis.

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