

High Protein, Low Lipoygenase Experimental Soybean Varieties

Available From Iowa State University

IA2009 IA2010

Iowa State University has developed two experimental soybean varieties, IA2009 and IA2010, that combine high protein with the absence of the lipoygenase-2 enzyme. This combination of traits has special potential for food products based on soy protein that would benefit from a less beany flavor than current soybean varieties. Based on tests by Iowa State University, their seed yield is superior to the popular tofu variety Vinton 81 and to high protein, low lipoygenase varieties that have yellow hila: IA1002, IA1003, and IA2006. Seeds of IA2009 have an imperfect black hila and those of IA2010 have a brown hila.

IA2009 is a BC₁F₂ plant selection from the cross (L2-3 x HP202) x HP202. IA2010 is a BC₁F₂ plant selection from the cross (L2-3 x HP203) x HP203. L2-3 is a line released by the USDA-ARS and the Indiana Agricultural Experiment Station that lacks lipoygenase-2. HP202 and HP203 are high-protein varieties developed by Iowa State University. The experimental varieties were evaluated for agronomic performance and seed characteristics in hill plots at Ames, IA, in 1989 and in row plots at three Iowa locations in 1990 (see data below).

IA2009 and IA2010 are of Maturity Group II. The two varieties do not have any major genes for resistance to *Phytophthora* rot or the soybean cyst nematode. They are moderately susceptible to iron-deficiency chlorosis when grown on calcareous soil.

Seed of IA2009 and IA2010 will be distributed under license agreements with the Iowa State University Research Foundation. Seed of the two varieties will be available to interested parties for testing and research in 1991. Foundation seed will be produced in 1991, and the seed will be distributed on a first-come basis. Orders for foundation seed should be placed by April 1, 1991.

Interested parties should contact Steven Price, Interim Director, ISURF, 214 Office and Lab Bldg., ISU, Ames, Iowa 50011, tel. (515) 294-4740, FAX (515) 294-0778.

1990 IOWA STATE UNIVERSITY EVALUATION OF IA2009 AND IA2010 AVERAGE OF AMES, MARSHALLTOWN, AND ROYAL, IA.

Entry	Yield (bu/A)	Maturity* (mo-day)	Height (in)	Lodging† (score)	Seed size		Protein 0%H ₂ O	Oil 0%H ₂ O
					mg/sd	sd/lb		
IA2009	47.5	9-17	33	1.7	194	2340	44.9	20.1
IA2010	47.9	9-18	32	2.1	218	2082	45.4	20.0
IA1002	43.2	9-13	31	2.2	212	2142	44.2	20.9
IA1003	45.3	9-16	33	2.0	220	2064	44.9	20.6
IA2006	44.3	9-19	31	1.9	207	2193	43.6	21.4
Vinton 81	41.9	9-16	33	1.8	235	1932	44.0	21.0
Kenwood	51.4	9-16	31	1.9	160	2838	40.6	22.5
Marcus	49.8	9-17	29	1.9	170	2670		
Hack	49.6	9-19	25	1.6	172	2640		
LSD (0.05)	3.8	2	6	0.2				

* Maturity recorded at Ames.

† Scores range from 1 (plants erect) to 5 (plants prostrate).