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Evaluation of the USDA Soybean Germplasm Collection: Maturity Groups 000 to IV (PI 446.893 to PI 486.355)

ABSTRACT

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This report contains data on the origin, descriptive characteristics, agronomic performance, and seed composition for over 500 soybean (Glycine max (L.) Merr.) accessions in maturity groups 000 to IV from the USDA Soybean Germplasm Collection. These accessions (PI 446.893 to PI 486.355) were introduced into the United States from 1980 to 1984. Publicly released cultivars from the United States and Canada during 1980 to 1987 were also tested. A maximum of 37 categories of data is presented for each entry. These accessions were evaluated in two tests; maturity groups 000 to 0 at St. Paul, MN, and maturity groups I to IV at Urbana, IL, in 1986 and 1987.

KEYWORDS: Cultivar, evaluation, germplasm, Glycine max (L.) Merr., origin, seed composition, seed yield, soybean.

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EVALUATION OF THE USDA SOYBEAN GERMPLASM COLLECTION: MATURITY GROUPS 000 TO IV (PI 446.893 TO PI 486.355)

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This publication contains information on the origin, descriptive characteristics, agronomic performance, and seed composition of soybean (Glycine max (L.) Merrill) germplasm accessions for PI 446.893 to PI 486.355 in maturity groups 000 through IV. Also included are cultivars, in these same maturity groups, developed at public institutions in the United States and Canada and released from 1980 to 1987. These data can also be obtained through the Germplasm Resources Information Network (GRIN), Database Management Unit, USDA-ARS, BARC-West, Beltsville, MD 20705. Previous evaluation publications[1] for PI numbers lower than PI 446.893 in maturity groups 000 to IV can be obtained from the curator, USDA Northern Soybean Germplasm Collection, USDA-ARS, University of Illinois, 1102 South Goodwin, Urbana, IL 61801.

The accessions were divided into two groups based on maturity and grown as follows:

Maturity groups 000 to 0: Seeds in this test were planted on May 22, 1986, and June 1, 1987, at the University of Minnesota, St. Paul (45°0′ N. lat.).

Maturity groups I to IV: Seeds in this test were planted on May 6, 1986, and May 5, 1987, on the Agronomy-Plant Pathology South Farm, University of Illinois, Urbana (40°8′ N. lat.).

All tests were replicated once per year. The plots at St. Paul were four rows wide and 3.7 m long with 75 cm between rows. The center two rows were end trimmed to 2.4 m when the plants reached

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[1]USDA Technical Bulletin 1726 (PI 427.136 to PI 445.845), USDA Technical Bulletin 1718 (PI 273.483 to PI 427.107), and U.S. Regional Soybean Laboratory Manuals 223, 230, and 238 (FC and PI numbers up to PI 266.807). Each report also includes U.S. and Canadian cultivars of the corresponding period.

maturity, and all data were collected from those two rows. The plots at Urbana were four rows wide and 5 m long with 75 cm between rows. All four rows were end trimmed to 3 m one month after planting, and all data were collected from the center two rows. Both tests were blocked by maturity group in the field, but the data are reported numerically by PI number.

The data in tables 3 and 4 are 2-year means. An asterisk (*) following a mean indicates that the difference between the values for the 2 years exceeded a specified limit. The limits for the traits were as follows:

Flowering date	> 7 days	Maturity date	> 7 days
Lodging	> 1 unit	Height	> 15 cm
Stem termination	> 1 unit	Shattering	> 1 unit
Seed quality	> 1 unit	Mottling	> 1 unit
Seed weight	> 3.0 cg/seed	Yield	> 0.7 Mg/ha

This system was used because of the possibility of misinterpreting the mean of only two observations when the difference between the individual values was large.

To obtain protein and oil percentages of an accession, approximately 7 g of seeds was placed in a beaker and dried in a Thelco forced air oven for 3 hours at 130°C. The seeds were then transferred to a 50-g bottle, sealed, and allowed to cool for 1 hour. A sample was then ground in a Varco electric dry-food grinder and returned to the 50-g bottle. The ground meal was analyzed by near-infrared reflectance in a Pacific-Scientific feed-grain analyzer. The analyzer calibration was checked with two sealed standards (a wheatmeal and a soymeal) and a freshly ground soymeal standard before each batch of 100 samples was processed.

Fatty acid composition was obtained by gas-liquid chromatography of the methyl esters. Seeds were ground in a small food grinder and stored at -20°C until analyzed. Approximately 200 mg was placed in a 25-ml vial, and 5 ml of sodium methoxide was added in two 2.5-ml aliquots with an automatic syringe in such a way as to ensure mixing. The sodium methoxide solution was prepared daily by adding 1 g of sodium metal to 100 ml of reagent grade methanol. The suspension of ground sample in sodium methoxide was allowed to stand for 45 minutes, after which 1 ml of 10% acetic acid solution was added followed immediately by 10 ml of heptane. The sample was completely mixed after each reagent addition. After the final mixing, the sample was allowed to stand for several minutes so that the layers could separate. The heptane layer was analyzed with a Varian gas chromotograph equipped with two autoinjectors and flame detectors. Columns were 2 m by 2 mm and packed with 100/200 mesh Gas-Chrom Q coated with 5% LAC-2R-446. Analysis was made isothermally at 180°C, with the injector at 230°C and the detector at 240°C. Gas flow rates for helium, hydrogen, and air were 25, 25, and 250 ml per minute, respectively. The autoinjectors were set to inject 0.5 μl. Total analysis time per injection was 10 minutes. Integration, peak identification, data storage, and report printing were done by computer.

Explanation of the data categories and abbreviations used are as follows:

Table 1:

PI number:
Serial numbers assigned by the Plant Introduction Office, Germplasm Resources Laboratory, USDA-ARS, BARC-West, Beltsville, MD 20705.

Accession name and foreign collection number:
Accession names and foreign collection numbers are reported as received. An attempt was made to standardize transliterations and to correct obvious errors. When heterogeneous introductions were received, two or more sublines were preserved and are distinguished by a letter (A, B, C, etc.) suffixed to the PI number.

Country of acquisition:
This is the country from which the seeds were obtained.

Country of origin:
This is the country from which the accession originated, based on information received from the country of acquisition.

Year introduced or released:
This is the year in which cultivars from the United States or Canada were offically released, or the year in which introductions were assigned PI numbers.

Maturity group:
Classification of relative time of maturity based on data previously collected at Urbana, IL. Maturity groups include 000 (earliest), 00, 0, I, II, III, and IV.

Table 2:

Stem termination:
D = determinate (stem abruptly terminating)
N = indeterminate (stem tapering gradually toward tip)
S = semideterminate (between determinate and indeterminate)

Flower color:
Lp = light purple, P = purple, W = white

Pubescence color:
G = gray, Lt = light tawny, Ng = near gray, T = tawny

Pubescence form:
A = appressed on leaf surface
E = erect on leaf surface
I = irregular (slightly curly or twisted)
Sa = semiappressed (between erect and appressed)

Pubescence density:
Dn = dense (greatly increased density, most noticeable on stem)
N = normal
Sdn = semidense
Sp = sparse
Ssp = semisparse (slightly reduced density, most noticeable on the pulvinus)

Pod color:
Bl = black, Br = brown, Dbr = dark brown, Lbr = light brown, T = tan

Seed coat luster:
D = dull, I = intermediate (between dull and shiny), S = shiny

Seed coat color and hilum color:

Bf = buff	Gn = green
Bl = black	Gnbr = greenish brown
Blbr = black hilum with brown outer ring	Ib = imperfect black
Br = brown	Rbr = reddish brown
G = gray	T = tan
Ggn = grayish green	Y = yellow

Dark or light shades of these colors are indicated by prefixing the abbreviations with D or L.

Other seed traits:
Abh = imperfect abscission of hilum
Def = defective seed coat (irregular splitting of seed coat)
Fleck = brown flecks on black seed coat
Gncot = green cotyledon
Net = splitting of seed coat producing a netted appearance on the sides of the seed
Saddle = saddle-shaped dark pigment on seed coat encompassing the hilum
Sph = spread hilum (slight, regular extension of hilum pigment beyond hilum boundary)
St = black stripes (rings) on seed coat

Other leaf traits:
Dab = delayed abscission of leaves
Na = narrow leaflet
nlft = number of leaflets, where n = 4 or 5

Slight or some expression of these other seed and other leaf traits is indicated by prefixing the abbreviation with S.

Table 3:

Flowering date:
Date that 50% of the plants have begun to flower, expressed as month (mm) and day (dd) (dates from St. Paul are based on 1986 data only).

Maturity date:
Date that 95% of the pods have reached final color, expressed as month (mm) and day (dd).

Lodging:
Scored 1 (erect) to 5 (prostrate).

Height:
Length of stem from ground to tip, in centimeters, at maturity.

Stem termination:
Scored 1 (very determinate) to 5 (very indeterminate) (scores from St. Paul are based on 1986 data only).

Shattering:
Scored early (at harvest) and late (2 weeks after maturity). Score based on percentage of open pods as follows: 1 = no shattering, 2 = 1% to 10%, 3 = 10% to 25%, 4 = 25% to 50%, 5 = > 50%. Shattering scores were not taken at St. Paul.

Seed quality:
Scored 1 (good) to 5 (poor), considering wrinkling, defective seed coat, greenish or diseased seeds.

Mottling:
Score based on percentage of seed coat with dark pigment as follows: 1 = no mottling, 2 = 1% to 10%, 3 = 10% to 25%, 4 = 25% to 50%, 5 = > 50%. A dash (-) indicates that the whole seed coat was darkly pigmented.

Seed weight:
Centigrams per seed based on a 200-seed sample.

Seed yield:
Megagrams per hectare at 13% moisture.

Table 4:

Seed composition:
Protein and oil: Percentage of dry weight of seeds.

Fatty acids (palmitic, stearic, oleic, linoleic, linolenic, other): Percentage of total fatty acids.

Table 1.1
Identification and origin information for USDA soybean germplasm
in maturity groups 000 to 0, PI 446.893 to PI 486.355

PI No.	Accession name	Foreign collection No.	Country of acquisition	Country of origin	Year introduced or released	Maturity group
	Acme		Canada	Canada	1953	00
	Altona		Canada	Canada	1966	00
	Bicentennial		Canada	Canada	1983	00
	Chico		United States	United States	1983	00
	Clay		United States	United States	1968	0
	Dassel		United States	United States	1986	0
	Dawson		United States	United States	1983	0
	Evans		United States	United States	1974	0
	Glenwood		United States	United States	1987	0
	Hodgson 78		United States	United States	1978	I
	Maple Amber		Canada	Canada	1981	00
	Maple Arrow		Canada	Canada	1976	00
	Maple Isle		Canada	Canada	1984	00
	Maple Presto		Canada	Canada	1979	000
	Maple Ridge		Canada	Canada	1984	00
	McCall		United States	United States	1978	00
	Ozzie		United States	United States	1983	0
	Sibley		United States	United States	1986	I
	Simpson		United States	United States	1982	0
	Swift		United States	United States	1972	0
437.596	Dun nun 47-IV	VIR 5376	Soviet Union	China	1980	000
449.456A	Bei 77-6177		China	China	1980	000
449.456B	Bei 77-6177		China	China	1980	000
449.457	Bei fu dou		China	China	1980	00
449.458A	Ke 73042		China	China	1980	000
449.458B	Ke 73042		China	China	1980	000
449.459	Tung nong 78-34		China	China	1980	000
449.460A	Tung nong 78-36		China	China	1980	000
449.460B	Tung nong 78-36		China	China	1980	000
452.432	Hefeng No. 22	St-102	China	China	1981	0
458.523	Fengshou No. 2		China	China	1981	0
458.531	Ke shuang		China	China	1981	00
458.532A	Nuen feng No. 7		China	China	1981	0
458.546	Takii's Express Green		Japan	Japan	1981	000
458.824	Fengshou No. 11		China	China	1981	00
458.825A	Gongjiao 7128-1		China	China	1981	0
458.826A	Hefeng No. 23		China	China	1981	0
458.827	Jilin No. 14		China	China	1981	0
464.875A	Aidadou		China	China	1982	00
464.875B	Aidadou		China	China	1982	0
464.876	Bai mei	Gong di 278	China	China	1982	00
464.881	Heihe xiao huang dou		China	China	1982	00
464.886	Sui nong No. 1		China	China	1982	0
464.900	Liao nong No. 1		China	China	1982	0
464.911	Cha mo shi dou		China	China	1982	0
467.309	Bei liang No. 9	Gong di 2333	China	China	1982	0
467.313	Da hei qi	Gong di 438	China	China	1982	0

Table 2.1
Descriptive data for USDA soybean germplasm in maturity groups 000 to 0, PI 446.893 to PI 486.355

Entry	Maturity group	Stem trm.	Flower color	Pubescence Color	Pubescence Form	Pubescence Density	Pod color	Seed coat Luster	Seed coat Color	Hilum color	Other traits Seed	Other traits Leaf
Acme	00	N	P	G	E	N	Br	S	Y	Y		
Altona	00	N	P	T	E	N	Br	S	Y	Bl		
Bicentennial	00	N	P	T	E	N	Br	S	Y	Br		
Chico	00	N	W	G	E	N	Br	S	Y	Bf		
Clay	0	N	P	G	E	N	Br	S	Y	Y		
Dassel	0	N	P	G	E	N	Br	S	Y	Y		
Dawson	0	N	P	G	E	N	Br	D	Y	Y		
Evans	0	N	W	G	E	N	Br	D	Y	Y		
Glenwood	0	N	P	G	E	N	Br	D	Y	Ib		
Hodgson 78	I	N	P	G	E	N	Br	D	Y	Bf		
Maple Amber	00	N	P	T	E	N	Br	D	Y	Br		
Maple Arrow	00	N	P	T	E	N	Br	S	Y	Br		
Maple Isle	00	N	P	T	E	N	Br	I	Y	Tn		
Maple Presto	000	N	P	T	E	Ssp	Br	D	Y	Tn		
Maple Ridge	00	N	P	T	E	N	Br	S	Y	Y	Abh	
McCall	00	N	P	G	E	N	Br	D	Y	Y		
Ozzie	0	N	P	G	E	N	Br	D	Y	Y		
Sibley	I	N	W	G	E	N	Br	D	Y	Y		
Simpson	0	N	P	G	E	N	Br	D	Y	Bf		
Swift	0	N	W	T	E	N	Br	D	Y	Bl		
437.596	000	D	P	T	E	N	Br	I	Y	Tn		
449.456A	000	S	P	G	E	N	Br	I	Y	Y		Na
449.456B	000	N	P	G	E	Ssp	Br	I	Y	Y		Na
449.457	00	S	P	G	E	Ssp	Br	D	Y	Y		Na
449.458A	000	N	P	G	E	N	Br	S	Y	Y		
449.458B	000	N	P	G	E	N	Br	S	Y	Y		
449.459	000	N	P	T	E	N	Br	D	Y	Y	Abh	
449.460A	000	N	P	T	E	N	Br	D	Y	Y	Abh	
449.460B	000	S	P	T	E	N	Br	I	Y	Y	Abh	
452.432	0	N	W	G	E	N	Br	I	Y	Lbf		
458.523	0	N	W	G	E	N	Br	I	Y	Y		
458.531	00	N	W	G	E	N	Br	S	Y	Y		
458.532A	0	N	W	G	E	N	Br	I	Y	Lbf		
458.546	000	D	P	T	E	N	Br	S	Gn	Bl		
458.824	00	S	W	G	E	N	Br	S	Y	Y		Na
458.825A	0	N	P	G	E	N	Br	S	Y	Y		Na
458.826A	0	N	P	G	E	N	Br	I	Y	Y		Na
458.827	0	S	W	G	E	N	Tn	S	Y	Bf		Na
464.875A	00	N	W	G	E	N	Br	I	Y	Lbf		
464.875B	0	N	W	G	E	Ssp	Br	I	Y	Lbf		
464.876	00	N	P	G	E	N	Br	D	Y	Y		
464.881	00	N	P	G	E	N	Br	I	Y	Y		
464.886	0	S	P	G	E	N	Br	D	Y	Y		Na
464.900	0	N	P	G	E	N	Tn	I	Y	Y		Na
464.911	0	N	P	T	E	N	Br	D	Br	Br		
467.309	0	N	P	G	E	N	Br	S	Y	Y		
467.313	0	N	P	T	E	N	Br	S	Y	Bl		

Table 3.1
Agronomic data for USDA soybean germplasm in maturity groups
000 to 0, PI 446.893 to PI 486.355, grown at St. Paul, MN

Entry	Flower date (mmdd)	Maturity date (mmdd)	Lodging (score)	Height (cm)	Stem trm. (score)	Seed quality (score)	Mottling (score)	Seed weight (cg/sd)	Seed yield (Mg/ha)
Acme	630	902*	2.5	79	3.0	2.2	2.3*	18.0	1.07*
Altona	627	908	3.5	89	3.0	2.5	4.3*	17.3	1.95
Bicentennial	630	917	4.0	96	3.0	2.2	4.0*	16.6	2.52*
Chico	627	909	4.0	99	3.0	2.4	2.0*	13.6	3.17
Clay	702	916	2.5	91	3.0	2.7*	3.5	18.2	3.43
Dassel	702	921	2.5	92	3.0	2.4	2.7	16.5	2.82*
Dawson	704	925	4.0*	112	3.0	2.4	1.3	15.4	3.02*
Evans	707	924	3.0	113*	3.0	2.4	1.3	15.7	2.82
Glenwood	702	921	2.0*	102	3.0	1.9*	3.3*	16.9	2.85
Hodgson 78	707	929	3.5	113	3.0	1.5	1.5	15.7	2.95*
Maple Amber	624	906	3.5	88	3.0	2.2	2.3	15.9	2.52
Maple Arrow	630	911*	4.0	94	3.0	1.5	2.3*	17.0	2.68
Maple Isle	627	903	2.5	84	3.0	2.0	1.3	18.3	2.51*
Maple Presto	622	827*	2.0*	70*	3.0	1.9	2.7*	15.5*	2.12
Maple Ridge	624	901	2.5	88	3.0	1.9	1.8	17.5	2.64
McCall	627	905	2.5	108	3.0	1.9	2.0	15.5	2.40
Ozzie	702	919	2.5	107	3.0	2.2	1.8	16.3	3.38
Sibley	702	929	3.5	111	3.0	2.2	1.3	16.9	2.84
Simpson	704	920	2.0	107	3.0	2.0*	1.3	15.3	2.68*
Swift	707	922	3.0	105	3.0	2.2	2.3*	15.9	2.58*
437.596	624	821	1.5	38	1.0	4.0	3.0	18.2	1.37
449.456A	622	830*	3.0	61	2.0	3.0	1.3	20.8*	2.24
449.456B	622	831	3.0	60	3.0	2.5	1.3	21.7*	1.82
449.457	624	901	3.0*	74	2.0	1.9	1.3	20.9	2.30
449.458A	624	828*	3.5	61	3.0	2.4*	1.5	17.3*	2.23
449.458B	624	831	3.5	63	3.0	2.4*	2.0	17.9	1.68*
449.459	627	819	3.5	56	3.0	3.4*	1.8	16.3	1.73
449.460A	627	819	3.0	58	3.0	3.4*	3.0	17.4	1.58
449.460B	630	825	2.5	54	2.0	3.0	2.3*	17.2*	1.53
452.432	704	921	3.5	103*	3.0	3.2	3.5	20.2	2.65
458.523	630	922	3.5	85	3.0	2.7*	3.0	21.5	2.53
458.531	702	911	4.5	91	3.0	3.2*	2.0	17.8*	2.33
458.532A	702	924	4.5	116*	3.0	2.7*	1.8	18.2	2.34
458.546	702	827	1.5	32	1.0	2.4*	2.8	16.3	1.19
458.824	624	904	1.0	53	2.0	2.5	2.8	20.5	2.26
458.825A	704	920	2.5	97	3.0	2.0	3.0*	14.7	2.42
458.826A	709	925	3.0	89	3.0	2.9	4.8	16.8	2.50
458.827	702	925	3.0*	89	2.0	2.4*	3.3	15.0	2.49*
464.875A	630	918*	3.0	94*	3.0	2.5	2.5	17.6	2.72
464.875B	702	925	3.5	96	3.0	2.4	1.3	19.3	2.37
464.876	707	910	3.0*	57*	3.0	2.2	2.3*	17.2	2.69*
464.881	702	904	3.5	90*	4.0	2.7*	2.3*	21.1	2.31
464.886	630	919	4.0*	99	2.0	2.7*	2.3*	16.8	2.23*
464.900	704	918*	2.0*	79	3.0	2.2	1.3	14.6	2.48*
464.911	711	923	4.5	94*	4.0	2.0	-	12.7	1.70*
467.309	702	918*	4.0	94	3.0	3.2*	3.0	18.6	2.30
467.313	709	922	4.0	113*	3.0	2.9*	4.5	16.6	1.90*

Table 4.1
Seed composition data for USDA soybean germplasm in maturity groups 000 to 0, PI 446.893 to PI 486.355, grown at St. Paul, MN

Entry	Maturity group	Protein (%)	Oil (%)	Palmitic (%)	Stearic (%)	Oleic (%)	Linoleic (%)	Linolenic (%)	Other (%)
Acme	00	39.6	19.7	12.5	2.6	24.9	50.5	9.6	0.0
Altona	00	40.5	19.7	11.4	1.9	23.2	55.5	8.2	0.0
Bicentennial	00	40.4	20.5	11.5	3.4	21.6	55.6	7.9	0.1
Chico	00	40.2	19.3	12.4	2.7	16.9	57.8	10.4	0.0
Clay	0	39.7	20.6	11.7	3.1	19.7	56.9	8.7	0.1
Dassel	0	40.8	19.7	10.5	3.0	21.1	56.9	8.6	0.1
Dawson	0	40.3	19.5	11.4	3.1	19.0	57.0	9.6	0.1
Evans	0	41.0	19.4	11.7	3.0	20.6	56.0	8.8	0.1
Glenwood	0	41.0	18.9	12.0	2.9	20.8	56.7	7.7	0.0
Hodgson 78	I	40.3	18.8	11.0	3.2	21.4	55.7	8.8	0.1
Maple Amber	00	40.8	20.4	11.1	2.6	24.7	54.4	7.3	0.1
Maple Arrow	00	40.7	20.5	10.9	2.0	18.0	59.3	9.9	0.1
Maple Isle	00	39.2	21.4	12.3	2.6	22.4	55.0	7.7	0.1
Maple Presto	000	39.1	21.9	11.3	2.5	34.6	45.5	6.2	0.1
Maple Ridge	00	41.8	19.7	11.2	2.9	23.2	54.8	8.0	0.1
McCall	00	39.1	19.7	11.9	2.4	18.5	57.9	9.3	0.1
Ozzie	0	40.5	19.9	11.5	3.0	22.2	54.2	9.0	0.1
Sibley	I	40.7	19.6	11.3	3.1	20.1	56.1	9.4	0.1
Simpson	0	41.3	19.2	10.9	2.9	20.9	56.1	9.2	0.1
Swift	0	40.5	19.3	11.4	3.7	21.4	53.8	9.8	0.1
437.596	000	44.4	17.4	13.8	2.3	27.9	48.7	7.3	0.1
449.456A	000	40.7	20.6	12.4	2.4	24.3	54.5	6.5	0.1
449.456B	000	40.0	20.9	12.6	2.7	26.8	52.0	6.0	0.0
449.457	00	39.1	19.5	12.9	3.4	19.5	55.9	8.4	0.1
449.458A	000	42.1	19.3	13.1	3.1	24.6	51.8	7.5	0.1
449.458B	000	42.0	19.6	12.9	3.0	25.1	51.9	7.2	0.1
449.459	000	44.3	17.5	13.8	2.5	24.6	50.5	8.7	0.1
449.460A	000	44.3	17.5	13.7	2.5	23.8	51.3	8.8	0.1
449.460B	000	44.2	17.4	13.8	2.7	21.8	52.2	9.6	0.0
452.432	0	40.8	18.8	11.9	3.6	23.5	51.8	9.3	0.1
458.523	0	42.4	18.0	12.2	3.0	24.7	51.4	8.7	0.0
458.531	00	41.6	18.8	12.3	3.2	21.7	54.4	8.5	0.1
458.532A	0	40.6	20.2	11.4	3.4	24.4	53.3	7.7	0.0
458.546	000	46.2	15.6	14.1	2.9	17.8	56.2	9.1	0.0
458.824	00	41.4	20.1	12.1	2.7	28.6	48.8	7.9	0.0
458.825A	0	42.3	18.9	12.6	3.8	20.6	54.7	8.3	0.1
458.826A	0	42.2	17.8	12.9	3.6	17.3	56.2	10.1	0.1
458.827	0	40.3	18.4	11.2	3.4	26.7	51.3	7.4	0.1
464.875A	00	38.5	19.6	12.0	3.2	20.1	55.9	8.9	0.1
464.875B	0	38.2	20.2	12.1	2.9	24.9	52.7	7.5	0.0
464.876	00	39.9	19.2	12.5	2.7	21.6	54.3	9.0	0.0
464.881	00	42.6	18.5	12.4	2.4	25.5	51.4	8.4	0.0
464.886	0	39.7	19.4	12.4	2.6	24.3	53.2	8.6	0.1
464.900	0	41.4	20.2	11.7	2.9	18.0	58.4	9.1	0.1
464.911	0	45.0	16.2	11.1	2.9	23.9	53.6	8.5	0.1
467.309	0	42.1	18.4	12.7	2.7	20.2	54.8	9.8	0.1
467.313	0	44.2	16.8	12.5	2.9	21.4	54.5	8.7	0.1

Table 1.1
Identification and origin information for USDA soybean germplasm
in maturity groups 000 to 0, PI 446.893 to PI 486.355

PI No.	Accession name	Foreign collection No.	Country of acquisition	Country of origin	Year introduced or released	Maturity group
467.319	Heinong No. 23	Gong di 2313	China	China	1982	0
467.323A	Jiu nong No. 13	Gong di 2290	China	China	1982	0
467.344	Yan nong No. 5	Gong di 2323	China	China	1982	0
467.345	Yan nong No. 72	Gong di 2324	China	China	1982	0
468.376	Hong Kong No. 2		China	China	1982	0
468.377	Hong Kong No. 3		China	China	1982	00
468.382	Takii's Extra Early		Japan	Japan	1982	000
468.920			China	China	1982	0
468.921			China	China	1982	000
468.922			China	China	1982	0
470.929	Bravalla	1091-3-1-6-1	Sweden	Sweden	1982	000
470.930	Traff	1110-4-5-5	Sweden	Sweden	1982	000
473.572	Funshu No. 11		China	China	1982	00
475.821			China	China	1982	0
475.825	Dong nong No. 5		China	China	1982	0
475.827	Jin yuan No. 1		China	China	1982	0
475.829B	Da bai dou		China	China	1982	I
476.347	Beltskaja 25	VIR 6439	Soviet Union	Soviet Union	1983	0
476.349	Bukurija	VIR 6466	Soviet Union	Soviet Union	1983	0
476.350A	Kievskaja 48	VIR 6497	Soviet Union	Soviet Union	1983	00
476.350B	Kievskaja 48	VIR 6497	Soviet Union	Soviet Union	1983	00
476.350C	Kievskaja 48	VIR 6497	Soviet Union	Soviet Union	1983	00
476.351	Beregovcanka	VIR 6990	Soviet Union	Soviet Union	1983	00
479.715	Bei liang No. 8	Gong di 2762	China	China	1983	00
479.716	Bei liang No. 11	Gong di 2758	China	China	1983	0
479.757	Mufeng No. 5		China	China	1983	0
479.761	Heihe No. 3		China	China	1983	00

Table 2.1
Descriptive data for USDA soybean germplasm in maturity groups 000 to 0, PI 446.893 to PI 486.355

Entry	Maturity group	Stem trm.	Flower color	Pubescence			Pod color	Seed coat		Hilum color	Other traits	
				Color	Form	Density		Luster	Color		Seed	Leaf
467.319	0	N	W	G	E	N	Br	S	Y	Y		
467.323A	0	S	W	G	E	Ssp	Br	S	Y	Y		Na
467.344	0	N	W	G	E	Ssp	Br	S	Y	Lbf	Sabh	Na
467.345	0	N	W	G	E	Ssp	Br	I	Y	Y		Na
468.376	0	S	P	G	E	N	Br	I	Y	Y		Na
468.377	00	S	W	G	E	N	Br	S	Y	Y		Na
468.382	000	D	P	T	E	N	Br	S	Gn	Bl		
468.920	0	D	P	T	E	N	Br	S	Y	Br	Abh	
468.921	000	N	P	T	E	N	Br	S	Y	G		
468.922	0	D	P	T	Sa	N	Tn	I	Y	Br	Abh	Dab
470.929	000	D	W	T	E	N	Br	I	G	Bl		
470.930	000	D	P	T	E	N	Br	D	Y	Y		
473.572	00	N	W	G	E	Ssp	Br	S	Y	Y		
475.821	0	S	P	T	E	Ssp	Tn	D	Y	Br		
475.825	0	N	W	G	E	N	Br	S	Y	Y		
475.827	0	N	W	G	E	N	Br	I	Y	Lbf		
475.829B	I	N	W	G	E	N	Br	I	Y	Y	Sdef	
476.347	0	N	W	T	E	N	Tn	I	G	Bl		S4lft
476.349	0	N	W	G	E	N	Br	D	Y	Bf		
476.350A	00	D	P	T	E	N	Br	S	Y	Br	Abh	
476.350B	00	N	P	T	E	N	Br	S	Y	Br		
476.350C	00	N	W	T	E	N	Br	S	Y	Br		
476.351	00	N	P	T	E	Ssp	Tn	D	Y	Br	Abh	
479.715	00	N	P	G	E	N	Br	S	Y	Y	Sdef	
479.716	0	S	P	G	E	Ssp	Br	I	Y	Y		Na
479.757	0	S	W	G	E	N	Br	S	Y	Y		
479.761	00	N	P	G	E	N	Br	I	Y	Y		Na

Table 3.1
Agronomic data for USDA soybean germplasm in maturity groups 000 to 0, PI 446.893 to PI 486.355, grown at St. Paul, MN

Entry	Flower date (mmdd)	Maturity date (mmdd)	Lodging (score)	Height (cm)	Stem trm. (score)	Seed quality (score)	Mottling (score)	Seed weight (cg/sd)	Seed yield (Mg/ha)
467.319	704	926	3.0	97	3.0	3.2*	4.3*	18.9	2.35
467.323A	707	925	3.5	89	2.0	3.2*	2.3*	16.2	2.37
467.344	704	925	2.5	111	3.0	2.5	3.0*	19.6	2.16*
467.345	702	925	4.0	99	3.0	3.5	3.3	20.2	2.09*
468.376	630	916	2.5	80	2.0	2.7*	2.3*	18.5	1.85
468.377	630	910	2.0*	60*	2.0	2.0	2.0	19.3	2.92
468.382	627	826*	1.5	39	1.0	2.2*	2.5	15.6	1.44
468.920	709	918	3.0*	59	2.0	2.0*	1.8	13.2	2.21
468.921	630	902	3.5	83	3.0	2.4	1.3	13.7	1.91*
468.922	709	922	2.5	78*	2.0	1.9*	2.0*	9.9	2.34
470.929	624	819	1.5	35	1.0	2.4	1.5	17.3	1.65
470.930	620	820*	1.0	29	1.0	2.7*	1.3	18.7	1.31*
473.572	627	906	2.0*	79	3.0	2.2	3.5*	20.2	2.24
475.821	710	916	3.0	69	2.0	1.9	3.5*	8.9	1.89
475.825	707	925	3.5	100	3.0	2.7*	4.0*	17.9	2.31*
475.827	707	927	5.0	97	3.0	2.4	2.8	17.0	2.69
475.829B	709	1001*	4.5	109*	3.0	2.9	1.3	20.9	1.88*
476.347	704	917	4.0	101	3.0	2.5	1.3	15.0	2.94*
476.349	704	917	4.0	107	3.0	2.7*	1.3	14.9	2.67
476.350A	627	901	4.0	73	2.0	2.2	1.0	15.9	2.17
476.350B	702	905	4.0	98	3.0	2.0	2.3*	14.8	2.39
476.350C	630	910	4.5	99	3.0	2.4	2.0	17.6	1.93
476.351	707	905	4.5	84	3.0	2.7*	1.5	16.4	2.15
479.715	624	904	3.5	85	3.0	3.2*	2.5*	19.0	2.58
479.716	702	917	2.5	77	2.0	3.4	2.8	20.9	2.78*
479.757	704	926	3.5	98	2.0	1.9	1.3	14.7	2.39*
479.761	630	908	3.5	80	3.0	3.4	2.0	20.3	2.84

Table 4.1
Seed composition data for USDA soybean germplasm in maturity groups 000 to 0, PI 446.893 to PI 486.355, grown at St. Paul, MN

Entry	Maturity group	Protein (%)	Oil (%)	Palmitic (%)	Stearic (%)	Oleic (%)	Linoleic (%)	Linolenic (%)	Other (%)
467.319	0	39.1	18.7	11.7	3.7	24.0	52.7	8.1	0.1
467.323A	0	40.5	18.9	11.7	3.5	23.6	51.8	9.4	0.1
467.344	0	41.7	18.7	11.8	3.4	22.4	52.9	9.6	0.1
467.345	0	41.7	17.6	13.0	3.7	23.3	50.9	9.2	0.0
468.376	0	40.1	19.2	13.4	3.6	18.3	55.7	9.2	0.0
468.377	00	37.9	20.9	13.8	3.3	21.0	52.6	9.4	0.1
468.382	000	45.9	15.6	14.4	2.7	17.0	56.6	9.5	0.0
468.920	0	43.5	17.9	12.5	3.1	20.0	55.7	8.9	0.1
468.921	000	38.7	19.8	13.9	3.1	17.8	54.6	10.5	0.1
468.922	0	42.9	17.4	13.3	3.4	20.1	54.3	9.0	0.1
470.929	000	41.8	19.5	12.8	2.1	29.4	50.0	5.9	0.0
470.930	000	40.9	21.1	13.0	2.3	31.9	47.4	5.5	0.0
473.572	00	41.2	19.5	11.4	2.5	27.5	51.4	7.4	0.0
475.821	0	44.2	16.1	13.6	3.4	17.5	56.7	8.9	0.0
475.825	0	41.9	18.2	12.8	3.8	20.9	54.0	8.6	0.0
475.827	0	39.9	19.3	11.9	2.8	22.8	53.8	8.8	0.1
475.829B	I	43.3	16.9	11.9	2.6	18.5	57.4	9.8	0.0
476.347	0	39.6	19.6	13.5	2.7	18.9	56.3	8.8	0.0
476.349	0	40.4	19.7	11.4	2.9	23.9	53.9	7.9	0.0
476.350A	00	42.3	18.2	12.4	2.6	19.0	57.0	9.1	0.0
476.350B	00	41.2	18.8	12.7	2.8	21.3	55.2	8.2	0.0
476.350C	00	42.2	18.9	12.3	2.7	21.9	55.1	8.2	0.0
476.351	00	41.7	18.5	12.4	2.8	18.8	56.1	9.9	0.1
479.715	00	41.8	18.9	13.2	3.1	21.3	54.2	8.3	0.0
479.716	0	42.0	18.8	13.2	3.1	18.8	56.5	8.5	0.0
479.757	0	41.2	18.0	11.8	3.8	21.9	53.4	9.2	0.1
479.761	00	40.1	19.0	12.9	3.7	22.0	51.9	9.5	0.0

Table 1.2
Identification and origin information for USDA soybean germplasm
in maturity groups I to IV, PI 446.893 to PI 486.355

PI No.	Accession name	Foreign collection No.	Country of acquisition	Country of origin	Year introduced or released	Maturity group
	Amcor		United States	United States	1979	II
	Avery		United States	United States	1987	IV
	BSR 101		United States	United States	1985	I
	CN210		United States	United States	1983	II
	CN290		United States	United States	1983	II
	Cartter		United States	United States	1986	III
	Century 84		United States	United States	1984	II
	Chamberlain		United States	United States	1986	III
	Coles		United States	United States	1976	I
	Corsoy 79		United States	United States	1979	II
	Crawford		United States	United States	1977	IV
	Cumberland		United States	United States	1978	III
	Douglas		United States	United States	1980	IV
	Egyptian		United States	United States	1984	IV
	Elgin		United States	United States	1984	II
	Essex		United States	United States	1972	V
	Evans		United States	United States	1974	0
	Franklin		United States	United States	1977	IV
	Fremont		United States	United States	1985	III
	Gnome 85		United States	United States	1985	II
	Hack		United States	United States	1984	II
	Hardin		United States	United States	1980	I
	Harlon		Canada	Canada	1974	I
	Harper		United States	United States	1984	III
	Hobbit		United States	United States	1981	III
	Hodgson 78		United States	United States	1978	I
	Hoyt		United States	United States	1986	II
	Logan		United States	United States	1985	III
	Miami		United States	United States	1984	II
	Morgan		United States	United States	1986	IV
	Pella 86		United States	United States	1986	III
	Pennyrile		United States	United States	1987	IV
	Pershing		United States	United States	1984	IV
	Pixie		United States	United States	1980	IV
	Preston		United States	United States	1985	II
	Pyramid		United States	United States	1985	IV
	Regal		United States	United States	1986	IV
	Ripley		United States	United States	1985	IV
	Sherman		United States	United States	1985	III
	Sibley		United States	United States	1986	I
	Sparks		United States	United States	1981	IV
	Stafford		United States	United States	1986	IV
	Union		United States	United States	1977	IV
	Ware		United States	United States	1978	IV
	Weber 84		United States	United States	1985	I
	Williams 82		United States	United States	1981	III
	Winchester		United States	United States	1984	III

Table 2.2
Descriptive data for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355

Entry	Maturity group	Stem trm.	Flower color	Pubescence Color	Pubescence Form	Pubescence Density	Pod color	Seed coat Luster	Seed coat Color	Hilum color	Other traits Seed	Other traits Leaf
Amcor	II	N	P	G	E	N	Br	S	Y	Y		
Avery	IV	N	W	T	E	N	Br	S	Y	Bl		
BSR 101	I	N	P	G	E	N	Tn	D	Y	Ib		
CN210	II	N	P	G	E	N	Br	S	Y	Bf		
CN290	II	N	P	G	E	N	Br	S	Y	Bf		
Cartter	III	N	W	T	E	N	Tn	S	Y	Bl		
Century 84	II	N	P	T	E	N	Br	S	Y	Bl		
Chamberlain	III	N	P	T	E	N	Br	S	Y	Bl		
Coles	I	N	P	G	E	N	Br	D	Y	Y		
Corsoy 79	II	N	P	G	E	N	Br	D	Y	Y		
Crawford	IV	N	P	T	E	N	Br	S	Y	Bl		
Cumberland	III	N	P	G	E	N	Br	S	Y	Ib		
Douglas	IV	N	W	T	E	N	Br	D	Y	Bl		
Egyptian	IV	D	W	T	E	N	Tn	S	Y	Bl		
Elgin	II	N	P	T	E	N	Br	S	Y	Bl		
Essex	V	D	P	G	E	N	Tn	D	Y	Ib		
Evans	0	N	W	G	E	N	Br	D	Y	Y		
Franklin	IV	N	P	G	E	N	Br	D	Y	Ib		
Fremont	III	N	W	G	E	N	Tn	S	Y	Y		
Gnome 85	II	D	P	T	E	N	Tn	S	Y	Bl		
Hack	II	N	W	G	E	N	Tn	S	Y	Bf		
Hardin	I	N	P	G	E	N	Br	D	Y	Y		
Harlon	I	N	W	G	E	N	Br	D	Y	Y		
Harper	III	N	P	T	E	N	Br	S	Y	Bl		
Hobbit	III	D	W	T	E	N	Tn	S	Y	Bl		
Hodgson 78	I	N	P	G	E	N	Br	D	Y	Bf		
Hoyt	II	D	P	T	E	N	Tn	S	Y	Bl		
Logan	III	N	W	T	E	N	Tn	S	Y	Br		
Miami	II	N	P	G	E	N	Br	D	Y	Ib		
Morgan	IV	N	W	T	E	N	Tn	D	Y	Bl		
Pella 86	III	N	P	T	E	N	Tn	D	Y	Bl		
Pennyrile	IV	N	W	T	E	N	Tn	S	Y	Bl		
Pershing	IV	D	W	G	E	N	Tn	S	Y	Bf		
Pixie	IV	D	P	T	E	N	Tn	S	Y	Bl		
Preston	II	N	P	T	E	N	Br	D	Y	G		
Pyramid	IV	N	P	G	E	N	Tn	S	Y	Ib		
Regal	IV	N	W	T	E	N	Tn	S	Y	Bl		
Ripley	IV	D	P	G	E	N	Tn	I	Y	Bf		
Sherman	III	N	W	G	E	N	Br	S	Y	Bf		
Sibley	I	N	W	G	E	N	Br	D	Y	Y		
Sparks	IV	N	W	T	E	N	Tn	D	Y	Bl		
Stafford	IV	D	P	G	E	N	Tn	D	Y	Ib		
Union	IV	N	W	T	E	N	Tn	S	Y	Bl		
Ware	IV	D	P	G	E	Sdn	Tn	S	Y	Y		
Weber 84	I	N	W	T	E	N	Br	D	Y	Bl		
Williams 82	III	N	W	T	E	N	Tn	S	Y	Bl		
Winchester	III	N	W	T	E	N	Tn	S	Y	Bl		

Table 3.2
Agronomic data for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355, grown at Urbana, IL

Entry	Flower date (mmdd)	Maturity date (mmdd)	Lodging (score)	Height (cm)	Stem trm. (score)	Shattering early (score)	Shattering late (score)	Seed quality (score)	Mottling (score)	Seed weight (cg/sd)	Seed yield (Mg/ha)
Amcor	620	905	2.8	123	2.8	1.0	1.0	2.0	2.0	13.0	3.22*
Avery	710	1015	2.8	137	3.8	1.3	1.5	3.8*	4.8	11.8	1.76
BSR 101	617	827	1.3	98	3.8	1.0	1.8	2.3	1.3	14.6	3.43
CN210	618	829	1.8	103	3.3	1.0	1.3	3.0*	1.8	13.5	2.92
CN290	623	909	1.8	99*	4.0	1.3	1.5	4.3*	1.5	12.7	2.69*
Cartter	621	912	1.8	109	3.3	1.0	1.5	1.5	1.8	15.2	3.83
Century 84	617	902	1.4	98	3.0	1.0	1.3	2.8	2.8*	14.1	3.20
Chamberlain	625	921	2.0	115	3.5	1.5	2.0*	3.5	5.0	15.7*	3.57
Coles	615	828	2.5	104	4.0	1.0	2.3	1.8*	4.3*	15.5	3.04*
Corsoy 79	616	831	2.8	107	3.0	1.0	1.0	1.8	4.5	13.2	3.54
Crawford	703*	1010*	2.9	133*	3.5	1.0	1.0	2.1	3.5*	13.3	2.76*
Cumberland	623	916	2.0	108	3.5	1.3	1.5	2.8	2.0	15.5*	3.22
Douglas	627*	1004	2.5*	119	3.3	1.5	1.6*	3.5*	2.3	15.5	3.22*
Egyptian	723	1006	2.5	107*	1.0	1.5	1.5	1.8	2.5	10.3	3.08
Elgin	619	903	1.8	95	3.0	1.0	1.0	2.5	4.3	13.6	3.50
Essex	719	1016	2.4	100	1.0	1.0	1.0	2.4	1.9	9.9	2.89
Evans	615	815	1.5	77	3.5	1.0	1.5	3.0	1.0	11.9	1.93
Franklin	628	928	2.8	142	3.6	2.0*	2.5*	2.9*	2.8*	10.9	2.28
Fremont	620*	909	1.8	105*	3.0	1.0	1.3	1.8	1.3	14.3	3.45
Gnome 85	622	910	1.0	51	1.0	1.0	1.0	2.5	1.8	14.7	3.35
Hack	617	904	1.3	85	3.8	1.0	1.0	3.0*	2.0	14.5	3.13*
Hardin	617	826	2.5	102	3.5	1.0	1.5	2.5	4.0	13.3	3.34
Harlon	614	819	1.5	89	3.5	1.0	2.5	4.3*	1.5	12.8	2.38
Harper	626*	921	1.8	102	3.5	1.0	1.3	3.0*	4.5	16.6	3.16
Hobbit	624	917	1.0	53*	1.0	1.0	1.3	2.8	1.5	14.5	3.53*
Hodgson 78	615	820	1.8	95	3.8	1.0	1.0	2.8*	1.0	14.0	2.90
Hoyt	619	907	1.0	47*	1.0	1.0	1.3	2.3	4.5	13.1	3.32*
Logan	620	911	2.5	114	3.3	1.0	2.0	1.8*	2.0	15.9	3.55*
Miami	617	830	1.5	103	3.3	1.0	2.3	3.0	1.5	14.1	3.07
Morgan	628	930	2.3	124	3.3	1.0	1.5	2.5	3.3	15.8	3.39*
Pella 86	621*	911	1.7	110	3.3	1.0	1.0	2.3*	2.3	17.6	3.77
Pennyrile	701	1010	2.0	139	3.5	1.0	1.8*	2.8	2.8*	14.4	3.16
Pershing	722	1018	2.5	88*	1.0	1.0	1.0	2.5	2.3	10.3	2.65
Pixie	626*	928	1.1	58	1.0	1.0	1.1	2.4*	3.0*	15.1*	3.23
Preston	619	906	1.8	105	3.0	1.0	1.3	2.8*	5.0	15.6	3.52
Pyramid	701	929	3.3	128	3.8	1.5	2.0*	2.5	4.8	15.6*	2.54
Regal	626*	928	2.8*	127	3.2	1.0	1.3	2.3	2.8	15.9*	3.49
Ripley	705	918	1.3	71	1.0	1.0	1.0	2.3*	1.3	11.3	3.23
Sherman	622	917	1.8	100	3.5	1.5	1.5	2.0	2.3	13.5*	3.45*
Sibley	613	822	1.8	89	3.5	1.0	2.0	2.0	2.3	14.4	2.83
Sparks	623*	921	2.9	132	3.0	1.1	1.8*	3.8*	3.5	14.9	3.18*
Stafford	722	1021	2.5	105	1.0	1.0	1.0	3.0*	3.5	10.1	2.45
Union	625*	923*	2.9	134	3.6	1.0	1.4	2.8	2.8*	15.8*	3.24
Ware	714	1008	1.6	82*	1.0	1.0	1.0	2.1*	2.3	17.7	2.80*
Weber 84	616	827	3.0*	108	4.0	1.0	2.0	2.3	3.3*	10.8	2.99
Williams 82	625*	924	1.9	123	3.5	1.0	1.5	2.8*	2.5	14.4*	3.46
Winchester	623	921	1.9	119	3.5	1.0	2.3*	3.5*	2.0	16.4*	3.38

Table 4.2
Seed composition data for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355, grown at Urbana, IL

Entry	Maturity group	Protein (%)	Oil (%)	Palmitic (%)	Stearic (%)	Oleic (%)	Linoleic (%)	Linolenic (%)	Other (%)
Amcor	II	37.9	21.8	11.3	2.9	24.1	54.9	6.9	0.0
Avery	IV	39.6	19.4	10.7	4.4	25.6	53.2	6.3	0.0
BSR 101	I	38.9	21.1	11.0	3.5	19.8	57.5	8.3	0.1
CN210	II	36.2	23.3	11.7	3.1	18.9	58.9	7.4	0.0
CN290	II	39.3	19.5	10.8	3.4	23.1	55.0	7.8	0.0
Cartter	III	40.2	21.4	12.2	3.2	21.8	56.0	7.0	0.0
Century 84	II	41.9	20.5	11.0	2.8	19.8	58.7	7.9	0.0
Chamberlain	III	40.5	20.2	11.1	3.8	20.8	57.3	7.0	0.0
Coles	I	41.4	20.7	11.7	3.4	24.1	54.5	6.3	0.1
Corsoy 79	II	39.4	21.6	12.1	2.7	24.2	55.1	5.9	0.0
Crawford	IV	40.6	20.0	11.7	3.1	20.6	57.6	7.0	0.0
Cumberland	III	39.6	21.9	11.4	3.1	25.8	54.2	5.7	0.0
Douglas	IV	39.9	20.9	9.8	3.1	18.9	60.6	7.7	0.0
Egyptian	IV	39.3	19.1	12.3	2.9	18.6	57.8	8.5	0.0
Elgin	II	37.3	22.1	13.3	3.7	21.2	55.2	6.7	0.0
Essex	V	41.4	18.9	11.9	3.2	18.5	57.7	8.7	0.0
Evans	0	39.6	22.7	12.5	2.8	23.3	55.1	6.7	0.1
Franklin	IV	37.5	21.0	11.6	3.1	19.8	57.2	8.4	0.0
Fremont	III	39.3	22.2	11.7	2.7	21.8	57.7	6.2	0.0
Gnome 85	II	41.4	20.8	12.4	3.4	20.9	57.1	6.2	0.0
Hack	II	38.9	22.1	11.6	4.1	24.5	54.3	5.7	0.0
Hardin	I	39.3	22.0	11.4	2.8	21.0	57.4	7.5	0.0
Harlon	I	39.6	22.0	12.6	2.5	26.9	51.4	6.7	0.0
Harper	III	40.3	20.3	11.8	3.3	23.0	55.3	6.7	0.0
Hobbit	III	37.8	23.0	11.4	2.9	20.9	58.3	6.7	0.0
Hodgson 78	I	38.9	22.6	12.0	2.7	23.7	55.0	6.8	0.0
Hoyt	II	40.6	21.4	11.3	3.0	20.8	59.1	6.0	0.0
Logan	III	39.8	21.8	11.3	3.0	21.5	57.6	6.7	0.0
Miami	II	41.0	21.2	11.8	3.3	20.7	58.2	6.2	0.0
Morgan	IV	43.4	19.0	11.3	3.2	21.9	57.0	6.7	0.0
Pella 86	III	39.4	21.3	11.5	4.1	21.6	56.8	6.3	0.0
Pennyrile	IV	41.7	19.6	11.4	3.4	21.3	56.1	7.9	0.0
Pershing	IV	40.9	18.2	12.3	2.8	18.4	57.8	8.7	0.0
Pixie	IV	39.8	20.8	11.0	3.6	21.6	56.4	7.5	0.0
Preston	II	41.4	21.2	12.2	3.4	22.8	55.8	5.9	0.0
Pyramid	IV	41.8	18.5	12.7	3.0	21.3	56.0	7.1	0.0
Regal	IV	41.0	20.4	11.7	3.4	22.4	56.6	6.0	0.0
Ripley	IV	39.1	20.4	12.4	2.9	19.6	57.3	7.9	0.0
Sherman	III	39.9	21.1	11.7	3.2	20.8	56.8	7.6	0.0
Sibley	I	40.2	22.0	12.3	3.1	23.6	54.5	6.6	0.1
Sparks	IV	38.8	20.6	11.1	3.0	21.7	57.3	6.9	0.0
Stafford	IV	40.3	19.1	10.5	3.0	20.6	58.1	8.0	0.0
Union	IV	40.5	20.3	11.2	3.5	22.3	56.4	6.6	0.0
Ware	IV	40.9	19.7	11.9	3.1	22.6	55.7	6.7	0.1
Weber 84	I	39.5	21.9	11.9	3.8	19.7	56.9	7.8	0.0
Williams 82	III	39.5	20.8	11.9	3.0	20.7	57.2	7.3	0.0
Winchester	III	39.6	20.5	11.5	3.1	21.9	56.8	6.9	0.0

Table 1.2
Identification and origin information for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355

PI No.	Accession name	Foreign collection No.	Country of acquisition	Country of origin	Year introduced or released	Maturity group
	Zane		United States	United States	1984	III
446.893	Wan No. 100-1		China	China	1980	IV
452.433	Hefeng No. 23	St-103	China	China	1981	I
458.018		KAS 100-1-1	South Korea	South Korea	1981	IV
458.019		KAS 100-6	South Korea	South Korea	1981	IV
458.020		KAS 100-11-2	South Korea	South Korea	1981	IV
458.021		KAS 101-3-1	South Korea	South Korea	1981	IV
458.022		KAS 101-3-2	South Korea	South Korea	1981	IV
458.023		KAS 160-6	South Korea	South Korea	1981	IV
458.024A		KAS 160-8	South Korea	South Korea	1981	IV
458.026		KAS 160-12	South Korea	South Korea	1981	IV
458.029		KAS 172-7	South Korea	South Korea	1981	IV
458.030		KAS 172-11-1	South Korea	South Korea	1981	IV
458.031		KAS 172-11-2	South Korea	South Korea	1981	IV
458.034		KAS 200-21-2	South Korea	South Korea	1981	IV
458.035		KAS 201-1-2	South Korea	South Korea	1981	IV
458.036		KAS 201-8-1	South Korea	South Korea	1981	IV
458.037		KAS 210-16	South Korea	South Korea	1981	IV
458.038		KAS 210-17	South Korea	South Korea	1981	IV
458.039		KAS 210-18	South Korea	South Korea	1981	IV
458.040		KAS 210-19	South Korea	South Korea	1981	III
458.041		KAS 210-20	South Korea	South Korea	1981	IV
458.042		KAS 210-21	South Korea	South Korea	1981	III
458.043		KAS 210-22	South Korea	South Korea	1981	IV
458.045A		KAS 210-24	South Korea	South Korea	1981	IV
458.046		KAS 210-25	South Korea	South Korea	1981	IV
458.047		KAS 210-26	South Korea	South Korea	1981	IV
458.049		KAS 210-28	South Korea	South Korea	1981	IV
458.050		KAS 210-29	South Korea	South Korea	1981	IV
458.051A		KAS 210-30	South Korea	South Korea	1981	IV
458.051B		KAS 210-30	South Korea	South Korea	1981	IV
458.052		KAS 233-5	South Korea	South Korea	1981	III
458.053A		KAS 233-6	South Korea	South Korea	1981	IV
458.053B		KAS 233-6	South Korea	South Korea	1981	IV
458.055		KAS 233-8	South Korea	South Korea	1981	IV
458.056		KAS 233-9	South Korea	South Korea	1981	III
458.057		KAS 233-10	South Korea	South Korea	1981	IV
458.060A		KAS 233-13	South Korea	South Korea	1981	IV
458.060B		KAS 233-13	South Korea	South Korea	1981	IV
458.061A		KAS 233-14	South Korea	South Korea	1981	III
458.061B		KAS 233-14	South Korea	South Korea	1981	IV
458.062A		KAS 233-15	South Korea	South Korea	1981	III
458.062B		KAS 233-15	South Korea	South Korea	1981	IV
458.063		KAS 233-16	South Korea	South Korea	1981	IV
458.064		KAS 233-17	South Korea	South Korea	1981	IV
458.065A		KAS 233-18	South Korea	South Korea	1981	IV
458.065B		KAS 233-18	South Korea	South Korea	1981	IV

Table 2.2
Descriptive data for USDA soybean germplasm in maturity groups
I to IV, PI 446.893 to PI 486.355

Entry	Maturity group	Stem trm.	Flower color	Pubescence Color	Pubescence Form	Pubescence Density	Pod color	Seed coat Luster	Seed coat Color	Hilum color	Other traits Seed	Other traits Leaf
Zane	III	N	P	G	E	N	Br	D	Y	Ib		
446.893	IV	N	P	G	Sa	N	Lbr	I	Y	Bf		
452.433	I	N	P	G	E	Ssp	Br	I	Y	Y		Na
458.018	IV	D	P	T	Sa	Ssp	Bl	S	Bl	Bl		
458.019	IV	D	P	T	E	Ssp	Br	I	Br	Br		
458.020	IV	N	W	Lt	E	Ssp	Br	D	Ggn	Bl		
458.021	IV	D	P	G	E	Ssp	Br	D	Y	Y	Def	
458.022	IV	D	W	G	E	Ssp	Tn	D	Y	Y		
458.023	IV	D	W	G	E	Ssp	Br	I	Y	Bf		
458.024A	IV	N	P	T	E	Ssp	Br	S	Br	Br		
458.026	IV	D	P	T	E	N	Tn	D	Bl	Bl		
458.029	IV	D	P	T	E	Ssp	Br	S	Br	Br		
458.030	IV	D	P	T	E	Ssp	Br	D	Bl	Bl		
458.031	IV	D	P	T	E	Ssp	Br	S	Br	Br		
458.034	IV	D	P	T	E	Ssp	Br	S	Br	Br	St	
458.035	IV	D	P	T	Sa	Ssp	Br	I	Bl	Bl	Net	
458.036	IV	D	W	G	E	Ssp	Br	I	Y	Bf		
458.037	IV	D	P	T	E	Ssp	Br	I	Y	Tn		
458.038	IV	D	P	G	E	Ssp	Br	I	Y	Y		
458.039	IV	D	P	T	E	Ssp	Br	D	Gn	Gn	Gncot	
458.040	III	D	W	G	A	Ssp	Tn	I	Y	Y		
458.041	IV	D	W	T	Sa	Ssp	Br	S	Bl	Bl		
458.042	III	D	W	G	A	Ssp	Tn	D	Y	Bf		
458.043	IV	D	W	T	Sa	Ssp	Br	S	Bl	Bl		
458.045A	IV	D	P	T	E	Ssp	Br	D	Gn	Gn	Gncot	
458.046	IV	N	P	T	E	N	Tn	I	Bl	Bl		
458.047	IV	D	P	T	E	N	Tn	I	Bl	Bl		
458.049	IV	D	P	G	E	Ssp	Br	I	Y	Lbf		
458.050	IV	D	P	G	E	Ssp	Br	I	Y	Bf		
458.051A	IV	N	P	G	E	Ssp	Br	I	Y	Lbf		
458.051B	IV	D	P	G	E	Ssp	Br	I	Y	Lbf		
458.052	III	D	P	G	E	Ssp	Br	D	Y	Y		
458.053A	IV	D	W	T	Sa	Ssp	Br	S	Bl	Bl		
458.053B	IV	D	W	T	Sa	Ssp	Br	I	Bl	Bl		
458.055	IV	D	W	G	E	Ssp	Br	I	Y	Bf		
458.056	III	D	W	T	Sa	Ssp	Br	I	Bl	Bl	Snet	
458.057	IV	D	P	T	E	Ssp	Br	D	Gn	Gn	Gncot	
458.060A	IV	D	W	T	Sa	Ssp	Br	I	Bl	Bl		
458.060B	IV	D	W	T	Sa	Ssp	Br	I	Bl	Bl		
458.061A	III	D	W	G	Sa	Ssp	Br	I	Y	Y		
458.061B	IV	D	W	G	Sa	Ssp	Br	I	Y	Y		
458.062A	III	D	W	T	E	Ssp	Br	I	Bl	Bl		
458.062B	IV	D	W	T	E	Ssp	Br	I	Bl	Bl		
458.063	IV	D	P	T	E	Ssp	Br	D	Gn	Gn	Gncot	
458.064	IV	D	P	T	E	Ssp	Br	S	Br	Br		
458.065A	IV	D	W	G	E	Ssp	Br	I	Y	Bf		
458.065B	IV	D	W	G	E	Ssp	Br	D	Y	Bf		

Table 3.2
Agronomic data for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355, grown at Urbana, IL

Entry	Flower date (mmdd)	Maturity date (mmdd)	Lodging (score)	Height (cm)	Stem trm. (score)	Shattering early (score)	Shattering late (score)	Seed quality (score)	Mottling (score)	Seed weight (cg/sd)	Seed yield (Mg/ha)
Zane	622*	911	1.3	112	3.0	1.0	1.5	2.8*	1.3	17.4	3.60
446.893	722	928	2.5	105	3.5	1.0	1.3	3.0	4.0*	13.4	2.17
452.433	617	817	1.0	56	3.0	1.3	1.3	3.8	2.3	17.2	1.81*
458.018	716	930	1.5	64	1.0	1.5	1.5	2.3	-	15.2*	1.83
458.019	723	1014	2.8	72	1.0	1.0	1.0	3.5	-	22.8	1.79
458.020	714	1001	4.0	127	4.0	1.0	1.8	4.5	5.0	10.2	1.54
458.021	716	1003	2.8	68	1.0	1.0	1.0	4.0	3.8	31.1*	2.18
458.022	711	924	3.3	93*	1.3	1.8*	4.8	2.3	3.8*	17.0*	2.09*
458.023	714	1015	2.8	70*	1.0	1.8	1.8	3.5	3.3*	27.3*	1.96
458.024A	714	1010	4.3	103	4.0	1.0	1.0	3.8	-	20.1*	1.96
458.026	730	1010	3.5	84	1.0	1.0	1.3	2.8	-	14.2	1.87
458.029	722	1011	3.3	81	1.0	1.0	1.0	3.8	-	22.7*	1.56
458.030	720	1014	4.5	69	1.0	1.0	1.0	3.8*	-	21.4*	1.38
458.031	710	930	2.8	65	1.0	1.0	1.8	2.5	-	29.8*	2.29
458.034	714	1001	1.8	72	1.0	1.0	1.0	2.3	-	18.5	2.20
458.035	725	1017	3.0*	75	1.0	1.0	1.0	4.0*	-	20.5	1.02*
458.036	711	1015	2.3	64	1.0	1.3	1.5	3.5*	2.8*	28.6*	1.86*
458.037	713	1007	2.5	70	1.0	1.0	1.0	3.0	5.0	18.2	1.83
458.038	717	926	2.0	93	1.3	1.0	2.5	2.3	3.8	18.6	2.75
458.039	718	1006	2.5	85	1.0	1.5	2.0	3.3	3.5	21.6	2.15
458.040	707	914	2.0	64	1.0	3.0	3.5*	2.5	5.0	21.0	2.09
458.041	718	1015	4.0	76	1.0	1.8	1.8	2.5	-	19.9	2.12*
458.042	705	916	2.0	71*	1.0	3.0*	5.0	2.5*	2.3*	20.7*	2.27
458.043	712	927	3.5	58	1.0	1.3	3.0*	2.8	-	24.3	2.59
458.045A	721	1018	3.8	87	1.0	1.0	1.0	4.8	4.0*	19.0*	1.30
458.046	717	1002	4.8	112	4.8	1.3	1.5	3.5*	-	9.9	1.45
458.047	721	1007	4.0	76	1.3	1.0	1.3	3.3*	-	9.2	1.53
458.049	724	1013	3.8	90	1.0	1.5	1.5	4.0	5.0	19.7*	1.67
458.050	711	924	1.9	80	1.0	1.0	1.8	3.0	1.8	19.9*	2.27
458.051A	722	1018	4.5	110	4.5	1.0	1.0	4.5	5.0	18.4	1.58*
458.051B	727	1014	2.8	95	1.0	1.3	1.3	4.0*	5.0	19.4*	1.59
458.052	702	910	2.5	68	1.0	1.5	1.8	2.0	5.0	16.3	2.65
458.053A	708	922	2.0	55	1.0	1.8*	4.5	2.5	-	23.4*	2.13*
458.053B	719	1018	3.8	65*	1.0	1.5	1.5	2.8*	-	20.0*	1.83*
458.055	713	1016	1.5	62*	1.0	1.0	1.0	3.8	2.5*	29.7*	2.00
458.056	707	919	2.5	52	1.0	1.3	4.8	2.3	-	24.1*	2.36*
458.057	716	1003	2.3	80*	1.0	1.3	1.5	3.3	4.3*	22.2*	2.07
458.060A	707	923*	2.0	50	1.0	1.5	4.5	2.8	-	23.4*	2.30*
458.060B	717	1019	2.5	61	1.0	2.0	2.0	3.8*	-	21.2*	1.40*
458.061A	704*	913	1.3	70	1.0	1.8	4.5	3.0*	5.0	17.1*	1.99*
458.061B	707	921	1.5	68	1.0	1.3	3.0	2.8*	5.0	19.5*	2.39
458.062A	707*	919	2.3	52*	1.0	1.5	4.8	2.5	-	23.7*	2.41*
458.062B	718	1015	2.8	64	1.0	1.5	1.8	4.3*	-	21.6*	1.87*
458.063	715	1002	2.5	82*	1.0	1.5	2.0	3.8	3.8	21.5	2.28*
458.064	719	1009	2.0	66	1.0	1.0	1.0	3.3	-	22.2	1.91
458.065A	717	1011	1.8	80	1.0	1.0	1.0	2.8	3.0*	22.8*	1.73
458.065B	715	1012	2.3	83	1.0	1.0	1.0	3.3*	4.0*	25.2*	1.57

Table 4.2
Seed composition data for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355, grown at Urbana, IL

Entry	Maturity group	Protein (%)	Oil (%)	Palmitic (%)	Stearic (%)	Oleic (%)	Linoleic (%)	Linolenic (%)	Other (%)
Zane	III	39.3	21.7	11.7	2.9	24.5	55.3	5.7	0.0
446.893	IV	40.4	19.0	12.2	3.1	21.2	55.5	8.0	0.0
452.433	I	41.2	20.9	12.8	3.6	23.7	53.4	6.5	0.1
458.018	IV	43.9	16.4	11.4	2.8	21.3	55.5	9.0	0.0
458.019	IV	43.3	18.0	11.6	3.0	20.8	56.4	8.4	0.0
458.020	IV	44.0	17.6	12.4	2.8	18.9	57.4	8.7	0.0
458.021	IV	43.3	17.3	11.8	3.0	20.4	56.6	8.2	0.0
458.022	IV	43.5	18.4	12.2	2.8	22.2	56.5	6.5	0.0
458.023	IV	45.4	17.4	11.1	3.3	21.6	56.6	7.4	0.0
458.024A	IV	44.5	16.1	12.0	3.3	24.5	53.1	7.2	0.0
458.026	IV	45.6	16.1	13.3	3.3	20.1	55.1	8.4	0.0
458.029	IV	44.2	17.3	10.6	2.4	21.9	56.9	8.3	0.0
458.030	IV	45.2	17.3	12.7	3.3	23.0	52.9	8.1	0.1
458.031	IV	43.1	17.9	12.0	3.2	21.5	55.7	7.7	0.0
458.034	IV	42.0	18.6	13.1	3.1	20.9	55.6	7.5	0.0
458.035	IV	44.3	16.9	12.1	2.9	21.1	55.5	8.5	0.0
458.036	IV	44.7	18.1	11.2	2.9	21.7	56.3	8.0	0.0
458.037	IV	44.2	17.7	13.8	2.9	18.0	57.9	7.6	0.0
458.038	IV	42.1	18.3	13.6	3.0	20.7	55.6	7.2	0.0
458.039	IV	44.9	18.0	12.6	2.9	21.6	55.9	7.0	0.0
458.040	III	44.4	18.1	13.1	2.8	20.7	56.4	7.1	0.0
458.041	IV	44.4	17.5	13.0	3.0	17.5	56.8	9.7	0.0
458.042	III	43.3	17.7	12.7	3.1	20.6	56.2	7.4	0.0
458.043	IV	43.7	17.5	13.4	3.1	18.2	57.7	7.7	0.0
458.045A	IV	44.5	18.2	12.2	3.3	22.1	55.5	7.0	0.1
458.046	IV	44.5	17.2	13.4	3.3	24.9	53.0	5.5	0.0
458.047	IV	45.4	14.9	12.9	2.5	20.3	56.6	7.9	0.0
458.049	IV	45.7	17.2	12.9	3.2	20.3	56.8	6.9	0.0
458.050	IV	42.2	18.5	12.4	3.0	22.2	56.2	6.3	0.0
458.051A	IV	44.0	16.8	12.5	3.3	24.9	53.0	6.5	0.0
458.051B	IV	45.0	17.6	12.9	3.4	20.7	56.3	6.7	0.0
458.052	III	43.3	18.9	11.4	2.6	23.4	55.4	7.3	0.0
458.053A	IV	42.6	18.3	13.3	3.2	20.2	57.2	6.3	0.0
458.053B	IV	44.0	17.6	13.6	3.1	17.2	58.3	7.9	0.1
458.055	IV	45.2	17.5	12.8	3.1	18.8	57.9	7.5	0.0
458.056	III	43.1	17.7	13.0	3.1	19.2	57.6	7.2	0.0
458.057	IV	44.4	17.4	13.0	3.3	21.5	55.4	7.0	0.0
458.060A	IV	43.2	18.2	13.4	3.1	19.7	57.9	5.9	0.1
458.060B	IV	44.1	17.7	12.5	3.2	18.1	57.9	8.4	0.0
458.061A	III	41.0	19.5	13.2	3.4	21.2	55.2	7.2	0.0
458.061B	IV	43.1	18.9	13.3	3.1	20.6	56.4	6.7	0.1
458.062A	III	42.7	18.1	12.9	3.0	18.3	58.6	7.3	0.0
458.062B	IV	45.0	17.3	12.8	3.0	19.1	57.5	7.7	0.1
458.063	IV	44.1	18.0	12.5	3.0	20.8	56.7	7.1	0.0
458.064	IV	43.3	17.8	11.5	2.9	20.8	56.9	7.9	0.0
458.065A	IV	45.4	16.4	11.2	2.8	17.5	60.2	8.4	0.0
458.065B	IV	43.6	17.1	11.9	3.2	20.9	57.1	7.0	0.0

Table 1.2
Identification and origin information for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355

PI No.	Accession name	Foreign collection No.	Country of acquisition	Country of origin	Year introduced or released	Maturity group
458.066		KAS 234-5	South Korea	South Korea	1981	IV
458.067A		KAS 234-6	South Korea	South Korea	1981	IV
458.067B		KAS 234-6	South Korea	South Korea	1981	IV
458.070A		KAS 234-9	South Korea	South Korea	1981	IV
458.070B		KAS 234-9	South Korea	South Korea	1981	IV
458.071		KAS 234-10	South Korea	South Korea	1981	IV
458.072A		KAS 234-11	South Korea	South Korea	1981	IV
458.074A		KAS 235-19	South Korea	South Korea	1981	IV
458.074B		KAS 235-19	South Korea	South Korea	1981	IV
458.075		KAS 235-20	South Korea	South Korea	1981	IV
458.077		KAS 235-22	South Korea	South Korea	1981	IV
458.078		KAS 235-23	South Korea	South Korea	1981	IV
458.079		KAS 235-24	South Korea	South Korea	1981	IV
458.080		KAS 237-4	South Korea	South Korea	1981	IV
458.082		KAS 240-2	South Korea	South Korea	1981	IV
458.084		KAS 240-4	South Korea	South Korea	1981	IV
458.085A		KAS 240-5	South Korea	South Korea	1981	IV
458.086		KAS 240-6	South Korea	South Korea	1981	IV
458.087		KAS 240-7	South Korea	South Korea	1981	IV
458.088		KAS 240-8	South Korea	South Korea	1981	IV
458.089		KAS 240-9	South Korea	South Korea	1981	IV
458.090A		KAS 241-1	South Korea	South Korea	1981	IV
458.090B		KAS 241-1	South Korea	South Korea	1981	IV
458.095		KAS 241-7	South Korea	South Korea	1981	IV
458.098		KAS 243-2	South Korea	South Korea	1981	IV
458.101		KAS 243-5	South Korea	South Korea	1981	III
458.103		KAS 243-7	South Korea	South Korea	1981	IV
458.104		KAS 244-1	South Korea	South Korea	1981	IV
458.105		KAS 244-2	South Korea	South Korea	1981	IV
458.106		KAS 244-3	South Korea	South Korea	1981	IV
458.109		KAS 244-6	South Korea	South Korea	1981	IV
458.110		KAS 301-4	South Korea	South Korea	1981	III
458.111		KAS 301-5	South Korea	South Korea	1981	III
458.112A		KAS 301-6	South Korea	South Korea	1981	IV
458.112B		KAS 301-6	South Korea	South Korea	1981	IV
458.113		KAS 301-7	South Korea	South Korea	1981	III
458.114		KAS 301-8	South Korea	South Korea	1981	IV
458.115		KAS 301-9	South Korea	South Korea	1981	IV
458.116		KAS 301-10	South Korea	South Korea	1981	IV
458.117		KAS 301-11	South Korea	South Korea	1981	III
458.118		KAS 301-12	South Korea	South Korea	1981	IV
458.119		KAS 301-13	South Korea	South Korea	1981	IV
458.120		KAS 301-14	South Korea	South Korea	1981	IV
458.121		KAS 301-15	South Korea	South Korea	1981	IV
458.123A		KAS 330-4	South Korea	South Korea	1981	III
458.123B		KAS 330-4	South Korea	South Korea	1981	III
458.125		KAS 354-3	South Korea	South Korea	1981	IV

Table 2.2
Descriptive data for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355

Entry	Maturity group	Stem trm.	Flower color	Pubescence Color	Pubescence Form	Pubescence Density	Pod color	Seed coat Luster	Seed coat Color	Hilum color	Other traits Seed	Other traits Leaf
458.066	IV	D	P	T	E	Ssp	Bl	I	Bl	Bl		
458.067A	IV	D	P	G	E	Ssp	Bl	D	Gn	Bf	Gncot	
458.067B	IV	D	P	T	E	Ssp	Br	D	Gn	Gn	Gncot	
458.070A	IV	D	W	T	Sa	Ssp	Br	S	Bl	Bl		
458.070B	IV	D	W	T	Sa	Ssp	Br	I	Bl	Bl	Snet	
458.071	IV	D	W	T	Sa	Ssp	Br	I	Bl	Bl		
458.072A	IV	D	P	G	E	Ssp	Br	I	Y	Y		
458.074A	IV	D	P	G	Sa	Ssp	Br	I	Y	Y		
458.074B	IV	D	P	G	E	Ssp	Br	I	Y	Y		
458.075	IV	D	P	T	E	Ssp	Br	S	Br	Br		
458.077	IV	D	P	G	E	Ssp	Br	D	Y	Bf		
458.078	IV	D	P	T	E	Ssp	Br	D	Gn	Gn	Gncot	
458.079	IV	D	P	T	E	Ssp	Br	S	Br	Br		
458.080	IV	D	P	G	E	Ssp	Br	D	Y	Y		
458.082	IV	D	P	T	E	Ssp	Tn	S	Rbr	Rbr		
458.084	IV	D	P	T	E	Ssp	Br	I	Bl	Bl		
458.085A	IV	D	P	T	E	Ssp	Br	I	Bl	Bl		
458.086	IV	D	W	G	E	Ssp	Br	D	Y	Y	Def	
458.087	IV	D	P	G	E	Ssp	Br	D	Y	Y		
458.088	IV	D	P	T	E	Ssp	Br	D	Gn	Gn	Gncot	
458.089	IV	D	W	Lt	E	N	Tn	I	Ggn	Bl		
458.090A	IV	D	P	G	E	Ssp	Br	I	Y	Y		
458.090B	IV	D	W	G	E	Ssp	Br	I	Y	Bf		
458.095	IV	D	P	T	E	Ssp	Br	I	Bl	Bl		
458.098	IV	D	P	T	E	Ssp	Bl	S	Br	Br	St	
458.101	III	D	W	G	A	Ssp	Tn	D	Y	Y		
458.103	IV	N	P	G	E	Ssp	Br	I	Y	Lbf		
458.104	IV	D	P	G	E	Ssp	Br	I	Y	Y		
458.105	IV	D	P	G	E	N	Tn	D	Y	Bf		
458.106	IV	D	P	T	E	Ssp	Tn	I	Rbr	Rbr		
458.109	IV	D	P	T	E	N	Tn	I	Bl	Bl		
458.110	III	D	P	G	E	Ssp	Br	D	Y	Y		
458.111	III	D	W	G	A	Ssp	Tn	D	Y	Y		
458.112A	IV	D	P	T	E	Ssp	Br	S	Bl	Bl		
458.112B	IV	D	P	T	E	Ssp	Br	I	Bl	Bl		
458.113	III	D	W	G	A	Ssp	Tn	D	Y	Bf		
458.114	IV	D	P	T	E	Ssp	Br	I	Gn	Gn	Gncot	
458.115	IV	D	P	T	E	Ssp	Br	D	Bl	Bl		
458.116	IV	D	P	T	E	Ssp	Br	D	Bl	Bl		
458.117	III	D	W	G	A	Ssp	Tn	D	Y	Bf		
458.118	IV	D	W	G	E	Ssp	Br	I	Y	Bf		
458.119	IV	D	P	T	E	Ssp	Br	I	Bl	Bl		
458.120	IV	D	P	G	Sa	Ssp	Br	I	Y	Bf		
458.121	IV	D	P	T	E	Ssp	Br	S	Br	Br		
458.123A	III	D	P	G	Sa	Ssp	Br	D	Y	Bf		
458.123B	III	D	W	G	A	Ssp	Tn	D	Y	Y		
458.125	IV	D	W	G	E	Ssp	Br	I	Y	Bf		

Table 3.2
Agronomic data for USDA soybean germplasm in maturity groups
I to IV, PI 446.893 to PI 486.355, grown at Urbana, IL

Entry	Flower date (mmdd)	Maturity date (mmdd)	Lodging (score)	Height (cm)	Stem trm. (score)	Shattering early (score)	Shattering late (score)	Seed quality (score)	Mottling (score)	Seed weight (cg/sd)	Seed yield (Mg/ha)
458.066	721	1013	2.8	94	1.0	1.0	1.5	3.3*	-	24.5*	2.05
458.067A	713	925	2.8	79*	1.0	1.0	3.0	2.8	5.0	20.6	2.08
458.067B	717	1007	2.5	78	1.0	1.3	1.3	4.3	4.0*	21.1	2.15
458.070A	707	921	2.0	48	1.0	2.3*	5.0	3.0*	-	23.9*	2.23*
458.070B	711	928	2.0	55	1.0	1.5	4.3	2.8	-	24.9	2.45
458.071	708	923	2.0	53	1.0	1.5	5.0	2.5	-	23.5*	2.38
458.072A	721	1012	2.8	92*	1.0	1.3	1.0	3.3	3.3*	19.3	1.84
458.074A	711	928	2.3	83*	1.0	1.0	1.5	2.5	3.3 *	17.0*	2.51
458.074B	717	1006	2.8	80	1.0	1.0	1.0	3.5	4.0*	18.8	2.00
458.075	720	1014	3.5	71	1.0	1.5	1.8	3.0	-	22.2*	1.89
458.077	730	1019	3.8*	107	1.3	1.0	1.0	4.0	3.8*	18.7	1.64
458.078	719	1010	2.5	83	1.0	1.0	1.0	4.5	4.5	23.2*	2.21*
458.079	720	1013	2.8	70	1.0	1.0	1.0	4.0*	-	23.3	1.82
458.080	721	1012	3.5	98	1.0	1.3	1.5	3.0	4.5	21.1	2.13
458.082	721	1001	2.8	66	1.0	1.5	2.3*	2.0	-	8.1	2.25
458.084	710	1011	3.5	79	1.0	1.3	2.0	3.5*	-	19.8	3.06
458.085A	718	1006	2.8	66	1.0	1.0	1.0	4.3	-	25.5*	1.98
458.086	716	1019	2.8	75	1.0	1.5	1.5	4.3*	3.8*	28.1*	1.73*
458.087	722	1014	2.3	86	1.0	1.0	1.3	4.5	5.0	18.7	1.88
458.088	715	1006	2.3	83	1.0	1.5	2.0	3.8	4.3	20.3	2.25
458.089	802	1015	5.0	102	1.0	1.3	1.3	2.8	5.0	8.7	1.44
458.090A	718	1015	3.8	76	1.0	1.8	1.8	4.0*	3.5*	21.7*	1.65
458.090B	717	1014	3.0	70	1.0	1.3	1.5	4.5	4.5	19.7	1.46
458.095	726	1018	3.8*	76	1.0	1.3	1.3	4.0*	-	20.2	0.92*
458.098	716	1002	2.5	70	1.0	1.0	1.0	2.3	-	13.8	2.24
458.101	704*	916	2.5	60*	1.3	2.0	5.0	2.3*	4.5	21.8*	2.45
458.103	720	1019	4.8	111*	4.5	1.3	1.3	5.0	4.0*	19.0	1.53
458.104	721	1017	2.5	88	1.0	1.0	1.3	4.5	3.5*	23.6*	1.76
458.105	729	1012	4.3	67	1.0	1.3	1.5	2.0	3.5*	7.0	1.97
458.106	724	1008	2.8	68	1.0	1.3	1.5	2.0	-	7.5	2.06
458.109	722	1001	3.5	63	1.0	1.0	2.3	3.0*	-	8.3	1.87*
458.110	705	916	2.3	73	1.0	1.0	1.8	1.5	5.0	17.1	2.54
458.111	705	916	2.8	68	1.0	1.5	4.8	2.5	4.5	21.6*	2.19
458.112A	716	1001	4.0	74	1.0	1.3	1.5	3.5	-	17.9*	2.54
458.112B	721	1011	4.5	92	1.3	1.0	1.0	3.3	-	18.9	2.30
458.113	706	919	1.5	56	1.0	2.5*	5.0	2.8	3.3	20.5*	1.97
458.114	715	1003	2.8*	76	1.0	1.3	1.5	2.8*	2.5	20.4*	2.34
458.115	731	1013	5.0	85	1.3	1.0	1.3	4.5	-	18.3	1.10
458.116	725	1010	2.0	81	1.0	1.5	1.5	4.5	-	24.2	1.37
458.117	703	916	2.5	58*	1.0	2.3*	5.0	3.3*	2.5	22.3*	2.29
458.118	715	1014	2.3	65	1.0	1.0	1.0	5.0	3.5*	29.1*	2.06
458.119	721	1013	4.3	86	1.0	1.3	1.3	3.3	-	18.0	1.66
458.120	720	1002	2.5	80	1.0	1.0	1.0	3.8*	5.0	13.3	1.61*
458.121	722	1017	4.3	88	1.0	1.0	1.0	4.3	-	21.1	1.55*
458.123A	704	920	2.8	77	1.0	1.0	1.5	2.5	3.0	15.3	2.73
458.123B	706	918	3.3	63*	1.0	2.5*	5.0	3.0*	5.0	21.4*	2.34
458.125	711	1009	2.8	58	1.0	1.0	1.5	3.8	2.5*	29.2*	1.94

Table 4.2
Seed composition data for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355, grown at Urbana, IL

Entry	Maturity group	Protein (%)	Oil (%)	Palmitic (%)	Stearic (%)	Oleic (%)	Linoleic (%)	Linolenic (%)	Other (%)
458.066	IV	44.5	17.6	11.2	3.1	22.6	54.9	8.4	0.0
458.067A	IV	43.1	18.2	11.4	3.1	22.8	55.5	7.4	0.0
458.067B	IV	44.2	18.1	12.2	3.2	22.0	55.8	7.0	0.0
458.070A	IV	43.8	17.2	12.8	3.2	19.0	57.8	7.2	0.0
458.070B	IV	44.0	17.5	12.8	3.0	18.2	58.8	7.3	0.1
458.071	IV	44.1	17.7	12.7	2.8	17.7	58.8	8.1	0.0
458.072A	IV	44.4	17.7	11.8	3.0	20.8	56.7	7.7	0.0
458.074A	IV	43.3	17.9	13.0	2.8	19.5	56.0	8.6	0.0
458.074B	IV	42.5	18.6	11.6	3.3	22.4	55.6	7.2	0.0
458.075	IV	43.4	17.6	11.1	3.1	20.8	56.4	8.6	0.0
458.077	IV	42.6	18.8	11.7	3.2	21.6	55.5	8.1	0.0
458.078	IV	44.4	17.9	11.7	3.2	20.6	56.0	8.7	0.0
458.079	IV	44.2	17.8	11.1	3.1	20.1	57.1	8.8	0.0
458.080	IV	42.5	18.9	11.0	3.5	20.1	57.3	8.3	0.0
458.082	IV	45.0	15.3	11.8	3.3	17.8	57.8	9.5	0.0
458.084	IV	42.7	18.6	11.2	3.3	18.6	58.0	9.1	0.0
458.085A	IV	43.9	16.6	11.3	3.4	22.1	55.3	8.1	0.0
458.086	IV	45.5	17.5	10.9	3.5	22.2	55.5	8.0	0.0
458.087	IV	42.0	18.1	11.6	3.2	20.0	57.3	8.1	0.0
458.088	IV	46.3	16.0	12.3	3.3	24.9	51.7	7.9	0.0
458.089	IV	45.1	16.8	12.5	3.4	25.9	51.6	6.8	0.0
458.090A	IV	43.4	18.3	12.1	2.9	20.2	56.5	8.4	0.0
458.090B	IV	45.0	16.9	10.9	3.1	18.3	60.0	7.9	0.0
458.095	IV	43.9	18.8	10.9	3.4	21.9	55.5	8.5	0.0
458.098	IV	44.3	17.0	12.1	2.9	20.6	56.0	8.4	0.0
458.101	III	41.5	18.8	12.4	2.9	21.9	55.8	7.1	0.0
458.103	IV	43.5	18.3	11.1	3.3	23.4	54.6	7.6	0.0
458.104	IV	43.7	17.1	11.5	3.2	19.9	56.9	8.7	0.0
458.105	IV	45.0	15.1	12.2	3.3	22.2	54.6	7.9	0.0
458.106	IV	45.7	15.5	12.2	3.2	20.8	56.1	7.8	0.0
458.109	IV	44.1	16.0	12.4	3.4	21.2	55.4	7.7	0.0
458.110	III	41.9	19.8	12.4	3.4	22.8	55.0	6.6	0.0
458.111	III	42.1	17.5	12.2	3.1	21.9	55.4	7.6	0.0
458.112A	IV	43.0	17.2	12.3	3.1	20.0	57.0	7.7	0.0
458.112B	IV	42.7	18.2	12.7	3.2	21.3	55.2	7.7	0.0
458.113	III	41.2	18.7	12.4	3.2	21.9	55.1	7.4	0.0
458.114	IV	42.8	17.7	12.7	3.4	22.2	54.3	7.6	0.0
458.115	IV	44.6	16.3	12.1	3.1	21.3	56.1	7.6	0.0
458.116	IV	43.6	18.3	12.3	3.5	23.1	54.1	7.2	0.0
458.117	III	43.0	17.9	12.6	3.1	20.9	55.3	8.2	0.0
458.118	IV	45.5	17.4	11.2	2.6	21.4	57.1	7.9	0.0
458.119	IV	41.9	17.9	11.9	3.2	21.8	56.2	7.1	0.0
458.120	IV	42.8	16.9	11.5	3.6	25.3	52.7	7.0	0.0
458.121	IV	44.5	17.8	11.7	3.0	20.6	56.0	8.8	0.0
458.123A	III	41.2	18.7	12.5	3.4	21.0	55.1	8.0	0.0
458.123B	III	42.7	17.6	12.2	3.3	21.8	55.3	7.5	0.0
458.125	IV	45.0	17.0	11.9	3.3	21.2	56.7	7.0	0.0

Table 1.2
Identification and origin information for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355

PI No.	Accession name	Foreign collection No.	Country of acquisition	Country of origin	Year introduced or released	Maturity group
458.129		KAS 354-7	South Korea	South Korea	1981	IV
458.131		KAS 354-9	South Korea	South Korea	1981	IV
458.132		KAS 354-10	South Korea	South Korea	1981	IV
458.134		KAS 355-9	South Korea	South Korea	1981	IV
458.135		KAS 355-10	South Korea	South Korea	1981	IV
458.136		KAS 355-11	South Korea	South Korea	1981	IV
458.137		KAS 355-12	South Korea	South Korea	1981	IV
458.138		KAS 355-13	South Korea	South Korea	1981	IV
458.139		KAS 355-14	South Korea	South Korea	1981	IV
458.140		KAS 355-15	South Korea	South Korea	1981	III
458.141		KAS 355-16	South Korea	South Korea	1981	IV
458.142		KAS 355-17	South Korea	South Korea	1981	IV
458.144		KAS 361-8	South Korea	South Korea	1981	IV
458.145		KAS 361-9	South Korea	South Korea	1981	IV
458.147		KAS 361-18	South Korea	South Korea	1981	IV
458.148		KAS 361-19	South Korea	South Korea	1981	IV
458.149		KAS 361-20	South Korea	South Korea	1981	IV
458.151		KAS 363-8	South Korea	South Korea	1981	IV
458.152		KAS 363-9	South Korea	South Korea	1981	IV
458.156		KAS 510-14	South Korea	South Korea	1981	IV
458.157		KAS 510-15	South Korea	South Korea	1981	IV
458.158		KAS 510-16	South Korea	South Korea	1981	IV
458.160		KAS 512-1	South Korea	South Korea	1981	III
458.163		KAS 512-4	South Korea	South Korea	1981	IV
458.165		KAS 523-8	South Korea	South Korea	1981	IV
458.166		KAS 523-9	South Korea	South Korea	1981	IV
458.169A		KAS 524-11	South Korea	South Korea	1981	IV
458.169B		KAS 524-11	South Korea	South Korea	1981	IV
458.171A		KAS 524-13	South Korea	South Korea	1981	IV
458.171B		KAS 524-13	South Korea	South Korea	1981	IV
458.172A		KAS 524-14	South Korea	South Korea	1981	IV
458.175A		KAS 530-20	South Korea	South Korea	1981	III
458.175B		KAS 530-20	South Korea	South Korea	1981	IV
458.175C		KAS 530-20	South Korea	South Korea	1981	IV
458.175D		KAS 530-20	South Korea	South Korea	1981	IV
458.176		KAS 530-21	South Korea	South Korea	1981	IV
458.177		KAS 530-22	South Korea	South Korea	1981	IV
458.178		KAS 540-21	South Korea	South Korea	1981	III
458.179		KAS 540-22	South Korea	South Korea	1981	IV
458.181		KAS 540-24	South Korea	South Korea	1981	IV
458.184		KAS 540-27	South Korea	South Korea	1981	IV
458.188		KAS 544-25	South Korea	South Korea	1981	IV
458.189A		KAS 544-26	South Korea	South Korea	1981	III
458.189B		KAS 544-26	South Korea	South Korea	1981	III
458.190		KAS 544-27	South Korea	South Korea	1981	IV
458.191		KAS 544-28	South Korea	South Korea	1981	IV
458.194		KAS 544-31	South Korea	South Korea	1981	IV

Table 2.2
Descriptive data for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355

Entry	Maturity group	Stem trm.	Flower color	Pubescence Color	Pubescence Form	Pubescence Density	Pod color	Seed coat Luster	Seed coat Color	Hilum color	Other traits Seed	Other traits Leaf
458.129	IV	D	P	T	E	Ssp	Br	I	Y	Y	Sst	
458.131	IV	D	P	T	E	Ssp	Br	S	Br	Br		
458.132	IV	D	W	G	E	Ssp	Br	I	Y	Bf		
458.134	IV	D	P	T	E	Ssp	Br	S	Br	Br		
458.135	IV	D	P	G	E	N	Br	I	Y	Y		
458.136	IV	D	P	G	E	Ssp	Br	D	Gn	Gn	Gncot	
458.137	IV	D	P	T	I	Ssp	Br	D	Bl	Bl	Net	
458.138	IV	D	P	G	E	Ssp	Br	I	Y	Y		
458.139	IV	D	P	T	E	Ssp	Br	I	Bl	Bl		
458.140	III	D	W	G	A	Ssp	Tn	D	Y	Bf		
458.141	IV	D	P	T	E	Ssp	Br	D	Gn	Bl		
458.142	IV	D	P	T	E	Ssp	Br	I	Br	Br		
458.144	IV	D	P	G	E	Ssp	Br	D	Y	Ib		
458.145	IV	D	P	G	E	Ssp	Br	D	Y	Ib		
458.147	IV	D	P	G	E	Ssp	Br	I	Y	Bf		
458.148	IV	D	P	T	E	Ssp	Br	S	Br	Br		
458.149	IV	D	P	G	E	Ssp	Br	D	Gn	Ib	Gncot	
458.151	IV	D	P	T	E	Ssp	Br	S	Br	Br		
458.152	IV	D	W	T	E	Ssp	Br	D	Y	Tn		
458.156	IV	D	P	T	E	Ssp	Br	I	Bl	Bl		
458.157	IV	D	P	G	E	N	Bl	D	Gn	Bf		
458.158	IV	D	P	G	Sa	N	Bl	D	Gn	Bf		
458.160	III	D	W	G	A	Ssp	Tn	D	Y	Y		
458.163	IV	D	P	G	E	Ssp	Br	I	Y	Y		
458.165	IV	D	P	T	E	Ssp	Br	D	Br	Br		
458.166	IV	D	P	T	I	Ssp	Br	I	Bl	Bl	Net	
458.169A	IV	D	P	G	E	Ssp	Br	D	Gn	Ib	Gncot	
458.169B	IV	D	P	G	E	Ssp	Br	D	Gn	Ib	Gncot	
458.171A	IV	D	W	G	E	Ssp	Br	I	Y	Lbf		
458.171B	IV	D	W	G	E	Ssp	Lbr	I	Y	Bf		
458.172A	IV	D	P	T	E	Ssp	Br	I	Bl	Bl		
458.175A	III	D	W	G	A	Ssp	Tn	D	Y	Y		
458.175B	IV	D	W	G	E	Ssp	Tn	D	Y	Y		
458.175C	IV	D	W	G	Sa	Ssp	Tn	D	Y	Y		
458.175D	IV	D	P	G	E	Ssp	Br	D	Y	Y		
458.176	IV	D	P	G	E	Ssp	Br	D	Gn	Ib	Gncot	
458.177	IV	D	P	T	E	Ssp	Bl	I	Br	Br		
458.178	III	D	W	G	A	Ssp	Tn	D	Y	Y		
458.179	IV	D	P	G	E	Ssp	Br	D	Gn	Ib	Gncot	
458.181	IV	D	P	T	I	Ssp	Br	S	Br	Br	Net	
458.184	IV	D	P	T	E	N	Tn	I	Bl	Bl		Dab
458.188	IV	D	P	G	E	Ssp	Br	D	Gn	Ib	Gncot	
458.189A	III	D	W	G	A	Ssp	Tn	D	Y	Y		
458.189B	III	D	W	G	A	Ssp	Tn	D	Y	Bf		
458.190	IV	D	P	T	E	Ssp	Br	S	Br	Br		
458.191	IV	D	P	T	E	Ssp	Br	S	Br	Br		
458.194	IV	D	P	G	E	Ssp	Br	I	Y	Y		

Table 3.2
Agronomic data for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355, grown at Urbana, IL

Entry	Flower date (mmdd)	Maturity date (mmdd)	Lodging (score)	Height (cm)	Stem trm. (score)	Shattering early (score)	Shattering late (score)	Seed quality (score)	Mottling (score)	Seed weight (cg/sd)	Seed yield (Mg/ha)
458.129	724	1011	3.5	94	1.0	1.0	1.3	3.0	5.0	19.0*	2.06
458.131	719	1010	2.5*	72	1.0	1.0	1.0	3.3	-	22.7*	2.08
458.132	716	1012	3.0	74	1.0	1.5	2.0	3.5	3.3*	26.1*	1.75
458.134	720	1010	3.0*	72	1.0	1.0	1.5	3.8	-	22.1	1.90
458.135	715	930	3.5	88	1.0	2.0	2.3	3.0	4.5	21.3*	2.25
458.136	712	929	2.0	72	1.0	1.3	1.3	2.5	3.3	28.2*	2.19
458.137	726	1015	3.5	73	1.0	1.0	1.0	4.5	-	21.3*	0.79
458.138	722	930	2.8	93	1.3	1.8*	2.0*	4.3*	4.5	13.5	1.40
458.139	718	1002	3.8	73	1.0	1.0	1.0	2.8	-	19.2*	2.32
458.140	705	916	1.8	64*	1.0	2.8*	5.0	2.5*	2.8	20.6*	2.07*
458.141	726	1017	1.8	87*	1.0	1.3	1.3	5.0	3.0	31.2*	1.40
458.142	721	1013	3.3*	79	1.0	1.0	1.0	4.3	-	23.9*	1.78*
458.144	722	1018	4.5	81	1.0	1.0	1.0	4.0*	3.5*	23.1*	1.30*
458.145	725	1018	4.0	76	1.0	1.0	1.8	4.3*	3.8*	23.5*	1.43
458.147	713	926*	1.5	69	1.0	1.3	1.8	3.5	3.0	19.1	1.81
458.148	724	1012	3.3	83*	1.0	1.3	1.3	4.3	-	22.5*	1.64
458.149	716	1009	4.3	61	1.0	1.8*	2.8	3.5	2.3	22.6*	2.09
458.151	722	1011	2.5	67	1.0	1.0	1.3	3.3	-	22.1*	1.74
458.152	718	1011*	2.3	64	1.0	1.0	1.0	3.0*	5.0	21.6	2.02
458.156	717	1002	4.3	78	1.0	1.0	1.5	2.5	-	17.3	2.39*
458.157	727	1014	2.8	78	1.0	1.3	1.3	3.0	5.0	10.2	1.71
458.158	730	1014	3.3	83	1.0	1.0	1.3	3.3	5.0	10.4	1.79
458.160	704	915	1.8	63	1.0	3.0*	5.0	2.8*	4.5	21.0*	1.94
458.163	716	1004	3.0	81	1.0	1.0	1.3	2.5	3.0*	19.1	2.01
458.165	721	1009	4.0	84	1.0	1.0	1.0	3.5	-	13.4	1.89
458.166	721	1009*	1.5	60	1.0	1.0	1.0	5.0	-	13.7*	0.78
458.169A	713	1012	2.0	56	1.0	1.3	1.8	3.8	2.0	25.5*	1.89
458.169B	715	1015	3.0*	67*	1.0	1.0	1.8	4.0	2.3*	25.1*	1.63
458.171A	708	1010	3.0	75	1.0	1.5	2.8	3.5	2.5*	24.9*	1.76
458.171B	712	1014	3.0	67*	1.0	1.0	1.5	4.5	2.8*	24.0*	1.68
458.172A	717	929	4.0	64	1.0	1.0	1.0	2.8	-	16.0	1.97
458.175A	703	914	1.5	65	1.0	3.3	4.5	2.0	4.3	21.3	2.08
458.175B	712	1001	4.0	84	1.0	1.5	4.0	4.0*	4.5	18.5	2.10
458.175C	718	1005	3.3*	75	1.0	1.0	1.0	3.0	5.0	15.6*	1.68
458.175D	721	1003	2.8	94	1.0	1.0	1.8	4.3	5.0	17.3	1.55
458.176	715	1016	3.0	61*	1.0	1.0	1.0	4.8	3.5*	23.1*	1.57
458.177	720	1005	4.3	74	1.0	1.3	1.8	3.5	-	16.1	2.06
458.178	707	916	3.3*	70	1.3	2.3*	5.0	2.3	5.0	21.0*	2.35
458.179	717	1019	3.0	64	1.0	1.0	1.5	4.5	2.8*	25.4*	1.68
458.181	723	1016	3.8*	57	1.0	1.5	1.5	5.0	-	12.5*	0.37
458.184	808	1015	5.0	100*	1.0	1.0	1.0	4.0	-	7.0	0.44
458.188	716	1011	2.5	65	1.0	1.5	1.8	4.3	3.3*	24.2*	1.73
458.189A	703*	916	2.5	60*	1.0	3.5*	5.0	3.0*	4.3	21.5*	2.25
458.189B	703	917	2.3	56*	1.0	1.8*	5.0	3.3	2.3	22.7*	2.46
458.190	717	1008	3.0	65	1.0	1.0	1.0	4.3	-	25.8*	1.74
458.191	717	1007	2.5	66	1.0	1.0	1.5	4.3	-	26.9*	1.65
458.194	717	1001	3.8	87	1.0	1.3	2.3*	3.8*	3.0*	18.2	1 56

Table 4.2
Seed composition data for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355, grown at Urbana, IL

Entry	Maturity group	Protein (%)	Oil (%)	Palmitic (%)	Stearic (%)	Oleic (%)	Linoleic (%)	Linolenic (%)	Other (%)
458.129	IV	43.1	18.8	12.1	2.9	21.8	55.6	7.7	0.0
458.131	IV	43.5	17.8	12.2	3.3	22.5	55.3	7.0	0.0
458.132	IV	44.3	17.6	12.2	3.3	20.2	55.8	8.6	0.0
458.134	IV	43.6	17.7	11.6	3.1	22.3	56.0	7.2	0.0
458.135	IV	42.1	18.3	11.5	3.2	22.1	56.4	6.9	0.0
458.136	IV	43.4	18.0	12.2	3.4	22.0	55.4	7.2	0.0
458.137	IV	44.9	17.0	11.4	2.9	21.2	56.6	8.0	0.0
458.138	IV	44.8	16.5	12.0	2.5	22.7	56.0	6.9	0.0
458.139	IV	43.0	17.8	10.7	3.2	23.6	55.4	7.4	0.0
458.140	III	42.8	17.4	13.7	3.1	20.3	55.7	7.3	0.0
458.141	IV	43.2	17.0	12.2	3.4	22.6	54.6	7.4	0.0
458.142	IV	43.8	17.7	12.4	3.5	22.9	53.3	7.9	0.0
458.144	IV	45.6	17.0	11.2	2.7	20.2	57.8	8.2	0.0
458.145	IV	45.7	17.0	11.1	2.9	20.9	57.2	8.0	0.0
458.147	IV	44.3	15.7	10.8	2.7	21.8	56.8	8.0	0.0
458.148	IV	44.4	17.5	11.8	3.6	23.7	54.1	6.9	0.0
458.149	IV	44.8	17.7	11.4	3.0	21.3	56.3	8.1	0.0
458.151	IV	44.4	17.2	11.3	3.1	21.2	56.9	7.6	0.0
458.152	IV	43.5	18.2	12.3	3.1	20.7	56.5	7.5	0.0
458.156	IV	43.2	17.6	11.7	3.0	20.6	56.6	8.3	0.0
458.157	IV	45.4	15.8	12.1	3.2	20.3	56.3	8.3	0.0
458.158	IV	45.0	16.3	12.3	3.1	20.4	56.3	8.1	0.0
458.160	III	42.2	18.3	12.3	3.4	20.8	55.8	7.9	0.0
458.163	IV	43.7	17.3	12.4	3.1	22.5	55.3	6.9	0.0
458.165	IV	44.3	17.7	11.7	3.3	22.1	56.0	7.2	0.0
458.166	IV	43.9	17.6	12.1	2.8	26.3	51.6	7.3	0.0
458.169A	IV	45.3	16.9	12.3	2.5	18.5	58.4	8.5	0.0
458.169B	IV	46.0	16.9	11.2	3.4	21.9	55.2	8.4	0.0
458.171A	IV	45.2	16.8	11.9	3.0	21.4	56.2	7.6	0.0
458.171B	IV	45.4	16.3	11.5	3.0	20.4	57.3	7.9	0.0
458.172A	IV	43.3	17.0	12.8	3.0	19.8	57.0	7.4	0.0
458.175A	III	41.9	17.8	11.8	3.2	22.2	55.4	7.5	0.0
458.175B	IV	42.9	17.9	12.9	3.1	20.7	57.0	7.3	0.0
458.175C	IV	44.3	17.1	12.2	2.9	20.2	57.2	7.5	0.0
458.175D	IV	44.5	17.3	11.6	3.2	23.2	56.5	5.6	0.0
458.176	IV	44.3	18.1	12.4	3.2	20.8	56.4	7.4	0.0
458.177	IV	44.5	18.1	11.1	2.9	22.4	57.1	6.5	0.0
458.178	III	42.0	17.6	12.0	3.4	22.3	55.2	7.2	0.0
458.179	IV	45.9	17.7	11.7	3.3	21.5	56.1	7.5	0.0
458.181	IV	45.8	16.8	11.9	3.0	21.0	57.6	6.6	0.0
458.184	IV	47.5	14.0	12.6	3.3	21.0	57.0	6.3	0.0
458.188	IV	45.8	16.8	11.4	3.5	22.2	55.8	7.2	0.0
458.189A	III	42.5	17.6	11.8	3.5	21.4	55.6	7.8	0.0
458.189B	III	43.1	17.6	12.6	3.3	21.3	55.1	7.8	0.0
458.190	IV	46.3	15.8	10.7	3.3	24.6	53.7	7.9	0.0
458.191	IV	46.3	15.2	10.8	3.4	24.1	54.9	6.8	0.0
458.194	IV	44.3	17.8	11.9	3.5	22.6	55.1	7.1	0.0

Table 1.2
Identification and origin information for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355

PI No.	Accession name	Foreign collection No.	Country of acquisition	Country of origin	Year introduced or released	Maturity group
458.195		KAS 547-4	South Korea	South Korea	1981	IV
458.197		KAS 547-6	South Korea	South Korea	1981	III
458.199		KAS 547-8	South Korea	South Korea	1981	IV
458.201		KAS 560-8	South Korea	South Korea	1981	IV
458.202A		KAS 560-9	South Korea	South Korea	1981	IV
458.202B		KAS 560-9	South Korea	South Korea	1981	IV
458.203A		KAS 560-10	South Korea	South Korea	1981	IV
458.203B		KAS 560-10	South Korea	South Korea	1981	IV
458.204		KAS 560-11	South Korea	South Korea	1981	IV
458.205		KAS 560-12	South Korea	South Korea	1981	III
458.207		KAS 560-14	South Korea	South Korea	1981	IV
458.208		KAS 560-15	South Korea	South Korea	1981	IV
458.209		KAS 560-16	South Korea	South Korea	1981	IV
458.216		KAS 573-7	South Korea	South Korea	1981	IV
458.217		KAS 573-8	South Korea	South Korea	1981	IV
458.221		KAS 573-12	South Korea	South Korea	1981	IV
458.222		KAS 574-2	South Korea	South Korea	1981	IV
458.224		KAS 574-4	South Korea	South Korea	1981	IV
458.226		KAS 574-6	South Korea	South Korea	1981	IV
458.227		KAS 574-7	South Korea	South Korea	1981	IV
458.229		KAS 574-9	South Korea	South Korea	1981	IV
458.230A		KAS 574-10	South Korea	South Korea	1981	IV
458.231		KAS 574-11	South Korea	South Korea	1981	IV
458.232		KAS 574-12	South Korea	South Korea	1981	IV
458.233		KAS 574-13	South Korea	South Korea	1981	III
458.234		KAS 576-5	South Korea	South Korea	1981	IV
458.235		KAS 576-6	South Korea	South Korea	1981	IV
458.236A		KAS 576-7	South Korea	South Korea	1981	IV
458.237		KAS 576-8	South Korea	South Korea	1981	III
458.244A		KAS 577-7	South Korea	South Korea	1981	III
458.244B		KAS 577-7	South Korea	South Korea	1981	IV
458.244C		KAS 577-7	South Korea	South Korea	1981	IV
458.246A		KAS 577-9	South Korea	South Korea	1981	III
458.246B		KAS 577-9	South Korea	South Korea	1981	III
458.247		KAS 577-10	South Korea	South Korea	1981	IV
458.248		KAS 577-11	South Korea	South Korea	1981	IV
458.249		KAS 577-12	South Korea	South Korea	1981	IV
458.252		KAS 577-15	South Korea	South Korea	1981	IV
458.254		KAS 577-17	South Korea	South Korea	1981	IV
458.255		KAS 577-18	South Korea	South Korea	1981	III
458.259		KAS 578-4	South Korea	South Korea	1981	III
458.262		KAS 578-7	South Korea	South Korea	1981	IV
458.266		KAS 578-11	South Korea	South Korea	1981	IV
458.269		KAS 578-14	South Korea	South Korea	1981	IV
458.276		KAS 580-2	South Korea	South Korea	1981	III
458.277		KAS 580-3	South Korea	South Korea	1981	IV
458.280		KAS 580-6	South Korea	South Korea	1981	IV

Table 2.2
Descriptive data for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355

Entry	Maturity group	Stem trm.	Flower color	Pubescence Color	Pubescence Form	Pubescence Density	Pod color	Seed coat Luster	Seed coat Color	Hilum color	Other traits Seed	Other traits Leaf
458.195	IV	D	P	T	E	Ssp	Br	D	Bl	Bl		
458.197	III	D	W	G	A	Ssp	Tn	D	Y	Bf		
458.199	IV	D	P	T	E	Ssp	Br	I	Bl	Bl		
458.201	IV	D	P	T	E	Ssp	Bl	D	Y	Br		
458.202A	IV	D	P	G	E	Ssp	Br	I	Y	Y		
458.202B	IV	D	P	G	E	Ssp	Tn	I	Y	Y		
458.203A	IV	D	P	T	E	Ssp	Br	S	Br	Br		
458.203B	IV	D	P	T	E	Ssp	Br	S	Br	Br		
458.204	IV	D	P	G	E	Ssp	Br	I	Gn	Bf	Gncot	
458.205	III	D	W	G	A	Ssp	Tn	D	Y	Y		
458.207	IV	D	P	G	E	Ssp	Br	D	Y	Bf		
458.208	IV	D	P	T	I	Ssp	Br	I	Bl	Bl	Net	
458.209	IV	N	W	T	Sa	Ssp	Br	S	Bl	Bl		Dab
458.216	IV	D	P	G	E	Ssp	Br	D	Gn	Bf	Gncot	
458.217	IV	D	W	G	E	Sdn	Tn	D	Y	Bf		
458.221	IV	D	P	G	E	N	Tn	D	Y	Y		
458.222	IV	D	P	G	E	Ssp	Br	I	Y	Y		
458.224	IV	N	W	G	E	N	Tn	I	Y	Bf		
458.226	IV	D	W	T	E	N	Tn	I	Ggn	Bl		
458.227	IV	N	P	G	E	N	Tn	D	Y	Bf		
458.229	IV	D	P	G	Sa	Ssp	Br	I	Y	Bf		
458.230A	IV	D	P	T	E	Ssp	Br	I	Bl	Bl		
458.231	IV	D	P	G	Sa	Ssp	Bl	D	Gn	Bf		
458.232	IV	D	W	T	A	Ssp	Br	I	Gn	Br		
458.233	III	D	W	G	A	Ssp	Tn	D	Y	Y		
458.234	IV	D	P	G	E	Ssp	Tn	D	Y	Bf		
458.235	IV	D	W	G	E	Dn	Tn	D	Y	Bf		
458.236A	IV	D	P	G	Sa	Ssp	Bl	I	Gn	Ib		
458.237	III	D	W	G	A	Ssp	Tn	D	Y	Y		
458.244A	III	D	W	G	A	Ssp	Tn	D	Y	Y		
458.244B	IV	D	W	G	Sa	Ssp	Br	D	Y	Y		
458.244C	IV	D	W	G	Sa	N	Br	D	Y	Y		
458.246A	III	D	W	G	Sa	Ssp	Br	D	Y	Bf	Sabh	
458.246B	III	D	W	G	E	Ssp	Br	D	Y	Bf	Sabh	
458.247	IV	D	W	T	A	Ssp	Br	D	Gn	Br		
458.248	IV	N	P	G	E	Ssp	Br	D	Y	Y		
458.249	IV	D	W	T	A	Ssp	Br	D	Gn	Br		
458.252	IV	D	W	G	A	Ssp	Br	I	Gn	Bf		
458.254	IV	D	W	T	A	Ssp	Br	D	Gn	Br		
458.255	III	D	W	G	A	Ssp	Tn	D	Y	Y		
458.259	III	D	W	G	A	Ssp	Tn	D	Y	Y		
458.262	IV	D	P	G	E	N	Tn	D	Y	Lbf		
458.266	IV	D	P	G	E	Ssp	Tn	D	Y	Bf		
458.269	IV	D	P	G	Sa	Ssp	Bl	D	Gn	Bf		
458.276	III	D	W	G	A	Ssp	Tn	D	Y	Y		
458.277	IV	D	P	G	E	Ssp	Tn	D	Y	Bf		
458.280	IV	D	W	T	E	Ssp	Tn	D	Ggn	Bl		

Table 3.2
Agronomic data for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355, grown at Urbana, IL

Entry	Flower date (mmdd)	Maturity date (mmdd)	Lodging (score)	Height (cm)	Stem trm. (score)	Shattering early (score)	Shattering late (score)	Seed quality (score)	Mottling (score)	Seed weight (cg/sd)	Seed yield (Mg/ha)
458.195	726	1011	3.5	78	1.3	1.0	1.0	4.0*	-	17.7	1.07
458.197	706*	918	2.3	63*	1.0	2.5*	4.5	3.0	3.0	20.9*	2.29*
458.199	719	1002	2.3	80	1.0	1.0	1.3	2.8*	-	16.6	1.64
458.201	727	1015	3.8	93	1.0	1.0	1.0	3.0	5.0	13.1	1.44
458.202A	714	1002	3.0	78	1.0	1.0	1.3	3.8*	4.5	18.0	1.81
458.202B	711	929	3.0	70*	1.0	2.0	2.5	4.0*	3.8*	18.4	1.82
458.203A	716	1002	2.8	64	1.0	1.3	1.8	3.3	-	31.8*	2.50
458.203B	716	1002	3.3	65	1.0	1.3	1.5	3.8	-	29.7*	2.12
458.204	720	1012	3.5	85	1.0	1.0	1.0	4.5	2.3	17.0	1.67
458.205	703*	917	2.8	62*	1.0	2.5	5.0	3.3*	4.5	23.0*	2.34
458.207	718	1002	2.5	78	1.0	2.0	4.3	3.0	2.8*	19.8	1.61
458.208	720	1011*	2.0	51	1.0	1.0	1.0	4.5	-	20.0	0.97
458.209	731	1016	4.8	145	4.0	2.0*	2.0*	3.8	-	7.9	1.15
458.216	718	1012	5.0	72	1.0	1.8*	2.3	3.5*	2.5	15.4	1.60
458.217	722	1012	3.5	65	1.0	1.0	1.0	3.5	2.8	12.6*	1.44
458.221	730	1015	4.5	85*	1.3	2.3*	2.5*	3.3*	4.3*	7.2	1.41
458.222	716	1004	3.5	85	1.0	1.0	2.3	3.5*	3.8	18.3	1.91
458.224	716	1013	4.5	95	3.8	3.3	4.5	4.5	5.0	9.6	1.36
458.226	730	1011	4.5	93	1.0	1.5	1.5	4.3	5.0	9.6	0.96
458.227	723	1008	4.8	110	4.3	1.5	2.5*	4.0*	3.5*	7.5	1.16
458.229	709	919*	1.8	70	1.0	3.3*	5.0	2.8	2.0	16.4	1.68
458.230A	718	1005	3.8	78	1.0	1.3	1.5	3.8	-	15.3	2.10
458.231	805	1017	4.3	91	1.8	1.0	1.0	4.5	4.5	11.5	1.05
458.232	714	1004	2.5	71	1.0	1.8*	4.5	3.3*	3.5	22.0	2.20*
458.233	706	919	2.5	66*	1.0	3.3*	5.0	3.0	4.5	20.6*	2.15*
458.234	714	930	2.8	63	1.0	2.0*	4.0*	2.5	5.0	10.2	1.92
458.235	724	1013	4.0	68	1.0	1.3	1.3	3.5	2.5	16.8	1.65
458.236A	728	1015	3.8	78	1.0	1.3	1.8	4.3	5.0	10.2	0.81
458.237	703*	915	2.3	64	1.0	2.3*	5.0	2.8*	4.3	23.2*	2.11*
458.244A	706	918	1.7	66	1.0	1.3	5.0	2.5	4.8	21.7	2.21
458.244B	721	1014*	3.5	84*	1.0	1.3	1.3	5.0	5.0	16.3	0.92
458.244C	723	1012	2.5	46	1.0	1.0	1.0	4.8	5.0	16.5	0.87
458.246A	706	917	2.0	69	1.0	1.8	4.5	3.0	2.3	17.2*	2.14
458.246B	704*	918	1.0	65	1.0	1.0	4.0	3.0	2.5	18.1*	2.28
458.247	711	929	1.8	72	1.0	1.5	3.5	3.8*	4.0*	20.3	2.26
458.248	720	927	4.3	106	3.5	1.3	3.0*	4.3*	5.0	10.8	1.45
458.249	713	1001	1.8	76	1.0	2.0*	4.0*	2.5	3.0	22.3	2.49*
458.252	716	1002	1.5	66	1.0	1.3	1.5	2.8	2.8	18.3	1.78
458.254	713	1002	2.0	73	1.0	2.5*	3.5*	3.5	3.5	21.6	2.43*
458.255	704	917	2.0	63	1.0	2.0	4.5	3.0*	4.8	21.9*	2.18*
458.259	707	919	2.5	66*	1.0	1.8*	5.0	2.8*	5.0	21.4*	2.37*
458.262	802	1019	4.8	84	1.3	1.3	1.3	4.3*	4.5	7.3	1.05
458.266	715	925*	1.8	71	1.0	1.8*	3.3*	3.3*	5.0	10.6	1.76
458.269	727	1015	4.0	81	1.0	1.0	1.3	4.5	4.5	8.8	1.09
458.276	705	920	2.8*	66*	1.0	1.8	4.5	2.8*	5.0	20.6*	2.18*
458.277	712	920	3.0	69	1.3	1.3	4.0	3.5	5.0	10.5	1.82
458.280	724	929	3.3*	60	1.0	1.3	1.5	4.3*	5.0	10.4	1.81

Table 4.2
Seed composition data for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355, grown at Urbana, IL

Entry	Maturity group	Protein (%)	Oil (%)	Palmitic (%)	Stearic (%)	Oleic (%)	Linoleic (%)	Linolenic (%)	Other (%)
458.195	IV	47.2	16.2	11.4	3.5	23.5	55.4	6.3	0.0
458.197	III	42.0	18.3	12.7	3.5	21.6	54.7	7.7	0.0
458.199	IV	42.0	18.6	11.5	3.1	22.8	55.5	7.2	0.0
458.201	IV	46.7	16.1	12.3	3.0	20.0	56.8	7.9	0.0
458.202A	IV	44.6	17.1	11.9	3.1	23.7	54.5	6.9	0.0
458.202B	IV	44.1	17.8	12.6	3.2	23.7	53.3	7.2	0.0
458.203A	IV	44.2	17.6	12.1	2.9	20.7	56.1	8.4	0.0
458.203B	IV	44.4	17.4	12.4	2.8	19.6	57.1	8.2	0.0
458.204	IV	43.5	18.8	11.3	3.2	23.2	55.0	7.4	0.1
458.205	III	42.9	17.6	12.3	3.4	22.1	55.1	7.2	0.0
458.207	IV	44.6	16.5	11.6	2.9	21.6	56.1	8.0	0.0
458.208	IV	45.2	17.8	10.5	3.3	21.7	56.0	8.6	0.0
458.209	IV	43.6	16.7	12.8	3.0	20.1	56.2	8.0	0.0
458.216	IV	44.0	17.7	11.8	3.0	22.4	55.2	7.7	0.0
458.217	IV	45.2	16.9	12.6	2.9	21.0	55.7	8.0	0.0
458.221	IV	44.1	15.5	12.3	3.5	21.6	54.7	8.1	0.0
458.222	IV	44.2	17.2	12.1	3.1	21.0	55.6	8.3	0.0
458.224	IV	44.6	16.3	11.4	2.8	20.7	56.7	8.5	0.0
458.226	IV	48.0	15.4	12.6	2.3	20.9	55.5	8.8	0.0
458.227	IV	46.1	16.6	11.9	2.9	19.8	57.0	8.5	0.0
458.229	IV	41.3	18.6	11.9	2.8	20.1	55.5	9.9	0.0
458.230A	IV	43.4	17.9	12.1	2.8	19.3	57.2	8.7	0.0
458.231	IV	43.6	17.5	11.8	3.1	21.3	56.3	7.7	0.0
458.232	IV	41.6	17.0	12.0	2.9	20.7	56.4	8.2	0.0
458.233	III	44.4	16.5	12.8	3.1	22.6	54.2	7.3	0.0
458.234	IV	46.1	15.8	11.3	2.8	19.9	57.5	8.6	0.0
458.235	IV	45.4	17.3	12.0	2.8	19.9	57.1	8.4	0.0
458.236A	IV	46.4	16.3	12.0	3.1	22.1	55.8	7.2	0.0
458.237	III	42.9	17.5	12.3	2.9	20.0	56.9	8.0	0.0
458.244A	III	43.3	17.4	12.2	3.4	21.8	55.4	7.5	0.0
458.244B	IV	43.4	17.1	11.4	3.3	23.4	55.1	6.8	0.0
458.244C	IV	43.4	17.9	11.5	3.3	23.9	54.6	6.9	0.0
458.246A	III	41.6	18.1	14.7	3.1	20.5	54.7	7.2	0.0
458.246B	III	41.6	16.9	13.9	3.0	19.6	55.3	8.4	0.0
458.247	IV	42.0	17.4	12.2	3.2	25.6	51.9	7.2	0.0
458.248	IV	45.4	16.2	12.5	3.3	20.4	55.2	8.8	0.0
458.249	IV	40.8	17.5	11.9	3.0	24.2	53.0	8.0	0.0
458.252	IV	42.5	17.4	13.1	3.5	25.5	52.0	6.0	0.0
458.254	IV	41.3	17.4	12.1	3.1	23.9	53.3	7.7	0.0
458.255	III	43.3	17.7	11.8	3.0	20.9	56.4	7.9	0.0
458.259	III	41.8	17.6	12.4	3.2	21.1	56.1	7.4	0.0
458.262	IV	44.2	17.0	12.7	3.2	21.7	55.6	6.9	0.0
458.266	IV	45.2	16.3	11.0	3.2	22.3	55.0	8.6	0.0
458.269	IV	46.6	16.3	11.9	3.0	20.3	57.2	7.8	0.0
458.276	III	42.6	17.9	12.1	3.6	22.9	54.9	6.5	0.0
458.277	IV	44.8	16.0	10.8	3.3	23.9	53.8	8.2	0.0
458.280	IV	42.7	17.3	11.6	3.1	22.5	56.4	6.5	0.0

Table 1.2
Identification and origin information for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355

PI No.	Accession name	Foreign collection No.	Country of acquisition	Country of origin	Year introduced or released	Maturity group
458.282		KAS 580-8	South Korea	South Korea	1981	IV
458.286		KAS 581-24	South Korea	South Korea	1981	IV
458.287		KAS 581-25	South Korea	South Korea	1981	IV
458.288		KAS 581-26	South Korea	South Korea	1981	IV
458.290		KAS 607-2	South Korea	South Korea	1981	IV
458.294		KAS 608-4	South Korea	South Korea	1981	IV
458.295		KAS 608-5	South Korea	South Korea	1981	IV
458.296		KAS 608-6	South Korea	South Korea	1981	IV
458.298		KAS 608-8	South Korea	South Korea	1981	IV
458.299		KAS 609-1	South Korea	South Korea	1981	IV
458.301		KAS 609-3	South Korea	South Korea	1981	IV
458.302		KAS 609-4	South Korea	South Korea	1981	IV
458.303		KAS 609-5	South Korea	South Korea	1981	IV
458.304		KAS 609-6	South Korea	South Korea	1981	IV
458.306A		KAS 612-10	South Korea	South Korea	1981	IV
458.307A		KAS 612-13	South Korea	South Korea	1981	III
458.307B		KAS 612-13	South Korea	South Korea	1981	IV
458.505	Da bai mei		China	China	1981	II
458.506	Feng di huang		China	China	1981	II
458.507	Feng shou huang		China	China	1981	III
458.508A	Fu shou		China	China	1981	II
458.508B	Fu shou		China	China	1981	II
458.509	Jin dou 8-14		China	China	1981	IV
458.510	Ji ti No. 1		China	China	1981	III
458.511	Kai yu No. 3		China	China	1981	II
458.512	Qi huang No. 10		China	China	1981	III
458.515	Tie zhu gan		China	China	1981	IV
458.517	Xiao wu yie		China	China	1981	III
458.519A	Hei mo shi do		China	China	1981	II
458.519B	Hei mo shi do		China	China	1981	III
458.520	Cha mo shi do		China	China	1981	II
458.521	Qing mo shi do		China	China	1981	III
458.522	Huang mo shi do		China	China	1981	II
458.525	Dong nong No. 4		China	China	1981	I
458.529	Hulan No. 1		China	China	1981	I
458.532B	Nuen feng No. 7		China	China	1981	I
458.541			China	China	1981	I
458.825B	Gongjiao 7128-1		China	China	1981	I
458.826B	Hefeng No. 23		China	China	1981	I
458.828	Qunxuan No. 1		China	China	1981	II
458.829	Tie ling bai mei		China	China	1981	II
461.419	Zhengzhou 126		China	China	1981	III
461.508	Bai mo shi dou		China	China	1981	II
461.509	Cha mo shi dou		China	China	1981	I
464.865	Tie jia shi li huan		China	China	1982	I
464.877	Cha mo shi dou	Gong di 3	China	China	1982	III
464.878	Da huang dou	Gong di 101	China	China	1982	II

Table 2.2
Descriptive data for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355

Entry	Maturity group	Stem trm.	Flower color	Pubescence Color	Pubescence Form	Pubescence Density	Pod color	Seed coat Luster	Seed coat Color	Hilum color	Other traits Seed	Other traits Leaf
458.282	IV	D	P	G	Sa	N	Br	I	Y	Bf		
458.286	IV	D	P	G	E	Ssp	Br	I	Y	Y		
458.287	IV	D	P	G	E	Ssp	Bl	I	Gn	Gn		
458.288	IV	D	P	T	E	Sp	Bl	I	Gn	Br		
458.290	IV	D	P	G	E	Ssp	Br	D	Y	Y		
458.294	IV	D	P	G	E	Ssp	Br	I	Y	Bf		
458.295	IV	D	P	T	E	Ssp	Br	S	Br	Br		
458.296	IV	D	P	G	E	N	Tn	D	Y	Lbf		
458.298	IV	D	W	T	Sa	Sdn	Tn	D	Ggn	Bl		
458.299	IV	D	P	G	A	Ssp	Bl	I	Gn	Bf	Gncot	
458.301	IV	D	W	G	Sa	N	Tn	D	Y	Bf		
458.302	IV	D	P	T	E	Ssp	Bl	S	Br	Br	St	
458.303	IV	D	P	G	E	N	Br	D	Gn	Bf	Gncot	
458.304	IV	D	P	T	Sa	N	Br	I	Br	Br		
458.306A	IV	D	P	G	E	Ssp	Br	D	Gn	Ib	Gncot	
458.307A	III	D	W	G	A	Ssp	Tn	D	Y	Y		
458.307B	IV	D	W	G	A	Ssp	Tn	D	Y	Y		
458.505	II	N	P	G	E	N	Tn	D	Y	Y		
458.506	II	D	W	G	E	Ssp	Br	S	Y	Y		
458.507	III	N	P	T	E	Ssp	Br	I	Y	Br		
458.508A	II	N	P	G	E	N	Tn	I	Y	Y		
458.508B	II	N	W	G	E	N	Br	D	Y	Y		
458.509	IV	D	W	G	E	N	Dbr	D	Y	Lbf		
458.510	III	D	W	G	E	N	Br	S	Y	Bf		
458.511	II	N	W	G	E	N	Br	S	Y	Y		Na
458.512	III	D	P	G	A	Ssp	Br	I	Y	Bf		
458.515	IV	S	W	T	E	N	Br	I	Bl	Bl		
458.517	III	N	W	G	E	Ssp	Br	D	Y	Bf		
458.519A	II	N	P	Lt	E	N	Br	S	Bl	Bl		
458.519B	III	N	P	T	E	N	Br	S	Bl	Bl		
458.520	II	N	P	T	E	N	Dbr	S	Gnbr	Br		
458.521	III	N	P	T	E	N	Br	S	Lgn	Bl		
458.522	II	N	W	T	E	N	Tn	I	Y	Br		
458.525	I	N	W	G	E	N	Br	S	Y	Y		
458.529	I	D	P	G	E	N	Br	S	Y	Ib		
458.532B	I	N	W	G	E	N	Br	I	Bf	Bf		
458.541	I	N	P	G	E	Ssp	Br	D	Y	Lbf		Na
458.825B	I	N	P	G	E	N	Br	S	Y	Y		Na
458.826B	I	N	P	G	E	N	Br	S	Y	Y	Abh	Na
458.828	II	N	W	G	E	Ssp	Br	S	Y	Y		Na
458.829	II	N	P	G	E	N	Tn	D	Y	Y		
461.419	III	D	P	G	E	N	Br	D	Y	Bf		
461.508	II	N	W	Lt	E	N	Tn	I	Y	Br		
461.509	I	N	P	Lt	E	Ssp	Bl	S	Br	Br		
464.865	I	N	W	G	E	N	Br	S	Y	Lbf	Sabh	
464.877	III	N	P	Ng	E	N	Br	I	Br	Br		
464.878	II	N	W	G	E	N	Br	D	Y	Y		

Table 3.2
Agronomic data for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355, grown at Urbana, IL

Entry	Flower date (mmdd)	Maturity date (mmdd)	Lodging (score)	Height (cm)	Stem trm. (score)	Shattering early (score)	Shattering late (score)	Seed quality (score)	Mottling (score)	Seed weight (cg/sd)	Seed yield (Mg/ha)
458.282	719	923*	3.0	74	1.0	1.3	2.3*	3.3*	5.0	10.0	2.35
458.286	716	1003	3.3	89	1.0	1.3	2.0	4.0	3.8*	17.9	1.93
458.287	726	1012	4.5	76	1.0	1.3	1.8	3.5	4.3	9.1	1.28
458.288	729	1017	3.5*	73	1.0	1.0	1.3	4.3*	5.0	10.0	0.41
458.290	722	1004	2.5	94	1.0	1.3	1.3	5.0	5.0	16.4	1.29
458.294	716	925	2.0	74	1.0	1.0	2.3	3.0	2.3	18.0	1.84
458.295	716	1005	2.8	91	1.0	1.0	1.5	3.5	-	23.8	1.88
458.296	730	1015	4.0	85	1.3	2.0	2.0	3.5*	3.8*	7.5	1.46
458.298	806	1014	4.3	85	1.0	1.3	1.3	4.0	5.0	9.0	0.63
458.299	721	1006*	2.5	73	1.0	1.0	1.0	3.8	4.3	10.0	1.39
458.301	718	920	1.9	82	1.0	1.8	4.0	4.0	4.8	14.6	2.26
458.302	728	1012	4.3	76	1.0	1.3	1.5	3.5	-	15.9	1.36
458.303	725	930	3.8	77	1.0	1.0	1.8	2.5	4.8	9.4	1.70
458.304	729	1017	4.8	79	1.0	1.0	1.0	4.3	-	11.3	1.41
458.306A	715	1013*	3.0	74	1.0	1.3	1.3	5.0	3.5	21.4	1.45
458.307A	702*	914	1.8	65	1.0	2.3	3.5*	1.8	3.8*	22.0*	2.54*
458.307B	711	922*	2.3	72	1.0	2.8*	5.0	3.0	4.3	18.5*	1.86
458.505	628	907*	3.5	103	3.5	1.0	1.0	2.3*	4.0*	17.6	2.86
458.506	623*	905	1.5	58*	1.0	1.0	1.0	2.0	3.8*	17.0	2.61*
458.507	630*	920*	4.0	103	4.3	2.5	5.0	3.0	5.0	14.0	1.89*
458.508A	624	830*	3.5	99	3.0	1.0	4.0*	3.5*	5.0	19.3	2.63
458.508B	624	909*	2.0	88	3.0	1.3	2.3	3.0	5.0	17.7	2.50
458.509	710	919	3.3	91	1.0	1.5	3.8	2.5	1.5	13.6	2.57
458.510	622	906	2.5	82	1.8	1.0	1.5	1.3	1.8	13.0	2.91
458.511	617	903	3.3	98	3.5	1.0	1.3	2.8	1.3	16.5	3.22
458.512	708	907	1.8	74*	1.5	1.3	3.5	1.3	1.5	14.5*	2.77
458.515	725	928	4.0	129	2.3	2.3	4.0	4.0	-	11.1	1.25
458.517	713	917	5.0	118	4.3	2.0*	5.0	3.8	4.8	10.2	1.92
458.519A	706	831	4.8	181	5.0	1.0	1.0	3.3*	-	8.9	1.83
458.519B	704	913	4.5	140*	4.8	1.3	2.0	3.5	-	9.1	1.58
458.520	707	907	5.0	170*	5.0	1.0	3.3	4.5	-	7.4	2.15
458.521	718	918	5.0	183*	5.0	1.3	1.5	3.8*	4.8	9.1	1.74
458.522	705	907	5.0	110*	4.8	1.0	2.8	2.3	4.3	9.5	2.46
458.525	616	816*	1.5	68	2.8	1.0	1.3	2.5	3.5	14.8	2.05*
458.529	615	824	2.0	57*	1.5	1.0	3.3	3.8*	3.0	15.1	2.43
458.532B	616	818	1.8	78	2.8	1.0	1.0	2.3	-	16.5	2.12*
458.541	614	816	1.0	58	3.3	1.0	2.5*	2.3	1.5	15.1	2.17*
458.825B	616	817	1.3	66	3.5	1.0	1.3	4.3*	2.0*	13.6	2.34
458.826B	617	816	1.3	57	3.0	1.0	1.3	3.5	4.5	17.0	2.00
458.828	617	901	3.0	102	3.3	1.0	1.3	2.5	1.3	14.9	2.66*
458.829	626	903	3.0	101	3.3	1.0	1.0	2.0	5.0	17.8	3.01
461.419	715	922	3.3	114	1.8	2.3*	3.5*	3.5*	3.5*	14.0*	2.15
461.508	703	904	3.8	93	4.3	2.8	5.0	2.0	1.8	9.2	2.13
461.509	702	826	4.0	138	5.0	1.0	5.0	2.0	-	8.3	2.26*
464.865	616	822	1.8	83	3.5	1.0	1.8	2.8*	1.5	18.1	2.66
464.877	714	919	4.8	125	5.0	1.8*	3.3*	3.3*	-	9.9	2.34
464.878	621	904	3.5	123	4.0	1.0	1.0	2.0	1.3	14.9	3.20

Table 4.2
Seed composition data for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355, grown at Urbana, IL

Entry	Maturity group	Protein (%)	Oil (%)	Palmitic (%)	Stearic (%)	Oleic (%)	Linoleic (%)	Linolenic (%)	Other (%)
458.282	IV	41.3	18.1	12.0	3.4	20.9	55.6	8.3	0.0
458.286	IV	42.9	17.9	12.3	3.1	22.5	55.4	6.6	0.0
458.287	IV	41.7	17.6	11.3	3.1	20.7	57.0	7.9	0.0
458.288	IV	45.0	17.1	12.2	2.9	20.9	57.1	6.9	0.0
458.290	IV	44.4	17.7	11.8	2.9	23.3	54.8	7.3	0.0
458.294	IV	43.5	17.4	12.3	3.1	22.6	55.3	6.9	0.0
458.295	IV	42.5	18.1	12.1	3.3	21.7	55.7	7.3	0.0
458.296	IV	43.0	16.8	12.1	3.4	22.9	54.6	7.3	0.0
458.298	IV	45.2	16.2	12.7	2.8	23.1	54.5	7.1	0.0
458.299	IV	43.5	18.5	12.2	2.6	20.3	56.7	8.4	0.0
458.301	IV	42.1	15.4	13.2	2.9	21.7	53.7	8.7	0.0
458.302	IV	45.6	17.4	10.6	3.1	19.8	58.0	8.6	0.0
458.303	IV	43.8	17.9	11.9	2.8	18.9	58.1	8.5	0.0
458.304	IV	43.5	16.4	12.0	3.4	18.8	55.1	10.8	0.0
458.306A	IV	43.9	18.0	12.0	3.7	23.1	54.5	6.8	0.0
458.307A	III	42.3	18.0	12.2	2.9	20.8	56.5	7.7	0.0
458.307B	IV	42.8	17.7	12.1	3.5	22.1	55.1	7.4	0.0
458.505	II	43.2	18.5	12.1	3.0	26.1	51.9	7.0	0.0
458.506	II	41.3	19.2	12.9	2.9	20.1	57.1	7.1	0.0
458.507	III	42.4	16.7	12.9	3.3	22.2	54.6	7.2	0.0
458.508A	II	42.4	19.1	13.0	2.7	24.6	53.3	6.5	0.0
458.508B	II	42.7	18.6	11.9	3.3	31.2	48.4	5.3	0.0
458.509	IV	38.1	20.2	13.0	3.6	20.1	55.2	8.1	0.0
458.510	III	39.6	20.7	12.0	3.2	22.0	56.1	6.8	0.0
458.511	II	39.9	21.1	12.7	3.3	23.6	54.3	6.3	0.0
458.512	III	41.9	17.4	11.6	3.2	23.9	53.7	7.7	0.0
458.515	IV	42.4	17.3	13.4	3.1	20.3	55.0	8.3	0.0
458.517	III	43.2	17.2	12.7	3.4	21.5	53.5	8.9	0.0
458.519A	II	42.8	16.2	12.5	2.9	19.9	55.0	9.9	0.0
458.519B	III	40.2	17.5	12.9	3.1	22.8	53.2	8.1	0.0
458.520	II	42.8	14.4	13.0	3.0	18.0	57.2	8.9	0.0
458.521	III	40.6	17.5	12.8	4.0	24.7	52.0	6.7	0.0
458.522	II	42.3	16.5	11.7	2.8	29.4	49.0	7.2	0.0
458.525	I	41.1	21.7	12.5	3.8	29.2	48.9	5.7	0.1
458.529	I	41.3	21.6	11.8	3.1	22.8	55.4	7.0	0.1
458.532B	I	42.1	21.0	12.1	3.5	31.9	47.6	5.1	0.1
458.541	I	41.1	20.9	14.1	3.7	23.0	52.5	6.7	0.1
458.825B	I	40.6	21.5	13.0	3.7	24.0	53.7	5.8	0.1
458.826B	I	40.4	21.1	13.5	3.2	22.4	54.8	6.2	0.0
458.828	II	40.0	20.3	12.7	3.6	20.6	55.4	7.7	0.0
458.829	II	42.6	19.4	12.0	3.0	25.9	52.1	7.2	0.0
461.419	III	40.4	19.3	12.9	3.6	24.0	52.4	7.3	0.0
461.508	II	43.3	17.0	12.4	3.3	24.9	51.3	8.1	0.1
461.509	I	41.5	17.3	12.8	2.7	18.8	56.5	9.5	0.1
464.865	I	41.1	21.3	11.6	2.8	26.8	52.8	6.0	0.1
464.877	III	43.2	17.2	12.0	2.7	19.2	56.8	9.3	0.0
464.878	II	39.9	20.9	12.1	3.1	22.5	54.9	7.5	0.1

Table 1.2
Identification and origin information for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355

PI No.	Accession name	Foreign collection No.	Country of acquisition	Country of origin	Year introduced or released	Maturity group
464.879	Dalihei	Gong di 504	China	China	1982	III
464.880	Dong feng du lu dou	Gong di 806	China	China	1982	II
464.882	Hei pi qing yiang	Gong di 552	China	China	1982	I
464.883	Jiu nong No. 9		China	China	1982	I
464.884	Li wai qing	Gong di 493	China	China	1982	II
464.887	Yi wo feng	Gong di 57	China	China	1982	II
464.888A	Zi hua	Gong di 1172	China	China	1982	II
464.888B	Zi hua	Gong di 1172	China	China	1982	II
464.893	Jou nong No. 1		China	China	1982	II
464.894	Jou nong No. 2		China	China	1982	II
464.895	Jou nong No. 4		China	China	1982	I
464.896	Jou nong No. 5		China	China	1982	I
464.897	Jou nong No. 6		China	China	1982	I
464.898	Jou nong No. 7		China	China	1982	I
464.899	Jou nong No. 9		China	China	1982	II
464.901	Liao nong No. 2		China	China	1982	II
464.902	Tie feng No. 3		China	China	1982	I
464.904	Tie feng No. 17		China	China	1982	II
464.905	Tie feng No. 18		China	China	1982	II
464.909	Bai mo shi dou	Gong di 1644	China	China	1982	II
464.910	Beijing hei dou		China	China	1982	I
464.912	Dan dou No. 1		China	China	1982	IV
464.913	Dan dou No. 2		China	China	1982	IV
464.914A	Dan dou No. 3		China	China	1982	II
464.914B	Dan dou No. 3		China	China	1982	III
464.915A	Hei mo shi dou	Gong di 205	China	China	1982	II
464.915B	Hei mo shi dou	Gong di 205	China	China	1982	II
464.916	Ji ti No. 2		China	China	1982	III
464.917	Ji ti No. 3		China	China	1982	II
464.918	Ji ti No. 4		China	China	1982	I
464.919	Ji ti No. 5		China	China	1982	I
464.920A	Jin dou No. 33		China	China	1982	III
464.920B	Jin dou No. 33		China	China	1982	III
464.921	Kai yuan bai mei		China	China	1982	II
464.922	Tie feng No. 9		China	China	1982	II
464.923	Tie feng No. 16		China	China	1982	I
464.924	Tie jia qing		China	China	1982	III
464.930	58-161		China	China	1982	IV
464.931	Nan nong 133-3		China	China	1982	IV
464.940	Wen feng 1538		China	China	1982	III
464.941	Wen feng 1893		China	China	1982	II
466.749A	Wu yui huo		China	China	1982	II
466.749B	Wu yui huo		China	China	1982	II
467.307	Bai hua cuo zi	Gong di 356	China	China	1982	I
467.308A	Bai hua kuan	Gong di 1348	China	China	1982	I
467.308B	Bai hua kuan	Gong di 1348	China	China	1982	I
467.310	Bai mo shi dou	Gong di 1419	China	China	1982	II

Table 2.2
Descriptive data for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355

Entry	Maturity group	Stem trm.	Flower color	Pubescence Color	Pubescence Form	Pubescence Density	Pod color	Seed coat Luster	Seed coat Color	Hilum color	Other traits Seed	Other traits Leaf
464.879	III	D	P	T	E	N	Br	I	Bl	Bl		
464.880	II	D	W	G	E	Ssp	Br	I	Y	Y		
464.882	I	N	P	T	E	N	Br	D	Bl	Bl		
464.883	I	D	W	G	E	N	Br	S	Y	Bf		Na
464.884	II	D	P	G	E	Ssp	Dbr	D	Gn	Gn	Gncot	
464.887	II	D	P	G	E	N	Br	S	Y	Bf		
464.888A	II	N	W	G	E	N	Br	S	Y	Bf		
464.888B	II	D	P	G	E	N	Br	S	Y	Bf		
464.893	II	D	W	G	E	Ssp	Br	S	Y	Y		
464.894	II	D	W	G	E	N	Br	S	Y	Y		
464.895	I	D	W	G	E	Ssp	Br	S	Y	Y		
464.896	I	D	P	G	E	N	Br	S	Y	Y		
464.897	I	S	P	G	E	N	Dbr	I	Y	G		
464.898	I	N	W	G	E	Ssp	Br	I	Y	Lbf		Na
464.899	II	D	W	G	E	N	Br	S	Y	Bf		Na
464.901	II	D	W	G	E	Ssp	Br	I	Y	Y		Na
464.902	I	N	W	G	E	Ssp	Br	S	Y	Bf		Na
464.904	II	N	P	G	E	Ssp	Tn	I	Y	Y		
464.905	II	D	P	G	E	N	Br	I	Y	Y		
464.909	II	N	W	T	E	N	Tn	S	Y	Br		
464.910	I	N	P	T	E	N	Br	S	Bl	Bl		
464.912	IV	D	W	G	E	N	Bl	D	Gn	Bf		
464.913	IV	D	W	G	E	N	Br	S	Y	Y		
464.914A	II	D	P	G	E	Ssp	Br	D	Y	Bf		
464.914B	III	D	P	G	E	Ssp	Br	D	Y	Bf		
464.915A	II	N	P	Lt	E	N	Br	S	Bl	Bl		
464.915B	II	N	P	T	E	N	Br	S	Bl	Bl		
464.916	III	D	W	G	E	N	Br	I	Y	Bf		
464.917	II	N	W	G	E	Ssp	Br	S	Y	Y		Na
464.918	I	S	P	G	E	N	Br	S	Y	Ib		
464.919	I	N	W	G	E	N	Br	S	Y	Lbf	Sabh	
464.920A	III	D	W	G	E	N	Br	D	Y	Y		
464.920B	III	D	W	G	E	N	Br	D	Y	Lbf		
464.921	II	N	P	G	E	N	Tn	D	Y	Y		
464.922	II	N	P	G	E	N	Tn	I	Y	G		
464.923	I	S	W	G	E	N	Br	S	Y	Y		
464.924	III	D	W	G	E	Ssp	Br	S	Gn	Bf		
464.930	IV	D	P	G	A	Ssp	Tn	I	Y	Lbf		
464.931	IV	S	W	T	A	N	Tn	I	Y	Br		
464.940	III	N	W	G	A	N	Br	I	Y	Y		
464.941	II	N	W	G	A	N	Br	I	Y	Lbf		
466.749A	II	D	P	T	A	N	Br	I	Y	Br		
466.749B	II	D	P	T	A	N	Tn	I	Y	Br		
467.307	I	N	P	G	E	Ssp	Bl	S	Y	Lbf		
467.308A	I	N	P	G	E	N	Bl	S	Y	Y		
467.308B	I	N	W	G	E	N	Br	I	Y	Y		
467.310	II	N	W	T	E	N	Tn	S	Y	Br		

Table 3.2
Agronomic data for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355, grown at Urbana, IL

Entry	Flower date (mmdd)	Maturity date (mmdd)	Lodging (score)	Height (cm)	Stem trm. (score)	Shattering early (score)	Shattering late (score)	Seed quality (score)	Mottling (score)	Seed weight (cg/sd)	Seed yield (Mg/ha)
464.879	706	916*	1.8	57*	1.0	1.0	1.0	2.3	-	20.0*	2.27
464.880	627*	909	1.5	56*	1.0	1.0	1.5	2.8	5.0	16.1*	2.70*
464.882	621	821	4.8	124*	4.0	1.0	3.0*	2.0	-	13.2	2.00
464.883	618	901	2.0	68	1.5	1.0	1.0	2.3	2.5	14.4	2.83
464.884	701	911	2.0	80	1.0	1.0	1.5	4.0	2.0	19.9	2.27
464.887	623*	903	2.4	82	2.3*	1.0	1.0	1.5	2.3	12.4	3.13
464.888A	627*	905	3.8	111	4.0	1.0	2.0	2.8	2.3	15.7	3.12
464.888B	625*	901	2.3	85	1.8	1.0	1.0	2.0	2.0	13.3	2.59
464.893	628*	904	1.8	73	1.0	1.0	1.5	2.5	4.5	15.4*	2.57*
464.894	619	831	2.0	81	1.0	1.0	1.3	2.8	4.8	16.8	3.04
464.895	623*	825	1.3	50*	1.5	1.0	1.3	2.5	1.3	15.6	2.15
464.896	619	825	2.5	71*	1.3	1.0	2.5	3.0*	1.5	13.4	2.25
464.897	617	824	3.3	85*	2.3	1.0	1.5	4.0	1.3	15.4	2.55
464.898	618	826	2.8	102	3.3	1.0	1.0	2.0	1.5	14.5	2.64
464.899	618	902	1.8	64*	1.0	1.0	1.0	1.8	3.8*	15.4	2.63
464.901	626*	905	1.2	48	1.0	1.0	1.0	1.5	1.0	13.0	2.90
464.902	621	830	3.3*	100	4.0	1.0	1.0	1.8	1.5	14.5	2.87
464.904	624*	907	2.5	82*	2.8	1.0	2.8*	2.3	2.0*	12.7	2.52
464.905	629*	907	1.8	69*	1.0	1.0	1.3	2.5	1.5	16.4	2.87
464.909	707	908	4.3	128	5.0	1.5	3.5	2.5	4.3	9.1	2.29
464.910	628*	829	3.0	115*	5.0	1.0	1.0	1.5	-	8.2	2.63
464.912	721	1005	3.3	109*	1.0	1.5	2.0*	2.5	4.3*	13.9	2.11
464.913	707	924	1.8	78*	1.0	1.0	1.3	2.3	2.0	14.5	2.51
464.914A	630*	907	1.5	60*	1.0	1.0	2.0	1.8	2.3	16.5	2.72*
464.914B	627*	922	1.3	52*	1.0	1.3	1.3	3.3*	4.3	17.9	2.30
464.915A	706	831	4.8	170*	5.0	1.3	1.8	3.3*	-	8.5	1.68
464.915B	705	908	4.3	170*	5.0	1.0	1.0	3.3	-	9.3	1.96
464.916	705	916	3.0	83	1.0	1.3	1.3	2.0	1.8	16.4*	2.84
464.917	618	903	3.0	97	3.5	1.0	1.5	4.3	3.3*	17.8	2.49
464.918	619	826	4.3	83	2.0	1.0	2.3	2.5	1.0	13.6	2.93
464.919	616	820	1.8	82	3.5	1.0	2.3*	2.5	1.8	18.5	2.56
464.920A	702	914	2.3	84	1.0	1.0	1.3	2.3	2.3*	17.4*	3.20*
464.920B	706	917	2.3	84	1.0	1.0	1.0	1.8	2.3	17.4*	3.07
464.921	626*	907	3.5	97	4.0	1.0	1.3	3.0	5.0	17.5	2.91
464.922	621	907	2.5	86	3.3	1.0	1.8*	3.8*	2.3	14.0	3.11
464.923	621	828	2.8*	78*	2.3	1.0	2.3*	3.3*	1.3	14.1*	3.00
464.924	704*	916	2.3	82*	1.0	1.8	2.0	3.0	2.3	16.0*	2.84
464.930	718	1008*	3.8	59	1.0	2.0*	3.0*	4.5	2.3	16.7*	0.93
464.931	726*	1015	4.5	115	2.3	1.0	1.3	3.5*	4.0*	10.5	1.18
464.940	706	916	4.0	107*	4.3	1.5	2.5	2.8	4.5	17.6*	3.01*
464.941	702*	912	3.5	113*	4.3	1.0	1.8	2.0	3.5	17.7	3.06
466.749A	707	904	1.8	58*	1.3	1.3	2.0	1.8	1.5	15.3	2.17
466.749B	706	905	1.8	64	1.3	1.0	1.5	1.8	4.0	13.5	2.17
467.307	621	825	3.3	102	4.5	1.0	1.5	3.5*	5.0	13.4	3.02
467.308A	618	822	2.8	80	3.0	1.0	2.5	4.3*	5.0	13.4	2.60
467.308B	620	826	4.0	117*	4.3	1.0	3.8	2.5	4.3	14.4	3.08
467.310	711	909	4.8	115*	5.0	1.0	1.8	3.0	5.0	9.7	2.04

Table 4.2
Seed composition data for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355, grown at Urbana, IL

Entry	Maturity group	Protein (%)	Oil (%)	Palmitic (%)	Stearic (%)	Oleic (%)	Linoleic (%)	Linolenic (%)	Other (%)
464.879	III	41.6	19.4	13.3	3.0	21.7	55.5	6.6	0.0
464.880	II	40.8	19.7	12.2	2.8	20.4	56.4	8.3	0.0
464.882	I	42.1	19.3	12.2	3.1	24.5	54.0	6.2	0.1
464.883	I	40.8	21.3	11.6	3.3	20.3	57.9	7.0	0.1
464.884	II	40.6	19.4	10.8	3.5	25.4	53.1	7.2	0.0
464.887	II	40.6	20.6	11.2	3.1	22.6	55.8	7.5	0.0
464.888A	II	39.2	22.6	11.1	3.0	27.1	52.4	6.4	0.1
464.888B	II	40.9	20.4	11.5	3.4	20.9	56.9	7.4	0.0
464.893	II	41.8	19.4	12.7	3.5	18.7	56.8	8.4	0.0
464.894	II	41.8	21.1	11.7	3.3	23.0	55.7	6.5	0.0
464.895	I	39.9	21.6	13.0	3.2	22.8	54.7	6.3	0.0
464.896	I	41.8	20.4	11.7	3.4	26.8	52.4	5.8	0.1
464.897	I	39.1	21.9	11.5	3.4	27.5	50.9	6.8	0.1
464.898	I	39.8	20.8	13.0	2.9	25.0	53.0	6.2	0.1
464.899	II	39.7	22.2	11.7	3.5	21.4	57.2	6.4	0.0
464.901	II	40.2	21.1	12.3	3.3	19.3	57.9	7.3	0.0
464.902	I	38.4	21.3	12.5	3.3	22.6	54.5	7.2	0.1
464.904	II	41.4	19.3	11.9	2.9	26.5	52.3	6.4	0.0
464.905	II	41.2	20.3	11.9	3.3	26.1	51.8	7.0	0.0
464.909	II	41.9	16.0	12.8	3.2	26.4	50.2	7.5	0.0
464.910	I	41.8	18.1	11.9	3.4	26.7	50.7	7.3	0.1
464.912	IV	42.9	19.2	11.6	3.1	19.5	58.5	7.4	0.0
464.913	IV	41.0	20.8	12.0	3.1	20.3	56.3	8.3	0.0
464.914A	II	40.8	19.1	12.4	3.3	22.9	54.0	7.4	0.0
464.914B	III	42.6	18.1	10.7	2.6	19.0	60.2	7.5	0.0
464.915A	II	42.9	16.1	12.5	3.0	19.7	55.0	10.0	0.0
464.915B	II	40.9	17.4	12.0	3.0	22.1	54.2	8.8	0.0
464.916	III	39.9	20.6	11.8	3.3	23.2	55.0	6.8	0.0
464.917	II	41.4	20.2	12.5	3.2	22.6	54.6	7.3	0.0
464.918	I	40.1	21.1	12.4	3.3	22.5	55.2	6.6	0.1
464.919	I	41.1	22.3	11.7	2.8	27.1	52.7	5.7	0.1
464.920A	III	41.2	20.1	12.1	3.5	19.0	58.0	7.5	0.0
464.920B	III	40.0	19.8	11.2	3.4	20.2	57.0	8.3	0.0
464.921	II	42.9	18.7	11.9	2.6	24.5	53.6	7.6	0.0
464.922	II	40.7	20.8	11.3	3.0	27.8	51.3	6.8	0.0
464.923	I	38.3	21.9	12.2	3.1	25.1	53.0	6.7	0.1
464.924	III	40.9	19.7	12.5	3.3	19.7	56.6	8.0	0.0
464.930	IV	44.1	17.1	12.2	2.9	22.5	54.0	8.5	0.0
464.931	IV	42.2	18.5	11.2	2.9	20.3	57.7	8.0	0.0
464.940	III	41.4	18.6	13.1	3.0	23.0	53.1	8.0	0.0
464.941	II	41.0	18.1	12.6	3.1	26.0	50.9	7.6	0.0
466.749A	II	41.6	17.2	11.3	3.2	25.4	52.0	8.2	0.1
466.749B	II	40.6	17.2	11.9	3.4	26.5	50.3	8.0	0.0
467.307	I	42.6	20.1	12.0	3.4	26.4	51.3	7.0	0.1
467.308A	I	42.8	18.8	12.4	3.3	22.6	54.2	7.5	0.1
467.308B	I	41.7	20.4	12.2	2.9	23.3	55.2	6.4	0.1
467.310	II	41.4	15.4	11.5	3.2	30.2	48.9	6.3	0.0

Table 1.2
Identification and origin information for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355

PI No.	Accession name	Foreign collection No.	Country of acquisition	Country of origin	Year introduced or released	Maturity group
467.311A	Bai nong No. 1	Gong di 2335	China	China	1982	I
467.311B	Bai nong No. 1	Gong di 2335	China	China	1982	I
467.311C	Bai nong No. 1	Gong di 2335	China	China	1982	I
467.311D	Bai nong No. 1	Gong di 2335	China	China	1982	I
467.311E	Bai nong No. 1	Gong di 2335	China	China	1982	I
467.312	Cha mo shi dou	Gong di 549	China	China	1982	II
467.314	Da huang qi	Gong di 661	China	China	1982	I
467.315	Da jin huang	Gong di 1502	China	China	1982	I
467.316	Da tu huang	Gong di 1340	China	China	1982	IV
467.317	De dou No. 1	Gong di 2341	China	China	1982	I
467.318A	Fu shou	Gong di 61	China	China	1982	I
467.318B	Fu shou	Gong di 61	China	China	1982	II
467.320	Jilin No. 17	Gong di 2275	China	China	1982	I
467.321	Jilin No. 18	Gong di 2276	China	China	1982	I
467.322A	Jilin No. 19	Gong di 2277	China	China	1982	I
467.322B	Jilin No. 19	Gong di 2277	China	China	1982	II
467.323B	Jiu nong No. 13	Gong di 2290	China	China	1982	I
467.324	Lan qi	Gong di 1386	China	China	1982	I
467.325	Lao guo wo	Gong di 1566	China	China	1982	II
467.326	Liang li qing	Gong di 461	China	China	1982	III
467.327	Mo shi dou	Gong di 1652	China	China	1982	II
467.328	Ping ding xiang	Gong di 1106	China	China	1982	I
467.329	Ping ding xiang	Gong di 1216	China	China	1982	II
467.330	Qin dou No. 2	Gong di 2350	China	China	1982	II
467.331	Qin dou 84	Gong di 2351	China	China	1982	II
467.332	Qing mo shi dou	Gong di 1420	China	China	1982	II
467.333	Shui li hong	Gong di 1511	China	China	1982	I
467.334A	Si li qing	Gong di 476	China	China	1982	II
467.334B	Si li qing	Gong di 476	China	China	1982	II
467.335A	Tie jia dou	Gong di 357	China	China	1982	I
467.335B	Tie jia dou	Gong di 357	China	China	1982	II
467.336	Tong nong No. 4	Gong di 2315	China	China	1982	I
467.337	Tong nong No. 5	Gong di 2316	China	China	1982	II
467.338	Tong nong No. 6	Gong di 2317	China	China	1982	II
467.339	Tong nong No. 7	Gong di 2318	China	China	1982	I
467.340	Xiao bai mei	Gong di 1590	China	China	1982	II
467.341	Xiao bai qi	Gong di 1073	China	China	1982	II
467.342	Xiao hei qi	Gong di 1399	China	China	1982	I
467.343	Yan nong No. 2	Gong di 2320	China	China	1982	I
467.346	Zheng guang No. 1	Gong di 2342	China	China	1982	I
467.347	Zi hua cuo zi	Gong di 378	China	China	1982	II
468.378	No. 23		China	China	1982	I
468.381	Takii's Akita Early		Japan	Japan	1982	II
468.383	Takii's Hakucho Early		Japan	Japan	1982	I
468.384	Lei dian		China	China	1982	III
468.385	Li wai qing	Gong di 497	China	China	1982	III
468.408A	Qi huang No. 1		China	China	1982	III

Table 2.2
Descriptive data for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355

Entry	Maturity group	Stem trm.	Flower color	Pubescence Color	Pubescence Form	Pubescence Density	Pod color	Seed coat Luster	Seed coat Color	Hilum color	Other traits Seed	Other traits Leaf
467.311A	I	N	W	G	E	N	Tn	S	Y	Bf		Na
467.311B	I	N	W	G	E	N	Tn	S	Y	Y		
467.311C	I	N	W	G	E	Ssp	Tn	S	Y	Bf		Na
467.311D	I	N	W	G	E	Ssp	Br	S	Y	Bf		Na
467.311E	I	N	W	G	E	N	Br	S	Y	Bf		Na
467.312	II	N	P	T	E	N	Dbr	S	Gnbr	Br		
467.314	I	N	P	G	E	N	Br	D	Y	G		
467.315	I	D	P	G	E	Ssp	Br	S	Gn	Gn		
467.316	IV	D	P	T	E	Ssp	Br	D	Y	Br		
467.317	I	D	W	G	E	Ssp	Br	S	Y	Y		Na
467.318A	I	N	P	G	E	N	Br	S	Y	Lg		
467.318B	II	N	P	G	E	N	Tn	D	Y	Y		
467.320	I	S	W	G	E	Ssp	Br	S	Y	Y		Na
467.321	I	S	W	G	E	Ssp	Br	S	Y	Y		Na
467.322A	I	N	W	G	E	Ssp	Tn	S	Y	Y		
467.322B	II	S	W	G	E	Ssp	Br	S	Y	Y		
467.323B	I	N	W	G	E	N	Tn	S	Y	Lbf		Na
467.324	I	N	P	G	E	N	Br	S	Y	G		
467.325	II	N	W	G	E	N	Br	D	Y	Lbf		
467.326	III	D	W	G	E	Ssp	Br	S	Gn	Bf		
467.327	II	N	Ng	G	E	N	Bl	S	Gnbr	Br		
467.328	I	D	P	G	E	N	Br	I	Y	Ib		
467.329	II	D	W	G	E	N	Br	I	Y	Y		
467.330	II	D	P	G	E	N	Br	S	Y	Y		
467.331	II	N	W	T	E	N	Br	I	Y	Bl		
467.332	II	N	W	T	E	N	Dbr	S	Gn	Br		
467.333	I	D	P	G	E	N	Br	I	Y	Ib		
467.334A	II	D	W	G	E	Ssp	Br	I	Gn	Gn		
467.334B	II	D	W	G	E	Ssp	Br	I	Gn	Gn		Na
467.335A	I	N	P	G	E	Ssp	Bl	S	Y	Y		
467.335B	II	N	Lp	G	E	N	Bl	S	Y	Lbf		
467.336	I	N	W	G	E	Ssp	Br	S	Y	Y		Na
467.337	II	D	P	G	E	Ssp	Br	D	Y	Y		Na
467.338	II	D	W	G	E	Ssp	Br	I	Y	Bf		Na
467.339	I	D	P	G	E	Ssp	Br	D	Y	Y		Na
467.340	II	N	P	G	E	N	Br	D	Y	Y		
467.341	II	N	P	G	E	N	Br	D	Y	Y		
467.342	I	N	P	G	E	N	Br	S	Y	Ib		
467.343	I	S	W	G	E	N	Br	S	Y	Y		Na
467.346	I	N	W	G	E	Ssp	Bl	S	Y	Bf		Na
467.347	II	N	P	T	E	N	Br	S	Y	Br		
468.378	I	N	P	G	E	Ssp	Br	S	Y	Y	Sabh	Na
468.381	II	D	P	T	E	Ssp	Br	D	Y	Br		
468.383	I	D	W	T	E	Ssp	Br	D	Gn	Bl		
468.384	III	D	P	G	A	Ssp	Br	D	Y	Y		
468.385	III	D	P	G	E	Ssp	Dbr	I	Gn	Gn	Gncot	
468.408A	III	N	P	G	A	N	Br	I	Y	Bf		

Table 3.2
Agronomic data for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355, grown at Urbana, IL

Entry	Flower date (mmdd)	Maturity date (mmdd)	Lodging (score)	Height (cm)	Stem trm. (score)	Shattering early (score)	Shattering late (score)	Seed quality (score)	Mottling (score)	Seed weight (cg/sd)	Seed yield (Mg/ha)
467.311A	614	822	2.0	88	3.0	1.0	1.0	2.0	1.5	17.3	2.67
467.311B	615	821	1.8	84	3.5	1.0	1.0	1.3	1.0	14.5	2.67
467.311C	614	819	2.5*	86	3.5	1.0	1.0	1.0	1.5	14.3	2.61
467.311D	614	824	1.8	82	3.0	1.0	1.3	2.0	1.8	16.0	2.67
467.311E	614	820	1.8	81	3.0	1.0	1.0	1.5	1.5	15.5	2.61
467.312	707	907	5.0	150*	5.0	1.3	1.8	5.0	-	7.7	2.02
467.314	617	825*	2.3	81	3.0	1.0	3.5*	2.8	4.0*	13.5	2.52
467.315	627*	830	1.8	64*	1.3	1.0	1.0	2.5	4.0	13.8	2.68
467.316	716	928	1.5	63	1.0	1.3	2.0	3.0	4.3	19.2*	1.92
467.317	622	823	1.5	56*	1.8	1.0	1.0	2.5	2.3	15.8	2.50
467.318A	624*	825	2.8	96	3.8	1.0	4.5	4.5	1.8	16.8	2.66
467.318B	627	907	3.5	105	3.8	1.0	1.8	3.8*	5.0	17.2	2.89*
467.320	617	824	1.5	74	2.0	1.0	2.3	1.8	1.3	13.5*	1.96
467.321	618	930	1.5	78	2.0	1.3	1.8	1.8	1.3	12.1	2.28
467.322A	620	901	2.5	110	4.0	1.0	1.5	4.3*	1.3	13.9	2.69
467.322B	617	829	3.5	84	2.3	1.0	1.3	1.8	1.5	14.2	3.03
467.323B	617	830	2.0	94	3.3	1.0	1.0	1.5	1.8	13.4	2.89
467.324	619	821	3.8	103	3.8	1.0	1.5	5.0	4.3	16.2	2.20
467.325	618	902	2.8	85	2.8	1.0	1.8*	2.5	5.0	18.4	2.85
467.326	705	915	2.5	78	1.0	1.3	1.8	2.8	2.5	16.5*	2.75*
467.327	701	906	3.5	136	4.8	1.3	1.5	4.5	-	10.6	2.43
467.328	616	828	3.3	79	1.0	1.0	4.5	3.5	2.0	15.8	2.69
467.329	618	904	3.3*	77*	1.0	1.0	1.0	3.0*	2.0	14.9	2.79*
467.330	708	909	1.8	78	1.8	1.0	3.3*	2.3*	1.0	13.3	2.77
467.331	619	908	4.5	121*	4.5	1.0	1.3	2.5	2.5	15.1	2.83
467.332	709	909	4.8	134	5.0	1.3	1.8	2.3	5.0	8.2	2.30
467.333	616	827	2.0	71	1.5	1.0	3.0*	2.8	2.0	14.1	2.64
467.334A	629*	903	1.5	77	1.0	1.0	1.8	3.8*	3.5	19.6*	2.61*
467.334B	626*	904	1.3	60	1.0	1.0	1.5	3.5	4.5	16.8*	2.33*
467.335A	623	901	2.8	85	3.3	1.0	3.5	4.5	4.0*	15.6	2.71
467.335B	619	904*	2.8	93	3.3	1.5	1.5	3.8	4.5	15.2	3.05
467.336	616	826	3.8	96	3.8	1.0	2.8	4.5	1.5	14.9	2.41
467.337	629*	904	1.8	69	1.0	1.0	1.3	2.3	4.3*	12.6	2.41
467.338	629	907	1.5	72	1.0	3.0*	5.0	1.5	1.5	14.2	2.21
467.339	624*	902	1.3	64	1.0	3.5*	4.3*	2.3	4.5	14.6	1.95
467.340	616	828	2.8*	101*	3.0	1.0	1.0	2.3	4.5	14.2	3.44
467.341	626*	903	2.8	99	4.3	1.0	1.0	2.5	5.0	14.2	2.49
467.342	618	827*	2.8	85	2.5	1.0	1.3	1.5	1.0	12.5	2.90
467.343	616	828*	2.3	78	2.3	1.0	1.5	4.3*	5.0	14.4	2.86
467.346	616	822	2.0	83	2.5	1.0	4.5	3.0	2.0	14.8	2.56
467.347	625*	906	3.0	117	5.0	1.5	1.8*	2.5	3.3*	13.0	3.12
468.378	616	816	1.4	60	3.0	1.0	1.0	3.0	2.8	15.8*	2.35
468.381	618	830	1.0	48	1.0	3.3*	5.0	1.8	5.0	14.5	1.32
468.383	620	821	1.0	39	1.5	2.0*	5.0	3.8	1.8	20.1	1.76
468.384	704*	917	2.5	67*	1.0	2.8*	4.5	2.0	1.0	17.1*	2.52
468.385	629*	910	1.8	68*	1.0	1.0	1.8	2.3	1.5	16.6*	2.17
468.408A	712	918	4.5	108	4.3	1.3	2.0	3.0	2.5	15.0*	2.20

Table 4.2
Seed composition data for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355, grown at Urbana, IL

Entry	Maturity group	Protein (%)	Oil (%)	Palmitic (%)	Stearic (%)	Oleic (%)	Linoleic (%)	Linolenic (%)	Other (%)
467.311A	I	40.2	21.8	12.1	3.1	30.6	49.1	5.2	0.1
467.311B	I	40.5	21.4	13.0	3.1	23.2	54.2	6.6	0.1
467.311C	I	40.3	21.5	12.6	3.2	25.3	53.1	6.0	0.1
467.311D	I	40.9	21.2	12.2	2.7	25.8	53.8	5.6	0.0
467.311E	I	40.1	21.5	12.2	2.8	25.1	53.8	6.1	0.0
467.312	II	43.4	14.9	13.0	3.4	18.8	56.0	8.9	0.0
467.314	I	43.5	19.1	12.9	2.9	18.5	56.8	9.0	0.0
467.315	I	44.0	18.1	12.5	2.3	18.4	58.4	8.4	0.0
467.316	IV	42.9	18.3	11.0	2.7	20.2	57.7	8.6	0.0
467.317	I	41.6	19.8	12.3	2.8	20.9	56.2	7.9	0.0
467.318A	I	42.2	20.2	11.4	2.6	32.5	47.2	6.4	0.1
467.318B	II	42.2	19.0	12.4	3.1	26.6	51.3	6.7	0.0
467.320	I	41.4	19.6	12.4	2.6	20.1	57.3	7.7	0.0
467.321	I	41.3	20.0	12.3	2.5	20.8	57.2	7.4	0.0
467.322A	I	38.5	22.1	11.3	2.8	28.5	52.1	5.4	0.0
467.322B	II	39.8	20.9	12.1	2.4	24.1	55.0	6.5	0.0
467.323B	I	38.6	20.4	11.7	2.9	26.7	53.1	5.7	0.0
467.324	I	42.2	19.6	12.5	2.4	27.4	51.4	6.5	0.0
467.325	II	41.6	20.8	11.5	3.0	22.0	56.9	6.7	0.0
467.326	III	41.1	19.0	12.6	3.5	20.4	55.8	7.8	0.1
467.327	II	42.5	18.0	11.8	2.9	19.5	58.8	7.1	0.0
467.328	I	43.1	20.0	11.8	3.3	20.8	56.8	7.5	0.0
467.329	II	41.0	19.8	11.5	3.3	21.6	56.7	7.1	0.0
467.330	II	40.7	18.3	13.2	2.5	21.5	55.1	7.9	0.0
467.331	II	39.9	20.8	11.8	3.5	27.0	51.4	6.4	0.0
467.332	II	41.7	16.5	13.1	3.0	21.0	54.5	8.4	0.0
467.333	I	42.2	19.8	11.9	3.1	18.0	59.0	8.1	0.0
467.334A	II	41.7	19.2	13.1	3.5	20.6	54.8	8.0	0.0
467.334B	II	41.2	19.6	12.9	3.5	17.2	57.4	9.1	0.0
467.335A	I	42.8	19.2	11.1	2.9	25.5	53.3	7.2	0.0
467.335B	II	42.1	19.6	12.3	2.7	22.7	55.4	6.9	0.0
467.336	I	41.7	20.2	12.1	3.0	20.9	56.1	8.0	0.0
467.337	II	40.7	19.5	12.8	3.4	15.7	59.0	9.2	0.0
467.338	II	41.6	19.0	13.1	3.3	19.4	56.5	7.8	0.0
467.339	I	41.8	19.6	12.6	3.2	18.5	57.6	8.2	0.0
467.340	II	40.0	21.5	11.8	2.9	24.9	54.6	5.9	0.0
467.341	II	43.6	19.6	12.8	2.8	22.8	54.7	7.0	0.0
467.342	I	42.0	20.6	11.1	2.6	22.2	56.6	7.5	0.0
467.343	I	41.4	20.9	11.4	3.3	25.4	53.4	6.7	0.0
467.346	I	42.7	20.1	11.9	3.1	22.8	55.6	6.8	0.0
467.347	II	41.3	19.1	12.2	3.1	25.3	52.2	7.3	0.0
468.378	I	40.1	21.7	13.0	3.4	21.3	55.6	7.0	0.0
468.381	II	40.8	19.4	13.4	2.8	20.0	57.7	6.2	0.0
468.383	I	41.4	20.3	12.2	2.6	27.0	51.3	7.0	0.0
468.384	III	41.8	18.7	12.1	2.6	21.1	57.7	6.7	0.1
468.385	III	40.4	20.5	11.9	3.0	25.3	53.8	6.2	0.0
468.408A	III	42.8	16.8	12.6	3.0	21.8	54.8	7.9	0.0

Table 1.2
Identification and origin information for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355

PI No.	Accession name	Foreign collection No.	Country of acquisition	Country of origin	Year introduced or released	Maturity group
468.408B	Qi huang No. 1		China	China	1982	III
468.408C	Qi huang No. 1		China	China	1982	IV
468.903			China	China	1982	II
468.914			China	China	1982	III
468.915			China	China	1982	II
468.923			China	China	1982	IV
470.221	Kei yu No. 8		China	China	1982	II
470.222	Shen nong 252		China	China	1982	II
470.223	Shen nong 906		China	China	1982	II
470.224	Shen nong 7224		China	China	1982	II
470.225	Shen nong 75-15		China	China	1982	II
470.226	Shen nong 25108		China	China	1982	IV
470.227A			China	China	1982	II
470.227B			China	China	1982	III
471.899	No. 16		Indonesia	Indonesia	1982	III
473.573	N.E. 4		China	China	1982	I
475.783A	Tsing 2		China	China	1982	II
475.783B	Tsing 2		China	China	1982	III
475.784	Tsing 202		China	China	1982	II
475.785	Tsing 371		China	China	1982	III
475.810			China	China	1982	II
475.811A			China	China	1982	II
475.811B			China	China	1982	II
475.812A			China	China	1982	II
475.812B			China	China	1982	III
475.813A			China	China	1982	II
475.813B			China	China	1982	II
475.814			China	China	1982	II
475.815			China	China	1982	II
475.816			China	China	1982	IV
475.817			China	China	1982	I
475.818			China	China	1982	III
475.819			China	China	1982	II
475.820			China	China	1982	II
475.822A			China	China	1982	I
475.822B			China	China	1982	III
475.822C			China	China	1982	III
475.823			China	China	1982	II
475.824A			China	China	1982	II
475.824B			China	China	1982	II
475.826			China	China	1982	II
475.828	Amuz		China	China	1982	II
475.829A	Da bai dou		China	China	1982	II
475.829B	Da bai dou		China	China	1982	I
475.830	Zao shu yi No. 1		China	China	1982	I
475.831	Xiao jin huang		China	China	1982	I
476.344	Uzbekskaja 2	VIR 6402	Soviet Union	Soviet Union	1983	II

Table 2.2
Descriptive data for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355

Entry	Maturity group	Stem trm.	Flower color	Pubescence			Pod color	Seed coat		Hilum color	Other traits	
				Color	Form	Density		Luster	Color		Seed	Leaf
468.408B	III	N	W	G	Sa	N	Br	I	Y	Y		
468.408C	IV	N	W	G	Sa	N	Br	I	Y	Y		
468.903	II	N	P	T	E	N	Br	S	Bl	Bl		
468.914	III	D	P	G	E	N	Bl	I	Y	Y		
468.915	II	N	P	T	E	N	Br	S	Bl	Bl		
468.923	IV	N	P	G	E	Ssp	Br	I	Gn	Ib		
470.221	II	D	W	G	E	Ssp	Br	S	Y	Y		
470.222	II	D	P	G	E	N	Tn	I	Y	Y		
470.223	II	D	P	G	E	Ssp	Br	D	Y	Y		Na
470.224	II	D	P	G	E	N	Br	S	Y	Y		Na
470.225	II	D	P	G	E	Ssp	Br	S	Y	Y		
470.226	IV	N	P	G	E	N	Tn	S	Y	Bf		
470.227A	II	D	P	G	E	Ssp	Bl	S	Gn	Gn	Gncot	
470.227B	III	D	P	G	E	Ssp	Bl	S	Gn	Gn	Gncot	
471.899	III	D	P	G	Sa	N	Tn	I	Y	Bf		
473.573	I	S	W	G	E	N	Br	S	Y	Y		
475.783A	II	D	P	G	E	N	Br	S	Y	Y		
475.783B	III	N	P	G	E	N	Br	S	Y	Ib		
475.784	II	N	W	G	E	N	Br	S	Y	Bf	Sabh	
475.785	III	D	P	G	E	N	Br	I	Y	G		
475.810	II	D	Lp	G	E	Ssp	Tn	D	Y	Bf		
475.811A	II	D	P	G	E	N	Br	D	Y	Bf		S4lft
475.811B	II	D	P	G	E	N	Br	D	Y	Bf		
475.812A	II	D	P	G	E	N	Br	D	Y	Bf		S4lft
475.812B	III	D	P	G	E	N	Br	S	Y	Bf		
475.813A	II	D	P	T	E	N	Br	D	Bl	Bl	Fleck	
475.813B	II	D	P	T	E	N	Br	D	Bl	Bl		
475.814	II	D	W	T	E	N	Br	D	Bl	Bl		
475.815	II	D	P	G	E	N	Br	D	Y	Bf		S4lft
475.816	IV	D	P	T	E	N	Br	D	Br	Br		
475.817	I	D	P	G	E	N	Br	D	Y	Bf		
475.818	III	D	P	G	E	N	Br	D	Y	Bf		S5lft
475.819	II	D	P	G	E	N	Br	D	Y	Bf		S4lft
475.820	II	N	P	T	E	N	Br	D	Y	Bl	Saddle	
475.822A	I	N	W	T	E	N	Br	S	Y	Blbr		
475.822B	III	N	W	T	E	N	Bl	S	Y	Bl	Sph	
475.822C	III	N	W	T	E	N	Bl	S	Y	Bl	Sph	
475.823	II	D	P	G	E	N	Br	D	Y	Bf		
475.824A	II	D	P	G	E	N	Br	D	Y	Bf		
475.824B	II	D	P	G	E	N	Br	D	Y	Ib		S4lft
475.826	II	D	P	G	E	N	Tn	D	Y	Bf		
475.828	II	N	P	G	E	N	Tn	S	Y	Y		
475.829A	II	N	P	G	E	N	Tn	D	Y	Y		
475.829B	I	N	W	G	E	N	Br	I	Y	Y	Sdef	
475.830	I	N	W	G	E	N	Br	S	Y	Lbf		
475.831	I	S	W	G	E	N	Br	S	Y	Bf		
476.344	II	N	W	T	E	N	Tn	D	Y	Bl	Abh	

Table 3.2
Agronomic data for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355, grown at Urbana, IL

Entry	Flower date (mmdd)	Maturity date (mmdd)	Lodging (score)	Height (cm)	Stem trm. (score)	Shattering early (score)	Shattering late (score)	Seed quality (score)	Mottling (score)	Seed weight (cg/sd)	Seed yield (Mg/ha)
468.408B	703	917	3.8	116	4.3	2.0	4.5	3.0	3.3	17.9	2.74*
468.408C	712	927	4.3	115	4.3	1.0	1.0	2.5	2.8*	16.3	2.14
468.903	701	902	3.8	120	4.8	1.0	1.0	1.8	-	8.2	2.35
468.914	629*	912	1.4	53*	1.0	3.0*	4.8	3.5*	3.3*	10.8	2.10
468.915	628	830	3.3	125	5.0	1.0	1.5	1.5	-	8.6	2.80
468.923	722	923	4.5	120	4.3	1.3	3.5	3.8*	1.8	8.6	1.57
470.221	630*	908	1.5	73*	1.0	1.0	2.0	2.5	2.0	17.5	2.78
470.222	629*	912	1.5	65	1.0	1.3	2.3	2.0	1.8	14.6	2.72
470.223	627*	909	1.5	69	1.0	1.0	2.0	2.0	1.3	16.6*	2.60
470.224	702*	910	1.5	69	1.3	1.0	1.8	2.0	1.3	14.4	2.29
470.225	630*	906	1.3	51	1.0	1.0	2.3	2.0	1.0	18.0	2.78
470.226	711	930	3.0	133	3.8	1.5	2.3*	2.8	1.8	16.6*	2.96*
470.227A	626*	906	1.5	63	1.0	1.0	1.0	2.3	3.0*	15.9	2.25
470.227B	628	914	2.0	71	1.0	1.3	4.0	1.8	2.8*	17.6	2.23
471.899	718	916	5.0	84*	1.0	3.0*	4.8	4.0*	5.0	7.6	0.70
473.573	615	817	1.7	83	2.0	1.0	1.3	2.5	5.0	15.0	2.27
475.783A	707	909	2.0	84	2.0	1.0	2.5	2.3	1.3	13.4	2.88
475.783B	708	924	2.8	130	4.0	1.5	2.0*	4.3	3.0	13.0*	2.39*
475.784	702*	909	3.8	113	4.0	1.0	1.8	3.0	2.3	16.4	2.79
475.785	709	914	3.8	79*	1.3	1.0	2.5	2.5	2.5*	17.7*	2.74*
475.810	630	830	2.5	66	1.0	1.0	1.3	1.8*	2.0	9.9	2.34*
475.811A	625*	902	2.0	61	1.0	1.0	2.8	2.5	1.3	6.6	2.15
475.811B	623	905	1.8	55	1.0	1.0	2.3*	1.3	1.3	7.0	1.98*
475.812A	703	907	4.5	83	1.5	1.0	3.0*	3.0	2.3	9.2	2.34
475.812B	629*	914	4.3	82	1.3	1.0	1.8	2.3*	1.5	9.7	2.61
475.813A	706	910	1.8	66	1.3	1.0	1.0	2.0	-	11.5	2.20
475.813B	707	910	2.0	68	1.5	1.0	1.3	2.3	-	13.4	2.27
475.814	702	909	3.3	93	1.3	1.0	1.8	1.8	-	11.0	2.80
475.815	624	904	1.8	60	1.0	1.0	1.3	1.3	1.3	6.7	1.93*
475.816	710	921	4.8	92	1.8	1.5	2.8	2.8*	-	7.1	2.29
475.817	620	814	2.3	68	1.8	1.0	2.0*	2.0	1.3	9.9	2.23
475.818	626*	908	1.8	60	1.0	1.0	1.3	1.5	1.3	6.6	2.08*
475.819	621*	902	1.8	55	1.0	1.0	3.8*	2.3	1.3	7.4	1.77
475.820	627*	829	4.5	118	4.8	1.0	2.5	3.0	5.0	12.4	1.63
475.822A	619	825	2.0	83	3.3	1.0	5.0	2.5*	5.0	14.0	2.98
475.822B	625*	916	3.3	94	4.5	2.3	5.0	3.0	5.0	9.8	1.64*
475.822C	704*	924	4.3	105*	3.8	1.3	4.8	3.0	5.0	9.8	1.85
475.823	622*	905	1.9	61	1.0	1.0	2.0	2.3	1.3	7.4	2.40
475.824A	622	902	1.5	54	1.0	1.0	1.0	2.5	1.3	7.6	2.13
475.824B	622*	904	2.0	59	1.0	1.5	2.5	2.0	1.5	5.9	1.89*
475.826	628	830	3.0	74	1.8	1.0	1.0	2.3*	1.5	7.7	2.48
475.828	619	906*	2.0	98	3.8	1.3	1.5	3.0*	5.0	12.9	2.96
475.829A	630	909	3.0	101	3.8	1.0	1.8	3.3*	5.0	17.4	2.72
475.829B	Tested in maturity group 000 to 0 evaluation, see page 12										
475.830	615	819	1.5	85	3.8	1.0	1.0	2.0	2.0	17.8	2.62
475.831	621	829	2.8	87	2.0	1.0	2.8	2.5	1.3	13.2	2.96
476.344	618	830	1.8	96	3.5	1.0	1.0	1.8	1.8	14.5	2.60

Table 4.2
Seed composition data for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355, grown at Urbana, IL

Entry	Maturity group	Protein (%)	Oil (%)	Palmitic (%)	Stearic (%)	Oleic (%)	Linoleic (%)	Linolenic (%)	Other (%)
468.408B	III	41.6	18.4	13.9	3.0	24.6	51.6	7.0	0.0
468.408C	IV	39.8	19.2	12.2	2.9	24.3	53.1	7.6	0.0
468.903	II	41.1	17.0	12.8	3.6	27.6	50.0	6.1	0.0
468.914	III	41.6	18.5	11.3	2.7	24.5	54.5	7.0	0.0
468.915	II	40.6	18.3	12.1	3.5	27.5	50.4	6.6	0.0
468.923	IV	42.9	17.0	11.8	3.0	20.9	55.6	8.8	0.0
470.221	II	39.4	20.9	11.5	3.4	27.0	52.4	6.0	0.0
470.222	II	40.0	19.9	13.6	3.4	21.2	54.2	7.8	0.0
470.223	II	41.2	18.0	14.6	3.4	18.2	57.4	6.5	0.0
470.224	II	40.1	20.7	13.4	3.9	22.1	53.8	6.8	0.0
470.225	II	41.3	20.9	12.5	3.7	28.7	49.4	5.8	0.0
470.226	IV	41.8	17.9	12.2	3.3	23.8	53.1	7.8	0.0
470.227A	II	41.6	19.4	12.9	3.2	22.6	54.7	6.7	0.0
470.227B	III	40.9	20.1	11.8	2.8	21.9	56.9	6.8	0.0
471.899	III	41.5	16.8	14.1	3.3	24.3	51.6	6.9	0.0
473.573	I	40.8	21.4	12.2	3.5	29.5	49.2	5.8	0.0
475.783A	II	40.9	18.7	14.0	2.6	22.7	54.0	6.8	0.0
475.783B	III	43.8	17.5	11.3	3.6	18.9	58.4	7.9	0.0
475.784	II	41.5	21.0	11.8	3.7	27.3	51.2	6.0	0.0
475.785	III	40.4	20.2	11.9	3.0	22.6	55.9	6.8	0.0
475.810	II	42.0	17.8	13.4	3.6	26.0	52.0	5.1	0.0
475.811A	II	40.5	18.2	16.2	3.6	17.9	55.5	6.7	0.0
475.811B	II	42.1	16.3	14.7	3.1	16.7	57.6	8.0	0.0
475.812A	II	42.1	17.8	13.4	3.5	25.5	51.8	6.0	0.0
475.812B	III	42.5	17.6	12.8	3.4	20.2	56.6	7.2	0.0
475.813A	II	40.9	20.0	14.0	3.9	23.0	53.3	5.9	0.0
475.813B	II	41.1	20.1	13.6	3.7	24.6	52.3	5.9	0.0
475.814	II	41.6	18.6	11.5	3.7	22.0	55.7	7.1	0.0
475.815	II	41.5	16.1	13.9	2.9	16.9	58.5	7.9	0.0
475.816	IV	38.8	18.6	12.1	3.0	17.7	58.7	8.7	0.0
475.817	I	42.2	17.9	13.8	3.1	22.4	54.3	6.7	0.0
475.818	III	40.0	16.9	14.2	3.0	18.0	57.1	7.8	0.0
475.819	II	41.9	17.3	15.6	3.5	21.1	54.7	5.3	0.0
475.820	II	42.7	18.3	13.2	3.8	24.5	53.5	5.1	0.0
475.822A	I	42.3	17.5	12.9	3.1	26.5	50.3	7.2	0.0
475.822B	III	42.2	17.0	13.4	3.6	21.0	54.1	8.0	0.0
475.822C	III	44.2	16.7	13.3	3.3	21.0	55.1	7.5	0.0
475.823	II	42.5	16.6	13.9	3.4	20.9	55.1	6.8	0.0
475.824A	II	42.1	17.5	14.3	3.3	18.3	57.6	6.7	0.0
475.824B	II	40.4	17.0	14.4	3.4	16.9	57.4	8.0	0.0
475.826	II	40.7	18.4	12.5	4.1	23.4	54.1	6.2	0.0
475.828	II	39.3	21.4	12.2	3.5	25.9	52.1	6.5	0.0
475.829A	II	43.4	18.2	12.4	3.3	26.0	51.8	6.6	0.0
475.829B	I	Tested in maturity group 000 to 0 evaluation, see page 13							
475.830	I	40.7	22.2	11.7	3.0	25.7	53.8	6.0	0.0
475.831	I	39.5	22.0	11.5	3.2	23.3	55.5	6.6	0.0
476.344	II	40.9	19.2	12.5	3.4	26.5	51.1	6.7	0.0

Table 1.2
Identification and origin information for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355

PI No.	Accession name	Foreign collection No.	Country of acquisition	Country of origin	Year introduced or released	Maturity group
476.345	Aurika	VIR 6407	Soviet Union	Soviet Union	1983	I
476.348	Hersonskaja 8	VIR 6445	Soviet Union	Soviet Union	1983	I
476.352A	Colnon	VIR 7081	Soviet Union	Soviet Union	1983	II
476.352B	Colnon	VIR 7081	Soviet Union	Soviet Union	1983	II
476.352C	Colnon	VIR 7081	Soviet Union	Soviet Union	1983	II
476.880	Ban doc		Vietnam	Vietnam	1983	IV
476.881	Bathang ronnau		Vietnam	Vietnam	1983	III
476.887	Cuc tuyen		Vietnam	Vietnam	1983	III
476.899	Hoang mao		Vietnam	Vietnam	1983	IV
476.911	Thang chap		Vietnam	Vietnam	1983	II
476.914	Thuong pham		Vietnam	Vietnam	1983	IV
476.922	Tuqui xanh b		Vietnam	Vietnam	1983	III
476.936	Xanh cao bang		Vietnam	Vietnam	1983	IV
476.938	Cuc		Vietnam	Vietnam	1983	III
476.939	Den ha bac		Vietnam	Vietnam	1983	IV
476.942	Cuc		Vietnam	Vietnam	1983	IV
479.709	Fengshou No. 1	Gong di 1882	China	China	1983	I
479.710	Hefeng No. 4	Gong di 2584	China	China	1983	I
479.711	An tu hei do	Gong di 3001	China	China	1983	II
479.712	An tu xiao hei dou	Gong di 2982	China	China	1983	I
479.713	Bai hua cuo	Gong di 3229	China	China	1983	II
479.714	Bai hua cuo zi	Gong di 1252	China	China	1983	I
479.717	Bo di gao	Gong di 3210	China	China	1983	II
479.718A	Cai zhong pu	Gong di 1410	China	China	1983	I
479.718B	Cai zhong pu	Gong di 1410	China	China	1983	II
479.719	Chang bai xiao you dou	Gong di 3013	China	China	1983	I
479.720	Da huang dou	Gong di 3241	China	China	1983	III
479.721	He long da dou	Gong di 3016	China	China	1983	II
479.722	Huai xuan No. 1	Gong di 2874	China	China	1983	III
479.723	Hui nan niu mao huang	Gong di 3000	China	China	1983	II
479.724A	Hui nan ping ding xiang	Gong di 2983	China	China	1983	II
479.724B	Hui nan ping ding xiang	Gong di 2983	China	China	1983	II
479.725A	Hui tie jia	Gong di 3213	China	China	1983	II
479.725B	Hui tie jia	Gong di 3213	China	China	1983	II
479.726	Jiao he tian e dan	Gong di 2980	China	China	1983	I
479.727	Jin yuan No. 30	Gong di 3233	China	China	1983	II
479.728A	Liu he da hei dou	Gong di 2985	China	China	1983	I
479.728B	Liu he da hei dou	Gong di 2985	China	China	1983	I
479.729	Niu mao huang	Gong di 3247	China	China	1983	III
479.730	Niu shi dou	Gong di 2954	China	China	1983	III
479.731	Ping ding si	Gong di 1504	China	China	1983	I
479.732	Ping ding xiang	Gong di 3231	China	China	1983	II
479.734	Si li huang	Gong di 1485	China	China	1983	I
479.735	Si li huang	Gong di 2828	China	China	1983	III
479.736	Su lan du lu dou	Gong di 1424	China	China	1983	I
479.737	Suo yi ling	Gong di 1243	China	China	1983	II
479.738	Wang qing qing dou	Gong di 2979	China	China	1983	II

Table 2.2
Descriptive data for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355

Entry	Maturity group	Stem trm.	Flower color	Pubescence Color	Pubescence Form	Pubescence Density	Pod color	Seed coat Luster	Seed coat Color	Hilum color	Other traits Seed	Other traits Leaf
476.345	I	N	W	T	E	N	Br	S	Y	Bl		
476.348	I	D	P	G	E	N	Br	I	Y	Bf	Abh	
476.352A	II	N	W	T	E	N	Br	S	Y	Bl		
476.352B	II	D	P	T	E	Ssp	Br	S	Y	Bl		
476.352C	II	N	W	G	E	N	Br	S	Y	Y		Na
476.880	IV	D	P	T	A	Ssp	Tn	D	Y	Br		Dab
476.881	III	D	P	T	Sa	N	Tn	D	Y	Bl		
476.887	III	D	P	G	A	N	Tn	I	Y	Ib		
476.899	IV	D	W	T	E	Ssp	Tn	I	Y	Blbr		
476.911	II	N	P	G	A	N	Tn	I	Y	Ib		
476.914	IV	D	P	G	Sa	N	Br	I	Y	Bf		
476.922	III	D	P	T	A	N	Br	I	Gn	Br		
476.936	IV	D	P	T	A	N	Br	I	Gn	Br		
476.938	III	D	P	T	A	N	Tn	I	Y	Bl		
476.939	IV	D	P	T	A	N	Br	D	Bl	Bl		
476.942	IV	D	P	G	A	N	Tn	I	Y	Ib		
479.709	I	N	P	G	E	N	Br	I	Y	Y		
479.710	I	D	P	G	E	N	Br	D	Y	Y		
479.711	II	N	W	T	E	Ssp	Br	D	Bl	Bl		
479.712	I	N	P	T	E	N	Br	S	Bl	Bl		
479.713	II	N	W	G	E	N	Br	D	Y	Y		
479.714	I	N	W	G	E	N	Tn	S	Y	Lbf		Na
479.717	II	N	P	G	E	N	Br	D	Y	Bf		
479.718A	I	N	W	G	E	Ssp	Br	S	Y	Y		
479.718B	II	S	W	G	E	N	Br	S	Y	Bf		
479.719	I	N	P	T	E	N	Br	S	Y	Bl		
479.720	III	D	W	G	E	Ssp	Br	I	Y	Y		
479.721	II	N	W	G	E	Ssp	Br	S	Y	Y		Na
479.722	III	N	W	G	E	Ssp	Br	S	Y	Y		Na
479.723	II	N	P	T	E	N	Br	D	Gn	Br		
479.724A	II	D	P	G	E	N	Br	S	Y	Y		
479.724B	II	D	W	G	E	Ssp	Tn	S	Y	Y		
479.725A	II	N	P	G	E	N	Lbr	I	Y	Y		
479.725B	II	N	W	G	E	N	Tn	S	Y	Bf		Na
479.726	I	D	P	T	E	Ssp	Br	I	Y	Br		
479.727	II	N	W	G	E	N	Br	S	Y	Bf		
479.728A	I	N	W	T	E	Ssp	Br	D	Bl	Bl		
479.728B	I	S	P	T	E	Ssp	Br	D	Bl	Bl		
479.729	III	D	P	T	E	N	Br	S	Y	Br	Sst	
479.730	III	N	W	G	E	N	Br	S	Y	Bf		
479.731	I	D	P	G	E	N	Br	S	Y	Y		
479.732	II	D	W	G	E	Ssp	Br	S	Y	Y		
479.734	I	N	P	G	E	N	Br	S	Y	Y		Na
479.735	III	N	P	G	E	N	Br	S	Y	Bf		
479.736	I	D	P	G	E	Ssp	Br	S	Y	Y		
479.737	II	D	P	G	E	N	Br	S	Y	Bf		
479.738	II	D	P	T	E	Ssp	Br	D	Gn	Bl		

Table 3.2
Agronomic data for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355, grown at Urbana, IL

Entry	Flower date (mmdd)	Maturity date (mmdd)	Lodging (score)	Height (cm)	Stem trm. (score)	Shattering early (score)	Shattering late (score)	Seed quality (score)	Mottling (score)	Seed weight (cg/sd)	Seed yield (Mg/ha)
476.345	618	817	2.5	94	4.0	1.0	2.3	4.3*	1.0	12.4	2.24
476.348	616	816	1.3	49	2.0	1.0	1.0	3.0	1.3	16.2	2.30
476.352A	621*	905	2.3	114	3.5	1.0	1.0	2.8*	1.8	12.2	2.90*
476.352B	622	903	1.8	57	1.0	1.0	1.0	1.8	1.0	13.9	2.91
476.352C	619*	907	3.8	103	3.0	1.0	1.8	3.0	2.0	15.9	3.14
476.880	731	1002*	5.0	97*	1.3	1.5	4.8	4.5	5.0	7.3	0.42
476.881	722	918	5.0	105*	1.0	2.5	5.0	4.5	5.0	8.0	0.84
476.887	718	916	4.0	83*	1.0	3.5*	5.0	3.8*	3.3	7.3	0.99
476.899	730	1001	3.5	95	1.0	1.8	2.8	4.0*	5.0	5.6	1.05
476.911	703	830	3.8	108	4.0	4.0*	5.0	2.0	2.5*	10.8	1.70
476.914	806	923	5.0	128	1.0	1.0	1.5	4.0*	4.5	5.6	0.10
476.922	720	918	4.8	83	1.0	2.8	5.0	4.3*	5.0	10.1	1.17
476.936	723	921	5.0	98	1.0	1.8*	3.5*	3.8*	5.0	9.4	1.20
476.938	723	916	4.3	140	1.0	2.5	4.0	4.0*	5.0	8.4	1.11
476.939	727*	926	4.5	85*	1.3	2.0	4.5	4.0	-	8.4	1.09
476.942	726	921	4.8	78	1.0	2.5	5.0	4.3*	4.3	7.5	0.66
479.709	615	815	1.4	60	3.0	1.0	1.3	2.3	2.5	19.3*	2.11
479.710	618	817	2.3	68*	2.3*	1.0	3.3	3.3*	1.8*	17.0	2.30
479.711	618	903	2.5	104	3.8	1.0	1.0	1.8*	-	7.9	2.64*
479.712	617	822	3.0	85	3.5	1.0	2.5	1.3	-	10.8	2.69
479.713	618	903	3.3	109	3.5	1.0	1.3	3.8	5.0	17.1	2.70
479.714	615	824	1.8	95	3.0	1.0	1.0	1.8	1.3	13.8	2.77
479.717	626	907*	3.3	106	3.3	1.0	1.3	3.3*	3.3	13.9	2.89*
479.718A	617	823*	3.3*	89	2.8	1.0	1.8	5.0	2.8	14.6	2.46
479.718B	619	831	3.3	84	2.3	1.0	1.8	2.3	2.0	13.0	2.80
479.719	615	830	3.5	112	3.5	1.0	1.3	4.0	5.0	9.6	2.43
479.720	623	906	1.5	62*	1.0	1.0	1.5	2.5	4.5	17.3*	2.60*
479.721	617	904	3.5	100	3.5	1.0	2.0*	2.5	1.3	15.3	2.73*
479.722	619*	906	4.0	94	3.0	1.0	1.0	1.8	3.5	13.0	2.50
479.723	628	905	3.0	98	4.0	1.0	2.0*	3.5*	5.0	13.4	2.26*
479.724A	619	827	2.5	70	1.3	1.0	1.0	3.0	1.8	15.6	2.32*
479.724B	616	830	1.0	78	1.0	1.0	1.3	2.0	1.5	19.7	2.79
479.725A	617	831	3.0	104	3.5	1.0	1.3	2.5	4.0*	14.7	2.57
479.725B	616	827	1.5	85	3.0	1.0	1.3	2.3	1.3	15.0*	2.46
479.726	620	824	1.8	61	1.3	3.5*	5.0	2.8	5.0	21.0	1.90
479.727	621*	903	3.5	90	3.3	1.0	1.0	2.3	2.3*	14.4	2.57
479.728A	621	824	3.8	111	4.3	1.0	1.3	1.5	-	10.6	2.48
479.728B	623	901	2.5	104	2.5	1.0	1.0	1.8	-	12.5	2.56
479.729	627	906	1.5	52*	1.3	2.8*	5.0	1.5	5.0	12.2	1.73
479.730	621	909	4.0	110	2.5	1.0	2.0	3.3	2.3	15.1	2.74*
479.731	617	823	1.5	59	1.0	1.0	3.5	3.3	1.3	13.9*	2.41*
479.732	624	902	1.5	62*	1.0	1.0	1.5	3.3	4.0*	13.4*	2.47
479.734	615	817	4.3	89	3.0	1.0	4.0	3.8	2.5	16.0	1.89
479.735	625*	914	4.3	111	3.8	1.5	2.3*	4.5	2.5	12.2	2.09
479.736	620	820	1.2	51	1.5	1.0	1.0	2.3	2.5	14.1	2.17
479.737	618	830	2.0	70	1.0	1.0	1.5	2.3*	1.5	12.8	3.05
479.738	623	827	1.8*	43	1.0	1.0	3.3*	2.5	4.5	22.7	2.23*

Table 4.2
Seed composition data for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355, grown at Urbana, IL

Entry	Maturity group	Protein (%)	Oil (%)	Palmitic (%)	Stearic (%)	Oleic (%)	Linoleic (%)	Linolenic (%)	Other (%)
476.345	I	39.9	19.9	12.0	3.4	22.2	54.8	7.6	0.0
476.348	I	42.5	20.2	12.3	2.9	22.8	55.3	6.8	0.0
476.352A	II	39.5	20.7	11.9	3.1	19.4	58.7	6.9	0.0
476.352B	II	40.9	19.5	12.5	3.0	21.6	56.4	6.6	0.0
476.352C	II	39.2	20.9	12.9	3.4	24.5	53.4	5.8	0.0
476.880	IV	43.5	16.5	12.7	3.4	19.8	56.6	7.7	0.0
476.881	III	43.8	16.4	12.6	4.0	22.2	53.1	8.4	0.0
476.887	III	43.9	15.6	13.2	2.9	17.9	54.8	11.3	0.0
476.899	IV	43.8	16.4	11.1	3.1	20.2	55.9	9.9	0.0
476.911	II	42.6	17.5	12.1	2.3	35.7	43.2	6.8	0.0
476.914	IV	44.6	15.2	12.4	3.2	19.3	56.1	9.0	0.0
476.922	III	41.7	16.0	12.5	3.2	19.5	54.9	10.0	0.0
476.936	IV	42.6	16.0	12.7	3.2	19.8	55.8	8.6	0.0
476.938	III	43.4	16.4	12.4	3.5	21.1	54.5	8.6	0.0
476.939	IV	45.0	15.3	11.7	3.7	23.9	52.0	8.8	0.0
476.942	IV	42.0	16.0	13.7	3.2	24.2	50.9	8.1	0.1
479.709	I	42.9	19.7	13.1	3.1	24.7	53.0	6.2	0.0
479.710	I	42.8	20.3	11.9	3.2	25.5	53.3	6.3	0.0
479.711	II	41.2	16.6	15.7	3.0	17.0	57.8	6.5	0.0
479.712	I	44.4	17.1	12.9	3.2	19.2	57.4	7.4	0.0
479.713	II	40.7	20.6	13.1	3.0	25.9	52.6	5.4	0.0
479.714	I	39.3	20.7	11.7	3.6	27.7	51.7	5.4	0.0
479.717	II	41.4	20.6	13.3	3.1	24.7	53.4	5.5	0.0
479.718A	I	42.0	18.6	13.0	3.0	22.8	55.0	6.4	0.1
479.718B	II	40.4	21.8	12.3	3.3	23.2	55.9	5.5	0.0
479.719	I	39.0	20.3	11.8	3.6	22.6	54.9	7.2	0.0
479.720	III	41.0	19.7	13.1	2.6	20.9	57.0	6.5	0.0
479.721	II	40.6	20.7	13.7	3.5	20.5	55.6	6.8	0.0
479.722	III	40.6	19.8	12.6	2.8	21.7	56.2	6.8	0.0
479.723	II	43.0	19.1	12.3	3.0	24.1	54.7	5.9	0.0
479.724A	II	42.5	20.5	11.4	3.3	31.2	49.5	4.9	0.0
479.724B	II	42.2	20.8	12.0	3.0	30.8	50.5	3.9	0.0
479.725A	II	41.5	20.0	12.0	3.0	25.5	53.5	6.1	0.0
479.725B	II	39.9	20.4	12.1	3.7	31.0	49.2	4.2	0.0
479.726	I	41.4	21.0	12.1	2.7	21.6	51.7	6.0	0.0
479.727	II	38.6	21.7	10.5	2.8	23.9	55.9	7.0	0.0
479.728A	I	43.6	18.6	13.7	3.6	20.4	55.6	6.8	0.0
479.728B	I	42.1	18.3	12.5	3.3	20.6	56.9	6.8	0.0
479.729	III	42.1	17.7	12.8	3.0	19.5	57.4	7.5	0.0
479.730	III	41.7	19.9	11.8	2.8	22.7	55.8	7.0	0.0
479.731	I	40.4	20.0	11.6	3.6	20.8	56.7	7.4	0.0
479.732	II	42.0	19.6	13.3	3.5	17.7	57.1	8.5	0.0
479.734	I	43.4	18.7	12.6	4.0	24.2	52.7	6.6	0.0
479.735	III	39.9	19.6	12.1	3.5	22.1	55.4	7.1	0.0
479.736	I	43.6	18.5	12.6	2.7	24.4	54.0	6.4	0.0
479.737	II	40.9	20.5	11.8	3.5	20.5	57.4	7.0	0.0
479.738	II	43.8	18.5	11.0	3.2	24.7	54.5	6.8	0.0

Table 1.2
Identification and origin information for USDA soybean germplasm
in maturity groups I to IV, PI 446.893 to PI 486.355

PI No.	Accession name	Foreign collection No.	Country of acquisition	Country of origin	Year introduced or released	Maturity group
479.740	Xiao huang ke	Gong di 3232	China	China	1983	III
479.741	Xiao yang dou	Gong di 1233	China	China	1983	III
479.742	Zhong sheng No. 1	Gong di 2848	China	China	1983	II
479.743	Zhu yan dou	Gong di 2953	China	China	1983	II
479.758	Mufu 80-3125		China	China	1983	I
479.759	Mufu 81-4220		China	China	1983	I
479.762	Heinong No. 4		China	China	1983	I
483.082A	Baekchun		South Korea	South Korea	1983	IV
483.082B	Baekchun		South Korea	South Korea	1983	IV
483.084	Suweon 97		South Korea	South Korea	1983	IV
486.353	Hwangkeunkong		South Korea	South Korea	1984	III
486.354A	Jangyeobkong		South Korea	South Korea	1984	IV
486.354B	Jangyeobkong		South Korea	South Korea	1984	IV
486.355	SS74185		South Korea	South Korea	1984	IV

Table 2.2
Descriptive data for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355

Entry	Maturity group	Stem trm.	Flower color	Pubescence			Pod color	Seed coat		Hilum color	Other traits	
				Color	Form	Density		Luster	Color		Seed	Leaf
479.740	III	N	W	G	E	N	Br	S	Y	Y		
479.741	III	D	W	G	E	Ssp	Br	I	Y	Y		
479.742	II	D	W	G	E	N	Br	S	Y	Bf		
479.743	II	N	W	T	E	N	Br	S	Br	Bl	Saddle	
479.758	I	S	W	G	E	N	Br	S	Y	Y		Sna
479.759	I	N	P	T	E	N	Br	D	Y	Y		
479.762	I	N	W	G	E	N	Br	S	Y	Lbf		Na
483.082A	IV	D	W	G	E	N	Lbr	D	Lgn	Lbf		
483.082B	IV	D	W	G	E	N	Tn	D	Y	Lbf		
483.084	IV	D	P	G	E	N	Dbr	I	Y	Y		
486.353	III	D	P	G	E	N	Dbr	I	Y	Y		
486.354A	IV	D	P	G	E	N	Br	S	Y	Y		
486.354B	IV	D	P	G	E	Ssp	Br	S	Y	Y		
486.355	IV	D	P	G	E	Ssp	Br	I	Y	Ib		

Table 3.2
Agronomic data for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355, grown at Urbana, IL

Entry	Flower date (mmdd)	Maturity date (mmdd)	Lodging (score)	Height (cm)	Stem trm. (score)	Shattering early (score)	Shattering late (score)	Seed quality (score)	Mottling (score)	Seed weight (cg/sd)	Seed yield (Mg/ha)
479.740	622	915	3.3	115	3.5	1.8*	2.5*	4.5	2.3	15.3	2.76*
479.741	623	905	1.4	61*	1.0	1.0	1.0	2.0	4.0*	16.8*	2.58
479.742	620	905	2.0	68	1.0	1.3	1.3	1.5	1.3	14.7	3.06
479.743	618	829	1.9	71	3.0	1.0	1.5	3.3*	-	17.8	2.26
479.758	616	824	2.5	80*	2.5	1.0	4.0	3.0	1.8	14.1	2.72
479.759	617	821	1.7	100	3.3	1.0	1.3	2.3	2.3	19.7	2.70
479.762	614	819	1.8	87	2.8	1.0	1.3	3.0	4.0*	13.4	2.42
483.082A	726	1017	1.8	78	1.0	2.3	2.3	2.3	2.0	11.2	2.03
483.082B	725	1014	1.5	75	1.0	1.3	1.3	2.8	2.0	10.8	1.70
483.084	709	921	2.3*	75*	1.0	1.0	1.0	2.3	1.5	19.0*	2.92*
486.353	708	918	2.0	76*	1.0	1.0	1.0	1.8	1.3	18.5*	2.82
486.354A	709	924*	1.5	75	1.0	1.0	1.3	2.3	1.8	21.2*	3.01
486.354B	711	926	2.3	79	1.0	1.8*	2.0*	2.0	1.8	22.2*	2.83
486.355	722	930	3.8*	96	1.3	1.3	3.0*	2.8	2.5	9.3	1.54

Table 4.2
Seed composition data for USDA soybean germplasm in maturity groups I to IV, PI 446.893 to PI 486.355, grown at Urbana, IL

Entry	Maturity group	Protein (%)	Oil (%)	Palmitic (%)	Stearic (%)	Oleic (%)	Linoleic (%)	Linolenic (%)	Other (%)
479.740	III	38.2	21.4	12.0	3.3	22.0	55.3	7.5	0.0
479.741	III	41.0	19.3	12.2	2.6	21.0	57.3	7.1	0.0
479.742	II	39.0	21.6	12.2	3.0	21.4	56.8	6.7	0.0
479.743	II	42.4	20.5	11.7	3.4	29.5	51.1	4.5	0.0
479.758	I	40.5	19.9	12.6	3.6	22.8	54.2	6.8	0.0
479.759	I	40.9	22.0	12.0	3.6	27.8	51.0	5.6	0.0
479.762	I	39.3	22.4	12.9	3.9	25.8	51.8	5.7	0.0
483.082A	IV	40.9	16.3	11.9	2.7	17.4	58.2	9.9	0.0
483.082B	IV	42.1	16.7	12.3	2.6	16.6	58.8	9.8	0.0
483.084	IV	39.1	20.1	13.5	2.6	21.3	54.8	7.8	0.0
486.353	III	38.6	19.9	11.5	2.5	21.1	56.1	9.0	0.0
486.354A	IV	40.4	18.9	12.2	3.3	23.7	52.8	8.0	0.0
486.354B	IV	39.3	18.6	13.3	3.2	23.7	52.5	7.3	0.0
486.355	IV	42.1	18.2	12.9	2.5	20.9	53.6	10.3	0.0