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Evaluation of the USDA Soybean Germplasm Collection: Maturity Groups 000 to IV (PI 490.765 to PI 507.573)

ABSTRACT

Claudia J. Coble, Gerald L. Sprau, Randall L. Nelson, James H. Orf, Donna I. Thomas, and James F. Cavins. 1991. Evaluation of the USDA Soybean Germplasm Collection: Maturity Groups 000 to IV (PI 490.765 to PI 507.573). U.S. Department of Agriculture Technical Bulletin No. TB-1802, 61 p.

This publication contains data on the origin, descriptive characteristics, agronomic performance and seed composition of over 500 soybean (*Glycine max* (L.) Merr.) accessions in maturity groups 000 to IV from the USDA Soybean Germplasm Collection. These accessions (PI 490.765 to PI 507.573) were introduced into the United States from 1984 to 1987. Cultivars from the United States and Canada, publicly released from 1988 to 1990, 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 1989 and 1990.

KEYWORDS: agronomic characteristics, cultivar, evaluation, fatty acids, *Glycine max*, origin, seed composition, seed yield, soybean, soybean germplasm, soybean oil, soybean protein.

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Errata

Below is a list of corrections for stem termination codes and the page on which the entry can be found.

Entry	Stem trm.	Page no.
506.477	D	15
506.481	S	15
506.932	S	31
506.933	S	31
506.942	D	31
506.943	S	31
507.028	S	35
507.297	S	47
507.325	S	47
507.341	S	47

Please note that descriptive data for entries 507.232 and 507.350 on page 7 are misaligned.

CONTENTS

EVALUATION OF THE USDA SOYBEAN GERMPLASM COLLECTION: MATURITY GROUPS 000 TO IV (PI 490.765 TO PI 507.573)

Claudia J. Coble, Gerald L. Sprau, Randall L. Nelson, James H. Orf, Donna I. Thomas, and James F. Cavins[1]

This publication contains information on the origin, descriptive characteristics, agronomic performance, and seed composition of soybean (*Glycine max* (L.) Merrill) germplasm accessions for PI 490.765 to PI 507.573 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 1988 to 1990. 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 for PI numbers lower than PI 490.765 can be obtained from the curator, USDA Soybean Germplasm Collection, USDA-ARS, University of Illinois, Urbana, IL 61801.[2]

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

Maturity groups 000 to 0: In this test, the seed was planted on May 26, 1989, and May 31, 1990, at the University of Minnesota, St. Paul (45°0' N. lat.).

Maturity groups I to IV: In this test, the seed was planted on May 13, 1989, and May 8, 1990, on the Agronomy-Plant Pathology South Farm, University of Illinois, Urbana (40°8' N. lat.).

Both 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 plants reached maturity, and all data were collected on those two rows. The plots at Urbana were four rows wide and 4.7 m long, with 75 cm between rows. The center two rows were end trimmed to 3.2 m one month after planting, and all data were collected on those two rows. Both tests were blocked by maturity group in the field, but the data are reported in PI-number order.

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[2]USDA Technical Bulletins 1760, 1726 and 1718, and U.S. Regional Soybean Laboratory Manuals 223, 230 and 238. Each report also includes U.S. and Canadian cultivars of the corresponding period.

Only accession means are reported. An asterisk (*) following a mean indicates that the difference between the values for the two replications exceeded a specified limit. The limits for the traits were as follows:

Flowering	>7 days	Maturity	>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 devised because of the possibility of misinterpreting the mean of only two observations when the difference between the individual values was large. A plus sign (+) following a mean indicates that an actual value was recorded for only one year and that the missing value was estimated using linear regression.

To obtain protein and oil percentages, two aliquots of 10 to 11 g of each accession were analyzed in an Infratec Model 1255 NIR (near infrared) whole grain analyzer, previously calibrated with 150 soybean samples having a protein range of 28-52% and oil range of 12-26%. Results were averaged, and means reported. Duplication parameters were set at plus/minus 1.5% for protein and plus/minus 1.0% for oil. Values outside of these parameters were re-tested.

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 as allowed to stand for 45 minutes, after which 1 mL of 10-percent acetic acid solution was added followed immediately by 10 mL of heptane. The sample was completely mixed after each reagent addition and then allowed to stand for several minutes so that the layers could separate. The heptane layer was analyzed with a Varian model 3400 gas chromatograph equipped with two model 8100 autoinjectors and flame detectors. Columns were 2 m by 2 mm and packed with 100/120 mesh Gas-Chrom Q coated with 5 percent 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 all done by computer.

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

Table 1:

PI number:

Serial numbers assigned by the Plant Introduction Office, Germplasm Introduction and Evaluation Laboratory, USDA-ARS, BARC-West, Beltsville, MD 20705.

Accession name and foreign collection number:
Accession names and foreign collection numbers are reported as received. No attempt was made to change transliterations or translations done by others. 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. Any name or number received with the original sample is enclosed in parentheses for all but the subline designated "A".

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 upon information received from the country of acquisition.

Year of introduction or release:
This is the year in which cultivars from the United States or Canada were officially released, or the year in which introductions were assigned PI numbers.

Maturity group:
Classification of relative maturity based on data collected Urbana, IL.

Table 2:

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

Flower color:
P = purple, Dp = dark purple, Lp = light purple, Pth = purple throat (all petals are white except for the base of the standard), W = white.

Pubescence color:
T = tawny, Lt = light tawny, G = gray, Ng = near gray, - = not recorded when pubescence form = C or pubescence density = G).

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

Pubescence density:
Dn = dense
G = glabrous (no pubescence)
N = normal density
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, Tn = Tan.

Seedcoat luster:

B = bloom, D = dull, I = intermediate (between shiny and dull), S = shiny.

Seedcoat and hilum color:

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

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

Other traits, seed:

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

Other traits, leaf:

nlft = number of leaflets, where n = 4 or 5
Dab = delayed abscission of leaves
Na = narrow leaflet
Wa = wavy leaflet margin

Other traits, plant:

Sw = semi-wild
Cd = chlorophyll deficient

Slight or some expression of any of these "Other traits" is indicated by prefixing the abbreviation with S.

Table 3:

Flowering:
50% of the plants have flowered (days after May 31).

Maturity:
95% of the pods have reached final color (days after May 31).

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

Height:
From ground to stem tip in centimeters, at maturity.

Stem termination:
Scored 1 (very determinate) to 5 (very indeterminate)
Stem termination scores not recorded at St. Paul location.

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 percent, 3 = 10 to 25 percent, 4 = 25 to 50 percent, 5 = >50 percent. Shattering scores were not taken at St. Paul location.

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

Mottling:
Score based on percentage of seedcoat 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 seedcoat was too darkly pigmented for mottling to be scored.

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

Seed yield:
Megagrams per hectare at 13 percent moisture.

Missing data are indicated by a period (.).

Table 4:

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

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 490.765 to PI 507.573

PI No.	Accession name	Foreign collection No.	Country of acquisition	Country of origin	Year introduced or released	Maturity group
	Clay		United States	United States	1967	0
	Dawson		United States	United States	1990	0
	Maple Amber		Canada	Canada	1982	00
	Maple Arrow		Canada	Canada	1980	00
	Maple Donovan		Canada	Canada	1988	0
	Maple Glen		Canada	Canada	1988	00
	Maple Presto		Canada	Canada	1980	000
	McCall		United States	United States	1978	00
	OAC Aries		Canada	Canada	1987	0
	OAC Libra		Canada	Canada	1987	0
	OAC Musca		Canada	Canada	1988	0
	OAC Pisces		Canada	Canada	1987	0
	OAC Scorpio		Canada	Canada	1987	00
	Sibley		United States	United States	1987	0
	Simpson		United States	United States	1982	0
491.578	Hejiao No. 6	GD 2408	China	China	1984	0
494.182	Suzuhime		United States	Japan	1985	0
494.525			Canada	Sweden	1985	000
494.526			Canada	Sweden	1985	00
503.335	Dong nong No. 36		United States	China	1986	000
503.336	Dong nong No. 37		United States	China	1986	00
503.339A	Sui feng		United States	China	1986	00
503.339B	(Sui feng)		United States	China	1986	0
506.697	Gokuwase hayabusa edemame	NIAR 060119	Japan	Japan	1987	000
506.824	Kairyou shirome	NIAR 090180	Japan	Japan	1987	0
506.832	Kanagawa wase	NIAR 090181	Japan	Japan	1987	0
506.925	Kosodefuri	NIAR 010073	Japan	Japan	1987	000
507.038	Mikawashima (Edamame)	NIAR 040693	Japan	Japan	1987	0
507.129	Okuhara wase 1	NIAR 000016	Japan	Japan	1987	0
507.201	Saishuu daizu	NIAR 030061	Japan	Japan	1987	0
507.232	Shimo shirazu	NIAR 030046	Japan	Japan	1987	00
507.285	Shirome	NIAR 090136	Japan	Japan	1987	0
507.315	Takasago	NIAR 040731	Japan	Japan	1987	0
507.350	Toiku 129	NIAR 010063	Japan	Japan	1987	00
507.351	Toiku 130	NIAR 010064	Japan	Japan	1987	0
507.472	Tousan kei NA 17	NIAR 041017	Japan	Japan	1987	0
507.500	Urayama wase	NIAR 010084	Japan	Japan	1987	000
507.522	Wase kuro daizu	NIAR 090178	Japan	Japan	1987	000
507.525A	Wase midori	NIAR 040730	Japan	Japan	1987	0
507.525B	(Wase midori)	NIAR 040730	Japan	Japan	1987	0
507.547	Yamauchi daizu	NIAR 040721	Japan	Japan	1987	0
507.565	Yukinoshita	NIAR 010088	Japan	Japan	1987	000
507.567	Yukiwari mame	NIAR 020694	Japan	Japan	1987	000

Table 2.1
Descriptive data for USDA soybean germplasm in maturity groups 000 to 0, PI 490.765 to PI 507.573

Entry	Maturity group	Stem trm.	Flower color	Pubescence			Pod color	Seedcoat		Hilum color	Other traits		
				Color	Form	Density		Luster	Color		Seed	Leaf	Plant
Clay	0	N	P	G	E	N	Br	S	Y	Y			
Dawson	0	N	P	G	E	N	Br	I	Y	Y			
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 Donovan	0	N	P	G	E	N	Br	S	Y	Bf			
Maple Glen	00	N	P	T	E	N	Br	D	Y	Y			
Maple Presto	000	N	P	T	E	Ssp	Br	I	Y	Tn			
McCall	00	N	P	G	E	N	Br	D	Y	Y			
OAC Aries	0	N	P	T	E	N	Br	D	Y	Dbr			
OAC Libra	0	N	W	T	E	N	Br	D	Y	Bl			
OAC Musca	0	N	P	G	E	N	Br	D	Y	Y			
OAC Pisces	0	N	W	G	E	N	Br	D	Y	Bf			
OAC Scorpio	00	N	P	T	E	Ssp	Br	D	Y	Y			
Sibley	0	N	W	G	E	N	Br	D	Y	Y			
Simpson	0	N	P	G	E	N	Br	D	Y	Bf			
491.578	0	S	W	G	E	N	Br	I	Y	Lbf			
494.182	0	D	P	G	Sa	N	Br	I	Y	Y		Na	
494.525	000	D	P	T	E	Ssp	Br	I	Y	Br			
494.526	00	D	P	T	E	N	Br	I	Y	Y			
503.335	000	N	P	T	E	N	Br	I	Y	Y	Abh		
503.336	00	N	P	G	E	N	Br	I	Y	Y		Na	
503.339A	00	N	P	G	E	Ssp	Br	I	Y	Y		Dab	
503.339B	0	N	W	G	E	Ssp	Br	I	Y	Y			
506.697	000	D	P	T	E	N	Br	I	Gn	Bl			
506.824	0	D	P	G	Sa	N	Br	I	Y	Bf			
506.832	0	N	W	G	A	Ssp	Br	D	Y	Dbf			
506.925	000	D	P	T	E	N	Br	I	Gn	Bl			
507.038	0	D	W	G	A	N	Br	I	Y	Bf			
507.129	0	D	P	T	E	Ssp	Br	I	Y	Br			
507.201	0	N	W	G	E	N	Br	I	Y	Lbf			
507.232	00		D	P	T	E	N	Br	I	Y	Br		
507.285	0	D	W	G	A	Ssp	Br	I	Y	Bf			
507.315	0	D	W	G	A	N	Tn	I	Y	Bf			
507.350	00		D	P	G	E	Ssp	Br	I	Y	Y		
507.351	0	D	P	G	E	Ssp	Br	I	Y	Y			
507.472	0	N	P	G	E	Ssp	Tn	I	Lgn	Lgn			
507.500	000	D	P	T	E	Ssp	Br	I	Y	Br			
507.522	000	D	P	T	E	N	Br	I	Bl	Bl			
507.525A	0	D	W	T	E	Ssp	Br	I	Gn	Bl			
507.525B	0	D	W	T	E	Ssp	Br	I	Gn	Bl			
507.547	0	D	P	T	E	N	Br	I	Y	Br		Na	
507.565	000	D	P	T	E	N	Br	I	Gn	Bl			
507.567	000	D	P	T	E	N	Br	I	Gn	Bl			

Table 3.1
Agronomic data for USDA soybean germplasm collection in maturity groups 000 to 0, PI 490.765 to PI 507.573, grown at St. Paul, MN

Entry	Flowering (days after May 31)	Maturity (days after May 31)	Lodging (score)	Height (cm)	Seed Quality (score)	Seed Mottling (score)	Seed Weight (cg/sd)	Yield (Mg/ha)
Clay	35*	111*	2.5	67	3.0*	2.0	18.1*	1.01*
Dawson	43	108*	2.5	79	3.0	1.5	16.0	1.20
Maple Amber	30*	97	3.0	84	2.5	2.0	16.3	1.63
Maple Arrow	29*	104	3.0	91	3.0	2.2	17.7	1.47
Maple Donovan	33*	107	3.0	91	2.0	1.5	14.8	1.59*
Maple Glen	30*	105	3.0	84	3.5	2.2*	19.7	1.54
Maple Presto	28*	89	2.0	74	3.0*	2.5	16.3	1.18
McCall	30*	96	3.5	79	2.5	2.0	15.6*	1.52
OAC Aries	34*	116	3.5	104	3.0	3.2*	16.4	1.83
OAC Libra	34*	114*	3.5	91	2.5	4.0	16.7	1.52*
OAC Musca	36*	115*	3.5	97	2.5	2.2	17.6	1.62*
OAC Pisces	37*	123*	3.5	89	2.0	2.0	17.8	1.75*
OAC Scorpio	31*	107*	3.5	79	2.5	1.8	17.6	1.31
Sibley	38*	114*	3.0*	86	2.5	1.0	16.9	1.64*
Simpson	43	112*	2.5	84	2.0	1.0	16.2	1.64*
491.578	39*	119	4.0	81	3.5	2.5	23.5	1.04
494.182	44*	113*	2.0*	61	2.5	4.0*	12.0	1.06
494.525	30*	90	1.0	28	2.5	3.2*	19.7*	0.85
494.526	30*	105*	1.5	30	3.5	2.5	18.4*	0.72
503.335	33*	91	2.0*	48	4.0	2.5	17.8*	0.72
503.336	38	103	3.0	84	2.5	2.0	19.4	1.33
503.339A	33*	103*	3.0	79	4.0	2.5	26.1	1.08*
503.339B	33*	110	3.5	89	3.5	3.0	19.9	0.98
506.697	32*	95	1.0	38	3.0*	4.0	18.0*	0.27
506.824	49*	124*	4.5	67	2.5	3.0*	13.1	0.63
506.832	53	106	4.0	58	2.5	3.5	10.9	0.46
506.925	31*	94	1.0	33	3.5	3.5	17.2*	0.54
507.038	41*	116*	4.0	81	2.5	1.0	24.1	0.98*
507.129	42	107	3.0	61	3.0	4.0*	24.6*	0.62
507.201	39*	117	4.0*	104	2.0	1.0	19.4	1.23
507.232	42*	98	3.0*	56	3.0*	2.0	18.1	0.80
507.285	47*	110	3.0	64	3.0*	2.5	18.6*	0.75*
507.315	50*	111*	2.5	51	2.5	1.0	23.9	0.79*
507.350	38*	102	2.5	66	3.0*	2.0	18.8*	0.53*
507.351	38*	112*	3.5	66	4.0	3.0*	28.3*	0.85*
507.472	40*	113*	3.0	84	3.0*	1.0	18.6	1.13
507.500	30*	95	1.0	33	3.5	2.2*	27.9*	0.63
507.522	30*	89	1.0	36	2.0	-	18.9*	0.68
507.525A	41*	117	2.0*	48	2.5	2.0	27.2*	0.82
507.525B	45*	114*	2.0*	58*	2.5	1.8	27.9	0.60
507.547	44*	119	3.0	56	2.0	4.5	17.4	1.17
507.565	33*	90	1.5	36	3.0	4.0	17.3*	0.70
507.567	29*	90	1.0	28	2.5	2.2	18.1*	0.23

Table 4.1
Seed composition data for USDA soybean germplasm in maturity groups 000 to 0, PI 490.765 to PI 507.573, grown at St. Paul, MN

Entry	Maturity group	Seed composition: Protein (%)	Seed composition: Oil (%)	Oil composition: Palmitic (%)	Oil composition: Stearic (%)	Oil composition: Oleic (%)	Oil composition: Linoleic (%)	Oil composition: Linolenic (%)	Oil composition: Other (%)
Clay	0	40.5	21.6	11.2	2.9	21.7	56.0	8.1	0.0
Dawson	0	40.5	21.0	11.7	3.0	19.7	57.1	8.5	0.0
Maple Amber	00	41.7	21.3	10.1	2.9	27.9	52.2	6.9	0.0
Maple Arrow	00	40.3	20.8	11.3	2.6	21.9	55.7	8.5	0.0
Maple Donovan	0	40.3	21.1	11.0	2.7	24.1	55.0	7.3	0.0
Maple Glen	00	42.6	20.4	10.9	3.0	26.8	52.8	6.5	0.0
Maple Presto	000	40.0	21.5	11.9	3.2	27.1	50.0	7.7	0.0
McCall	00	39.4	20.9	11.7	3.2	22.3	54.5	8.2	0.0
OAC Aries	0	40.3	20.0	13.0	2.6	21.5	55.3	7.6	0.0
OAC Libra	0	40.5	21.1	11.4	3.0	25.1	53.0	7.4	0.0
OAC Musca	0	39.3	21.0	11.1	3.0	22.5	55.8	7.6	0.0
OAC Pisces	0	40.5	20.7	11.0	2.6	24.8	54.5	7.0	0.0
OAC Scorpio	00	41.1	20.5	11.6	3.0	24.1	53.6	7.5	0.0
Sibley	0	39.7	21.5	12.0	2.7	21.0	54.3	9.9	0.0
Simpson	0	40.0	21.0	11.4	2.6	22.0	55.7	8.3	0.0
491.578	0	41.5	20.8	11.1	3.1	30.9	47.6	7.2	0.0
494.182	0	39.9	19.1	12.0	2.7	18.3	57.3	9.6	0.0
494.525	000	41.2	20.9	10.7	3.2	27.5	51.3	7.2	0.0
494.526	00	39.3	20.6	11.2	2.9	25.6	52.0	8.3	0.0
503.335	000	48.5	15.7	13.4	3.0	19.7	54.7	9.1	0.0
503.336	00	41.4	19.9	12.2	3.4	20.7	53.9	9.7	0.0
503.339A	00	42.9	19.4	11.1	2.9	29.2	48.4	8.4	0.0
503.339B	0	43.6	18.5	12.1	2.5	24.0	51.8	9.5	0.0
506.697	000	47.9	16.8	13.2	3.1	21.3	53.6	8.6	0.0
506.824	0	43.7	14.7	10.2	3.0	16.5	58.7	11.5	0.0
506.832	0	47.6	14.8	12.8	2.7	20.9	53.2	10.4	0.0
506.925	000	48.1	15.4	12.5	2.8	24.8	51.2	8.6	0.0
507.038	0	43.3	19.3	13.0	2.6	19.6	56.6	8.2	0.0
507.129	0	41.5	19.6	11.3	2.3	31.1	48.8	6.5	0.0
507.201	0	39.7	21.9	11.0	3.1	27.8	50.8	7.2	0.0
507.232	00	41.0	19.6	12.3	2.9	23.9	52.1	8.7	0.0
507.285	0	45.8	16.9	12.4	2.5	22.1	54.1	8.8	0.0
507.315	0	44.7	16.1	11.6	2.3	24.3	52.2	9.5	0.0
507.350	00	44.5	18.3	12.0	2.5	23.6	52.2	9.6	0.0
507.351	0	41.5	19.0	10.6	2.5	25.9	52.3	8.7	0.0
507.472	0	43.4	17.0	11.0	2.1	29.2	48.7	8.9	0.0
507.500	000	41.7	19.7	11.2	2.9	32.4	46.8	6.6	0.0
507.522	000	45.0	19.7	13.2	3.1	21.1	54.0	8.6	0.0
507.525A	0	41.2	20.0	10.8	2.3	29.9	48.6	8.4	0.0
507.525B	0	41.1	19.5	11.0	2.3	26.6	50.5	9.5	0.0
507.547	0	43.1	18.6	11.3	2.5	19.5	57.2	9.4	0.0
507.565	000	48.5	15.8	13.6	2.9	19.9	54.9	8.7	0.0
507.567	000	47.2	16.1	12.8	3.1	26.3	52.0	5.7	0.0

Table 1.2
Identification and origin information for USDA soybean germplasm in maturity groups I to IV, PI 490.765 to PI 507.573

PI No.	Accession name	Foreign collection No.	Country of acquisition	Country of origin	Year introduced or released	Maturity group
	BSR 201		United States	United States	1982	II
	Burlison		United States	United States	1989	II
	Century 84		United States	United States	1984	II
	Chamberlain		United States	United States	1986	III
	Conrad		United States	United States	1988	II
	Crawford		United States	United States	1977	IV
	Dawson		United States	United States	1990	0
	Elf		United States	United States	1977	III
	Elgin		United States	United States	1984	II
	Elgin 87		United States	United States	1988	II
	Essex		United States	United States	1972	V
	Fayette		United States	United States	1988	III
	Flyer		United States	United States	1989	IV
	Gnome 85		United States	United States	1990	II
	Hardin		United States	United States	1980	I
	Haroson		Canada	Canada	1988	I
	Harper 87		United States	United States	1988	III
	Hobbit 87		United States	United States	1991	III
	Hodgson 78		United States	United States	1978	I
	LN83-2356		United States	United States	1989	IV
	Morgan		United States	United States	1987	IV
	Pella 86		United States	United States	1987	III
	Pixie		United States	United States	1990	IV
	Pyramid		United States	United States	1987	IV
	Resnik		United States	United States	1989	III
	Ripley		United States	United States	1989	IV
	Sibley		United States	United States	1987	0
	Spencer		United States	United States	1988	IV
	Sprite 87		United States	United States	1991	III
	Stafford		United States	United States	1987	IV
	TN 4-86		United States	United States	1988	IV
	Union		United States	United States	1975	IV
	Williams 82		United States	United States	1988	III
	Zane		United States	United States	1984	III
79.691			China	China	1929	III
266.806D		No. 4	Netherlands	China	1966	IV
408.221A		KAERI 603-1	Rep. of Korea	Rep. of Korea	1976	IV
424.338			Rep. of Korea	Rep. of Korea	1978	IV
490.765	Dahedou		China	China	1984	III
490.766	Dawudou		China	China	1984	III
490.767	Jidou No. 1		China	China	1984	III
490.768	Raoshangun		China	China	1984	III
490.769	Yixianheidou		China	China	1984	III
491.548	Shi jin wang	GD 2256	China	China	1984	II
491.579	Jilin No. 19	GD 3264	China	China	1984	I

Table 2.2
Descriptive data for USDA soybean germplasm in maturity groups I to IV, PI 490.765 to PI 507.573

Entry	Maturity group	Stem trm.	Flower color	Pubescence			Pod color	Seedcoat		Hilum color	Other traits		
				Color	Form	Density		Luster	Color		Seed	Leaf	Plant
BSR 201	II	N	W	G	E	N	Br	D	Y	Bf			
Burlison	II	N	W	T	E	N	Tn	D	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			
Conrad	II	N	P	T	E	N	Tn	D	Y	Br			
Crawford	IV	N	P	T	E	N	Br	S	Y	Bl			
Dawson	0	N	P	G	E	N	Br	I	Y	Y			
Elf	III	D	P	T	E	N	Tn	S	Y	Bl			
Elgin	II	N	P	T	E	N	Br	S	Y	Bl			
Elgin 87	II	N	P	T	E	N	Br	S	Y	Bl			
Essex	V	D	P	G	E	N	Tn	D	Y	Ib			
Fayette	III	N	W	T	E	N	Tn	S	Y	Bl			
Flyer	IV	N	P	T	E	N	Tn	D	Y	Bl			
Gnome 85	II	D	P	T	E	N	Tn	S	Y	Bl			
Hardin	I	N	P	G	E	N	Br	D	Y	Y			
Haroson	I	N	P	G	E	N	Br	D	Y	Bf			
Harper 87	III	N	P	T	E	N	Br	S	Y	Bl			
Hobbit 87	III	D	W	T	E	N	Tn	S	Y	Bl			
Hodgson 78	I	N	P	G	E	N	Br	D	Y	Bf			
LN83-2356	IV	N	P	T	E	N	Tn	D	Y	Bl			
Morgan	IV	N	W	T	E	N	Tn	D	Y	Bl			
Pella 86	III	N	P	T	E	N	Tn	D	Y	Bl			
Pixie	IV	D	P	T	E	N	Tn	S	Y	Bl			
Pyramid	IV	N	P	G	E	N	Tn	S	Y	Ib			
Resnik	III	N	P	T	E	N	Tn	D	Y	Bl			
Ripley	IV	D	P	G	E	N	Tn	I	Y	Bf			
Sibley	0	N	W	G	E	N	Br	D	Y	Y			
Spencer	IV	N	W	T	E	N	Br	D	Y	Br			
Sprite 87	III	D	W	T	E	N	Tn	S	Y	Bl			
Stafford	IV	D	P	G	E	N	Tn	D	Y	Ib			
TN 4-86	IV	N	P	T	E	N	Tn	I	Y	Bl			
Union	IV	N	W	T	E	N	Tn	S	Y	Bl			
Williams 82	III	N	W	T	E	N	Tn	S	Y	Bl			
Zane	III	N	P	G	E	N	Br	D	Y	Ib			
79.691	III	N	P	Lt	Sa	N	Br	D	Br	Bl	Saddle		
266.806D	IV	N	P	G	E	N	Tn	I	Y	Bf			
408.221A	IV	D	P	G	E	Ssp	Br	I	Y	Y			
424.338	IV	D	P	T	E	Ssp	Br	I	Bl	Bl			
490.765	III	D	W	T	E	N	Br	I	Br	Br			
490.766	III	D	W	Lt	E	N	Br	I	Bl	Bl			
490.767	III	D	W	G	E	N	Br	I	Y	Lbf			
490.768	III	D	Dp	G	E	N	Br	I	Y	Bf			
490.769	III	D	W	T	Sa	N	Bl	I	Bl	Bl			
491.548	II	D	W	G	E	N	Br	I	Y	Bf			
491.579	I	N	P	G	E	N	Br	S	Y	Y		Na	

Table 3.2
Agronomic data for USDA soybean germplasm collection in maturity groups I to IV, PI 490.765 to PI 507.573, grown at Urbana, IL

Entry	Flowering (days after May 31)	Maturity (days after May 31)	Lodging (score)	Height (cm)	Stem termination (score)	Shattering Early (score)	Shattering Late (score)	Seed Quality (score)	Seed Mottling (score)	Seed Weight (cg/sd)	Yield (Mg/ha)
BSR 201	28*	109	2.5*	89	3.0	1.0	1.0	2.2	1.5	16.1	4.24
Burlison	32	110	1.6	89	3.0	1.0	1.0	2.2	2.0	17.4	4.12
Century 84	28	107	1.8	85*	3.0	1.0	1.0	2.0	1.5	16.8	3.79*
Chamberlain	35	122	2.1	109	3.0	1.0	1.0	2.2	2.5	18.1	4.04
Conrad	30	105	1.8	89	3.0	1.0	1.0	2.2	1.5	16.7*	4.00
Crawford	43	137	2.2	116	3.0	1.0	.	2.1	2.0	15.7	2.87
Dawson	23	87	1.0	58*	3.0	1.0	1.0	1.8	1.0	14.0	1.93
Elf	39	126	1.3	58	1.0	1.0	1.0	1.5	1.5	16.7	4.13
Elgin	28	107	2.5	82	3.0	1.0	1.0	2.5	2.0	15.4	3.56
Elgin 87	28	108	2.5	85	3.0	1.0	1.0	2.2	2.0	15.7	3.74
Essex	60	142	2.3	94	1.5	1.0	.	2.0	1.0	11.1	2.74+
Fayette	35	128	1.6	110	3.0	1.0	1.0	2.5	1.5	16.9	3.30
Flyer	32	126	2.1	108	3.0	1.0	1.0	2.2	2.0	14.7	3.95
Gnome 85	36	119	1.1	55	1.0	1.0	1.0	1.5	1.5	17.0	3.70
Hardin	28*	98	1.8	83	3.0	1.0	1.0	2.0	1.0	14.0	3.27
Haroson	23	91*	1.3	70	3.0	1.0	1.0	1.5	1.5	12.0	2.71*
Harper 87	36	119	1.6	90	3.0	1.0	1.0	2.7	2.0	20.1	3.56
Hobbit 87	37	124	1.1	60	1.0	1.0	1.0	2.0	1.0	16.7	3.75
Hodgson 78	24	97	1.5	79	3.0	1.0	1.0	1.8	1.0	14.9	3.11
LN83-2356	36*	127	2.4	110	3.0	1.0	1.0	2.0	2.0	19.8	4.20
Morgan	40	131	1.9	114	3.0	1.0	1.3	2.5	2.0	16.1	3.23
Pella 86	29	115	1.8	102	3.0	1.0	1.0	2.7	2.0	19.1	4.40
Pixie	39	127	1.2	56	1.0	1.0	1.0	1.4	1.8	16.5	3.66
Pyramid	43	129	2.7	114	3.0	1.0	1.0	2.3	2.0	14.0	2.91
Resnik	30	119	1.8	90	3.0	1.0	1.0	2.5	1.0	14.6	3.54
Ripley	46	124	1.3	69	1.0	1.0	1.0	1.3	1.0	12.5	4.42+
Sibley	24	94	1.0	70	3.0	1.0	1.0	1.8	1.0	14.6	2.49
Spencer	38	126	1.8	109	3.0	1.0	1.0	2.7	2.0	18.2	4.34
Sprite 87	37	124	1.4	62	1.0	1.0	1.0	1.5	1.0	16.5*	3.93
Stafford	61	145	2.1	101	1.5	1.0	.	1.7	1.5	11.3	2.74
TN 4-86	40	136	1.6	119	3.0	1.0	.	2.0	1.5	11.9	2.83
Union	39	129	2.4	109	3.0	1.3	1.0	2.6	1.8	18.6	3.51
Williams 82	37	127	1.6	109	3.0	1.0	1.0	2.5	2.0	15.1*	3.52
Zane	34	116	1.4	93	3.0	1.0	1.0	3.2*	2.0	17.8	3.71
79.691	32	120	2.5	84*	3.0	1.0	1.5	2.2	-	14.8	2.53
266.806D	47*	128	3.7	120	3.0	1.0	1.0	2.2	2.5	12.5	2.28
408.221A	59*	132	2.8	78	1.3	1.3	2.0	2.5	4.0	15.1	1.89
424.338	58*	129	3.4	73	1.0	2.5	.	2.5	-	19.0	1.91
490.765	53	120	3.2	85	2.0	1.5	5.0	2.0	-	17.5	2.06
490.766	54	124	3.2	80	1.8	1.5	1.8	2.0	-	19.0	2.49*
490.767	47	123	2.0	82	1.5	1.0	1.3	2.2	1.5	18.2	3.18
490.768	56	123	3.2	78	1.5	1.0	1.8	2.2	1.5	13.7	2.05
490.769	51	117	3.2	98	2.0	1.0	3.5	1.8	-	8.4	2.45
491.548	35	105	3.5	81	2.0	1.0	1.0	2.2	1.0	14.9	3.21
491.579	24	91*	1.0	66	3.0	1.0	1.0	2.5	1.0	14.6	2.23

Table 4.2
Seed composition data for USDA soybean germplasm in maturity groups I to IV, PI 490765 to PI 507573, grown at Urbana, IL

Entry	Maturity group	Seed composition		Oil composition					
		Protein (%)	Oil (%)	Palmitic (%)	Stearic (%)	Oleic (%)	Linoleic (%)	Linolenic (%)	Other (%)
BSR 201	II	41.0	20.6	11.6	3.7	19.8	57.2	7.6	0.0
Burlison	II	43.3	19.4	10.6	2.9	20.6	57.8	8.2	0.0
Century 84	II	41.8	20.5	10.8	3.2	21.4	56.8	7.8	0.0
Chamberlain	III	40.7	21.0	10.4	3.4	19.7	57.7	8.8	0.0
Conrad	II	39.1	22.0	11.5	3.1	28.1	50.3	6.9	0.0
Crawford	IV	42.4	19.8	10.8	2.9	20.1	58.3	7.9	0.0
Dawson	0	40.5	21.0	11.7	3.0	19.7	57.1	8.5	0.0
Elf	III	41.6	20.4	11.0	3.3	20.0	57.2	8.5	0.0
Elgin	II	38.0	22.1	11.6	3.0	20.7	55.9	8.8	0.0
Elgin 87	II	38.2	21.6	12.0	3.2	19.7	56.5	8.5	0.0
Essex	V	41.3+	20.1+	11.8	2.8	17.4	58.9	9.1	0.0
Fayette	III	42.6	20.5	11.2	2.9	21.5	56.0	8.3	0.0
Flyer	IV	42.3	20.3	11.3	2.9	22.6	55.4	7.7	0.0
Gnome 85	II	40.9	20.8	11.1	3.1	20.1	57.8	7.7	0.0
Hardin	I	38.4	22.5	11.2	3.0	22.5	55.6	7.6	0.0
Haroson	I	39.2	22.1	11.7	3.0	23.7	54.1	7.4	0.0
Harper 87	III	42.0	20.9	11.4	3.0	25.4	53.3	6.8	0.0
Hobbit 87	III	39.6	22.0	10.9	2.9	20.9	58.2	7.0	0.0
Hodgson 78	I	40.0	21.1	12.0	3.3	23.7	54.1	6.7	0.0
LN83-2356	IV	43.5	19.8	11.3	3.1	27.4	51.2	7.0	0.0
Morgan	IV	44.1	19.3	11.0	2.6	19.9	58.8	7.8	0.0
Pella 86	III	40.2	21.9	10.9	3.6	23.0	55.4	7.0	0.0
Pixie	IV	41.1	21.4	10.6	2.9	21.3	56.4	8.4	0.0
Pyramid	IV	39.9	19.8	10.3	2.8	20.9	57.5	8.6	0.0
Resnik	III	41.5	20.8	11.5	3.1	21.3	56.3	7.7	0.0
Ripley	IV	38.6	21.0	11.3	2.3	18.7	58.9	8.8	0.0
Sibley	0	40.0	21.6	11.5	3.0	23.7	54.2	7.5	0.0
Spencer	IV	42.6	20.5	11.4	2.7	25.0	53.8	7.0	0.0
Sprite 87	III	40.0	22.1	10.3	2.1	24.1	56.2	7.3	0.0
Stafford	IV	40.6	19.5	10.0	2.6	16.4	62.9	8.1	0.0
TN 4-86	IV	43.0	18.8	10.5	3.0	19.6	59.1	7.8	0.0
Union	IV	42.9	20.3	10.8	2.7	22.8	56.4	7.4	0.0
Williams 82	III	42.6	20.5	10.7	2.7	21.7	57.2	7.6	0.0
Zane	III	41.8	21.5	10.9	3.1	28.1	51.5	6.3	0.0
79.691	III	43.7	21.6	11.7	2.9	20.5	57.7	7.2	0.0
266.806D	IV	43.9	17.0	12.4	2.5	23.0	53.9	8.2	0.0
408.221A	IV	46.0	17.3	12.0	2.6	22.5	54.9	7.9	0.0
424.338	IV	44.0+	20.2+	11.0	2.7	22.3	55.5	8.5	0.0
490.765	III	41.5	20.8	12.4	2.1	25.7	52.3	7.5	0.0
490.766	III	41.5	23.5	12.0	2.7	23.9	54.6	6.7	0.0
490.767	III	41.6	20.4	11.3	3.0	19.8	58.1	7.7	0.0
490.768	III	43.3	17.4	13.0	2.2	19.7	55.7	9.4	0.0
490.769	III	41.5	20.9	12.4	2.7	20.8	54.8	9.3	0.0
491.548	II	40.2	21.2	11.4	3.1	25.8	53.0	6.7	0.0
491.579	I	41.3	21.6	11.8	3.7	25.7	52.4	6.4	0.0

Table 1.2
Identification and origin information for USDA soybean germplasm in maturity groups I to IV, PI 490.765 to PI 507.573

PI No.	Accession name	Foreign collection No.	Country of acquisition	Country of origin	Year introduced or released	Maturity group
495.017A	Beijing da qing dou		China	China	1985	III
495.017B	(Beijing da qing dou)		China	China	1985	IV
495.017C	(Beijing da qing dou)		China	China	1985	IV
495.020	Xu dou No. 2		China	China	1985	IV
495.831	Adoc		France	France	1985	I
495.832	Fred		France	France	1985	I
499.957			United States	China	1985	III
503.333	Cheng nong No. 1		United States	China	1986	II
503.334	Dan dou No. 5		United States	China	1986	III
503.337	He dian No. 22		United States	China	1986	I
503.338	Liao dou No. 3		United States	China	1986	II
503.340	Tong nong No. 9		United States	China	1986	II
504.812	Bangsa kong		Rep. of Korea	Rep. of Korea	1986	IV
506.476	A100	NIAR 040273	Japan	Japan	1987	II
506.477	A-B	NIAR 020236	Japan	Japan	1987	II
506.478	A-B(F)	NIAR 020242	Japan	Japan	1987	IV
506.479	A-B(Shiroge)	NIAR 020243	Japan	Japan	1987	II
506.480	A-B(Shiroge)	NIAR 020244	Japan	Japan	1987	II
506.481	A-B(Shiroge)	NIAR 020245	Japan	Japan	1987	IV
506.482	A-B(Shiroge)	NIAR 020246	Japan	Japan	1987	IV
506.498	Akasaya (Ishioka)	NIAR 040614	Japan	Japan	1987	III
506.511	Aki kei 13-1	NIAR 020593	Japan	Japan	1987	III
506.515	Akita 1	NIAR 040487	Japan	Japan	1987	IV
506.516	Akita ani	NIAR 040496	Japan	Japan	1987	IV
506.519	Akita zairai (4)	NIAR 020724	Japan	Japan	1987	IV
506.520	Akita zairai (3)	NIAR 020723	Japan	Japan	1987	IV
506.521	Akitashu (Ishioka)	NIAR 040759	Japan	Japan	1987	IV
506.523	AN-3	NIAR 020262	Japan	Japan	1987	IV
506.524	AN-3	NIAR 020264	Japan	Japan	1987	IV
506.525	AN-B(A)	NIAR 020263	Japan	Japan	1987	IV
506.526	Anbe	NIAR 030094	Japan	Japan	1987	IV
506.527	ANC-B(A)	NIAR 020716	Japan	Japan	1987	III
506.528	ANC-B(B)	NIAR 020234	Japan	Japan	1987	III
506.529	ANC-B(Shiroge)	NIAR 020686	Japan	Japan	1987	III
506.560	Ao mame	NIAR 020229	Japan	Japan	1987	IV
506.562	Ao mame	NIAR 040764	Japan	Japan	1987	II
506.563	Ao sakigake	NIAR 040742	Japan	Japan	1987	IV
506.572	Aokawa higu	NIAR 090182	Japan	Japan	1987	III
506.573	Aoyagi	NIAR 040784	Japan	Japan	1987	III
506.574	Araku mame (K)	NIAR 040727	Japan	Japan	1987	III
506.575A	Araku mame (YW)	NIAR 040726	Japan	Japan	1987	II
506.575B	[Araku mame (YW)]	NIAR 040726	Japan	Japan	1987	II
506.576	Arakuji shirazu	NIAR 040728	Japan	Japan	1987	IV
506.581A	Asahi 60	NIAR 020499	Japan	Japan	1987	III
506.581B	(Asahi 60)	NIAR 020499	Japan	Japan	1987	IV

Table 2.2
Descriptive data for USDA soybean germplasm in maturity groups I to IV, PI 490.765 to PI 507.573

Entry	Maturity group	Stem trm.	Flower color	Pubescence			Pod color	Seedcoat		Hilum color	Other traits		
				Color	Form	Density		Luster	Color		Seed	Leaf	Plant
495.017A	III	S	P	T	E	N	Br	D	Gn	Bl	Gncot		
495.017B	IV	N	P	G	E	N	Br	I	Gn	Bf	Gncot		
495.017C	IV	N	P	T	E	Ssp	Br	I	Gn	Bl	Gncot		
495.020	IV	N	P	G	A	N	Tn	I	Y	Ib			
495.831	I	N	P	T	E	N	Tn	I	Y	Y			
495.832	I	N	P	G	E	N	Tn	I	Y	Bf			
499.957	III	N	P	T	E	N	Br	I	Bl	Bl			
503.333	II	N	P	G	E	N	Br	I	Y	Bf		Na	
503.334	III	D	W	G	E	Ssp	Tn	I	Y	Y			
503.337	I	D	W	G	E	N	Br	I	Y	Y			
503.338	II	N	P	G	E	N	Tn	I	Y	Y			
503.340	II	D	W	G	E	Ssp	Br	I	Y	Y		Na	
504.812	IV	D	P	G	E	N	Tn	I	Y	Ib			
506.476	II	N	W	G	E	N	Br	I	Y	Bf			
506.477	II	N	P	G	E	N	Br	I	Y	Bf			
506.478	IV	N	W	G	Sa	N	Br	I	Y	Bf			
506.479	II	N	W	G	Sa	N	Br	I	Y	Y			
506.480	II	N	W	G	E	N	Br	I	Y	Y			
506.481	IV	D	W	G	E	N	Br	I	Y	Y			
506.482	IV	N	W	G	Sa	N	Br	I	Y	Bf			
506.498	III	D	P	T	Sa	N	Br	I	Y	Br			
506.511	III	D	P	G	A	Ssp	Br	I	Y	Lbf			
506.515	IV	D	P	G	A	Ssp	Br	I	Y	Bf			
506.516	IV	D	Dp	T	A	Ssp	Br	I	Lgn	Br			
506.519	IV	D	W	T	A	N	Br	I	Rbr	Rbr			
506.520	IV	D	P	T	Sa	N	Br	I	Gn	Br	Gncot		
506.521	IV	D	P	G	A	Ssp	Br	I	Y	Y			
506.523	IV	N	W	G	Sa	Ssp	Br	I	Y	Y			
506.524	IV	N	W	T	E	N	Br	I	Y	Tn			
506.525	IV	N	W	T	E	N	Br	I	Y	Bl	Sdef		
506.526	IV	D	P	G	E	Ssp	Br	I	Y	Y			
506.527	III	D	W	T	E	Ssp	Br	I	Y	Bl			
506.528	III	D	W	T	E	Ssp	Br	I	Y	Bl			
506.529	III	D	W	G	A	Ssp	Br	I	Y	Y			
506.560	IV	D	P	T	E	Ssp	Br	I	Gn	Br	Gncot		
506.562	II	D	W	G	E	N	Br	I	Gn	Bf			
506.563	IV	D	P	T	A	Ssp	Br	I	Lgn	Br			
506.572	III	D	W	T	A	N	Br	I	Gn	Br			
506.573	III	D	W	G	A	N	Br	D	Y	Bf			
506.574	III	D	Dp	T	A	Ssp	Br	I	Y	Br			
506.575A	II	D	W	G	E	Ssp	Tn	I	Y	Y			
506.575B	II	D	W	G	E	Ssp	Tn	I	Y	Y			
506.576	IV	D	P	-	-	G	Br	I	Y	Y			
506.581A	III	D	W	T	Sa	Ssp	Br	I	Y	Br			
506.581B	IV	D	W	T	E	N	Br	I	Y	Br			

Table 3.2
Agronomic data for USDA soybean germplasm collection in maturity groups I to IV, PI 490.765 to PI 507.573, grown at Urbana, IL

Entry	Flowering	Maturity	Lodging	Height	Stem termination	Shattering		Seed			
						Early	Late	Quality	Mottling	Weight	Yield
	(days after May 31)		(score)	(cm)	(score)	(score)		(score)	(score)	(cg/sd)	(Mg/ha)
495.017A	55	126	3.5	94	2.5	1.8*	3.0*	2.7*	2.0	17.3	1.98
495.017B	67	137	3.0	110*	3.0	1.0	.	2.7	2.5	13.6	1.01
495.017C	59	134	3.5	89*	3.0	2.0*	4.0	2.0	2.5	15.0	1.85
495.020	58	131	3.9	137*	3.0	1.3	1.3	2.2	1.0	17.7	2.55
495.831	26	99	2.1	93	3.0	1.0	1.0	2.5	1.0	15.8	2.96
495.832	26	95*	1.6	78	3.0	1.0	1.0	2.0	1.0	14.0	2.69
499.957	47*	121	4.5	102*	3.2	1.0	1.3	2.7	-	16.5	1.80
503.333	27	103	2.5	79	3.0	1.0	1.0	2.0	1.0	19.2	2.92
503.334	45*	125	2.0	63	1.0	1.0	1.3	1.8	1.0	17.7	3.01
503.337	24	88	1.0	71	2.2	1.0	1.0	2.0	1.0	17.8	2.76+
503.338	26	107	2.5	92	3.0	1.0	1.0	2.0	1.0	16.7	3.76
503.340	38	103	2.1	62	1.0	1.0	1.0	1.8	1.0	15.1	2.82
504.812	60*	136	2.1	80*	1.0	1.0	.	2.0	1.0	9.2	2.11
506.476	26	98	1.9	85	3.0	1.0	1.0	2.0	1.0	16.9	3.17
506.477	32	97	2.7	87	2.0	1.0	1.0	2.0	1.5	18.3	2.60
506.478	44*	134	2.3	94	3.0	1.3	.	2.5	2.5	16.5	1.97
506.479	34	96	1.6	82	3.0	1.0	1.5	2.0	2.0	18.0	2.68
506.480	36	106	2.3	94*	3.0	1.0	1.3	2.2	2.5	18.5	2.89
506.481	34	125	2.1	99	2.2*	2.0*	3.0*	3.2	3.0	20.5	2.22
506.482	42	133	2.5	86	2.7	1.8	.	3.0	3.0	15.9	2.19
506.498	52	118	3.1	80*	2.0	4.0*	5.0	2.0	2.5	13.8	2.02*
506.511	52	124	1.8	73	1.3	1.3	3.5*	2.0	1.0	20.1	2.27
506.515	49*	127	2.4	68	1.0	2.0*	3.7*	2.0	1.0	22.7	2.11+
506.516	61*	134	4.0	83*	1.3	2.2*	4.0	2.2	1.5	16.5	1.88+
506.519	57	136	2.6	73	1.3	2.2*	3.0	2.0	-	27.8*	2.00+
506.520	63*	140	2.8	87	1.8	1.5	.	2.5	2.0	26.2	1.26+
506.521	55	130	3.7	65	1.8	3.0*	4.5	2.2	2.0	19.7	1.74
506.523	53*	133	2.6	111	3.0	1.8*	2.5	2.7	3.5	17.8	1.81
506.524	41	121	3.5	92*	3.0	2.7	4.5	2.2	3.5	21.3	2.93
506.525	41	121	3.4	108	3.0	2.2	5.0	2.5	3.5	21.4	2.55
506.526	57*	135	3.0	76	1.5	1.0	.	2.2	3.0	18.2	1.95
506.527	27	112	1.0	22	1.0	1.0	.	3.2*	2.0	22.7	.
506.528	28	118	1.0	29	1.0	2.2	4.5	2.5	2.0	21.1	1.54+
506.529	27	125	1.1	32	1.0	2.5*	4.0*	2.2	3.0	18.7	1.80+
506.560	49*	134*	2.3	66	1.0	2.0	.	2.0	2.0	33.2*	1.50+
506.562	47*	110	2.2	67	1.3	2.2	5.0	1.8	2.0	18.8	2.04
506.563	59*	131	3.7*	98	1.5	2.5	4.0	2.0	2.0	18.8	1.90
506.572	47*	111	3.8	69*	1.5	1.0	5.0	2.0	3.5	13.5	2.66
506.573	55	124	2.7	80	1.8	2.5	.	3.0	3.5	14.7	1.30+
506.574	51	120	4.1	66	1.0	2.2	4.5	2.2	1.0	14.6	1.42
506.575A	39	101	1.9	56	1.0	1.0	3.0*	2.0	2.0	24.7	2.40
506.575B	40	106	1.6	60	1.0	1.0	5.0	2.0	2.0	24.5	2.55
506.576	57	128	1.1	40	1.0	1.3	3.5	2.0	1.0	13.9	1.47
506.581A	52*	118	3.4	74	2.0	2.5	5.0	2.2	2.0	18.8	2.20
506.581B	54	126	4.2	76*	1.5	2.5	5.0	2.2	2.5	18.7	1.71*

Table 4.2
Seed composition data for USDA soybean germplasm in maturity groups I to IV, PI 490765 to PI 507573, grown at Urbana, IL

Entry	Maturity group	Seed composition		Oil composition					
		Protein (%)	Oil (%)	Palmitic (%)	Stearic (%)	Oleic (%)	Linoleic (%)	Linolenic (%)	Other (%)
495.017A	III	42.6	17.6	12.0	2.3	22.1	55.8	7.7	0.0
495.017B	IV	46.5	16.0	12.4	2.5	19.0	57.5	8.5	0.0
495.017C	IV	44.8	16.8	11.4	2.1	23.5	55.7	7.3	0.0
495.020	IV	44.5	16.6	11.3	2.1	21.7	55.6	9.2	0.0
495.831	I	40.0	21.8	11.1	3.4	21.0	56.6	7.8	0.0
495.832	I	38.5	22.9	11.0	3.3	21.3	55.2	9.3	0.0
499.957	III	43.7	19.7	11.1	2.8	25.9	52.5	7.5	0.0
503.333	II	41.6	20.1	12.5	3.2	20.6	55.8	7.8	0.0
503.334	III	40.7	21.0	10.9	3.0	19.7	58.5	7.8	0.0
503.337	I	40.4	21.4	11.5	3.6	24.0	53.5	7.5	0.0
503.338	II	41.2	20.5	12.2	3.5	32.3	45.6	6.4	0.0
503.340	II	42.3	19.5	13.2	3.5	19.5	55.3	8.5	0.0
504.812	IV	41.3	18.9	12.2	2.8	15.6	59.3	10.1	0.0
506.476	II	40.2	21.4	11.3	2.8	23.1	55.7	7.0	0.0
506.477	II	41.7	20.4	11.8	3.1	27.2	51.0	6.8	0.0
506.478	IV	42.6	18.1	12.1	2.6	20.1	56.0	9.1	0.0
506.479	II	40.9	20.1	12.0	3.0	28.3	50.2	6.3	0.0
506.480	II	42.3	19.0	12.4	3.2	24.2	53.5	6.7	0.0
506.481	IV	43.3	18.7	11.1	2.3	23.5	55.5	7.5	0.0
506.482	IV	43.2	17.5	11.7	2.7	18.8	57.2	9.6	0.0
506.498	III	43.5	18.2	12.0	2.7	19.5	56.1	9.6	0.0
506.511	III	40.9	19.5	11.5	3.1	16.3	59.2	9.9	0.0
506.515	IV	42.1	18.9	11.1	2.6	22.4	54.6	9.1	0.0
506.516	IV	41.4	17.9	12.0	2.8	22.6	53.6	8.9	0.0
506.519	IV	39.8	19.5	11.1	2.7	19.5	57.5	9.1	0.0
506.520	IV	44.5	16.9	11.8	2.7	18.2	58.3	9.0	0.0
506.521	IV	40.9	18.4	10.8	2.5	20.3	56.0	10.4	0.0
506.523	IV	43.1	18.0	11.9	2.7	20.4	57.0	8.0	0.0
506.524	IV	42.7	17.9	11.0	2.7	23.0	54.3	9.1	0.0
506.525	IV	41.6	18.6	10.9	2.6	24.4	53.5	8.6	0.0
506.526	IV	45.5	17.4	11.9	2.5	21.0	56.4	8.1	0.0
506.527	III	42.4	19.9	11.8	3.6	22.6	55.0	6.9	0.0
506.528	III	41.2	20.3	12.7	3.4	19.5	57.1	7.2	0.0
506.529	III	41.8	19.3	13.2	3.1	16.2	58.8	8.6	0.0
506.560	IV	42.5	18.7	11.6	2.2	20.6	55.9	9.6	0.0
506.562	II	45.5	14.3	11.7	2.6	25.5	50.2	10.0	0.0
506.563	IV	40.3	18.9	11.2	2.6	21.8	54.8	9.6	0.0
506.572	III	46.3	16.0	12.0	2.7	19.5	55.8	9.9	0.0
506.573	III	44.5	16.5	11.6	2.8	25.1	51.3	9.1	0.0
506.574	III	42.0	19.0	12.2	2.7	19.8	55.9	9.3	0.0
506.575A	II	45.2	16.6	12.4	2.5	29.2	47.8	8.1	0.0
506.575B	II	43.9	17.3	12.0	2.5	30.1	47.7	7.6	0.0
506.576	IV	41.5	20.4	11.1	2.5	21.4	55.6	9.3	0.0
506.581A	III	43.6	17.9	11.8	2.6	20.1	56.7	8.8	0.0
506.581B	IV	43.9	16.9	12.2	2.8	21.6	54.8	8.4	0.0

Table 1.2
Identification and origin information for USDA soybean germplasm in maturity groups I to IV, PI 490.765 to PI 507.573

PI No.	Accession name	Foreign collection No.	Country of acquisition	Country of origin	Year introduced or released	Maturity group
506.581C	(Asahi 60)	NIAR 020499	Japan	Japan	1987	IV
506.587	Ban echigo	NIAR 020582	Japan	Japan	1987	III
506.588	Ban etsugo	NIAR 041053	Japan	Japan	1987	III
506.590A	Bansei ao daizu	NIAR 020597	Japan	Japan	1987	IV
506.590B	(Bansei ao daizu)	NIAR 020597	Japan	Japan	1987	IV
506.590C	(Bansei ao daizu)	NIAR 020597	Japan	Japan	1987	IV
506.590D	(Bansei ao daizu)	NIAR 020597	Japan	Japan	1987	IV
506.592	Bansei hikarikuro	NIAR 020637	Japan	Japan	1987	III
506.595A	Bon mame	NIAR 040322	Japan	Japan	1987	III
506.595B	(Bon mame)	NIAR 040322	Japan	Japan	1987	III
506.596	Bonjiro	NIAR 020495	Japan	Japan	1987	III
506.601	Chajiro	NIAR 040839	Japan	Japan	1987	IV
506.602	Chinko	NIAR 030104	Japan	Japan	1987	III
506.609	Chizuka ibaraki 1	NIAR 090202	Japan	Japan	1987	I
506.610	Chogan touji	NIAR 040473	Japan	Japan	1987	III
506.631	Choukouji zairai	NIAR 040724	Japan	Japan	1987	IV
506.634	Chousenshu (Cha)	NIAR 040777	Japan	Japan	1987	II
506.635	Choutan daizu	NIAR 040525	Japan	Japan	1987	IV
506.637	Chuuiku 1	NIAR 010076	Japan	Japan	1987	III
506.641	Chuusei date cha	NIAR 020371	Japan	Japan	1987	III
506.642	Chuusei sendai	NIAR 040763	Japan	Japan	1987	II
506.652	Daidou mame	NIAR 020536	Japan	Japan	1987	IV
506.654	Daizu 1	NIAR 040793	Japan	Japan	1987	IV
506.655	Daizu 2	NIAR 030092	Japan	Japan	1987	IV
506.657	Daizu uki 1	NIAR 040481	Japan	Japan	1987	IV
506.658	Daruma 2	NIAR 040545	Japan	Japan	1987	IV
506.659	Daruma masari (Takei 7)	NIAR 020528	Japan	Japan	1987	III
506.661	Date cha mame	NIAR 040703	Japan	Japan	1987	II
506.662	Dekisugi	NIAR 040494	Japan	Japan	1987	IV
506.663	Dekisugi 1	NIAR 040493	Japan	Japan	1987	IV
506.669	Fujihime	NIAR 090191	Japan	Japan	1987	II
506.671	Fukuhime	NIAR 040323	Japan	Japan	1987	III
506.672	Fukumejiro	NIAR 040994	Japan	Japan	1987	III
506.673	Fukunaga 1	NIAR 020111	Japan	Japan	1987	II
506.674	Fukushimashu	NIAR 020402	Japan	Japan	1987	IV
506.678	G. ussuriensis Giken	NIAR 040270	Japan	Japan	1987	I
506.681	Gankui	NIAR 040738	Japan	Japan	1987	IV
506.685	Genzoku	NIAR 041040	Japan	Japan	1987	III
506.692	Ginnan	NIAR 020677	Japan	Japan	1987	IV
506.693	Gionbou	NIAR 040762	Japan	Japan	1987	III
506.698	Goyou daizu	NIAR 020663	Japan	Japan	1987	IV
506.699	Goyou daizu (A)	NIAR 020698	Japan	Japan	1987	III
506.700	H 25	NIAR 090232	Japan	Japan	1987	I
506.701	Habaki 1	NIAR 020577	Japan	Japan	1987	IV
506.703	Hachigatsu mame	NIAR 040290	Japan	Japan	1987	III

Table 2.2
Descriptive data for USDA soybean germplasm in maturity groups I to IV, PI 490.765 to PI 507.573

Entry	Maturity group	Stem trm.	Flower color	Pubescence			Pod color	Seedcoat		Hilum color	Other traits		
				Color	Form	Density		Luster	Color		Seed	Leaf	Plant
506.581C	IV	D	W	T	E	N	Lbr	I	Y	Br			
506.587	III	D	P	T	Sa	N	Br	I	Y	Y			
506.588	III	D	P	T	Sa	Ssp	Br	I	Y	Br			
506.590A	IV	D	P	T	Sa	N	Br	I	Gn	Bl	Gncot		
506.590B	IV	D	P	T	A	N	Br	I	Gn	Bl	Gncot		
506.590C	IV	D	P	T	A	Ssp	Br	I	Gn	Bl	Gncot		
506.590D	IV	D	P	T	A	Ssp	Br	I	Gn	Bl	Gncot		
506.592	III	D	W	T	Sa	Ssp	Br	I	Bl	Bl			
506.595A	III	D	W	G	A	Ssp	Tn	D	Y	Y			
506.595B	III	D	W	G	A	Ssp	Tn	D	Y	Y			
506.596	III	D	W	T	A	N	Tn	I	Y	Br			
506.601	IV	D	P	T	A	N	Br	I	Y	Br			
506.602	III	D	W	T	E	N	Br	I	Y	Br			
506.609	I	N	P	G	E	N	Tn	S	Y	Y			
506.610	III	D	Dp	T	E	Ssp	Br	I	Bl	Bl	Net		
506.631	IV	D	P	T	E	Ssp	Br	I	Y	Y			
506.634	II	N	Dp	Lt	A	Sp	Dbr	I	Gnbr	Br			Sw
506.635	IV	D	P	T	A	N	Br	I	Y	Br			
506.637	III	D	W	G	E	Ssp	Br	I	Y	Y			
506.641	III	D	W	G	E	Ssp	Br	I	Br	Br			
506.642	II	D	W	T	E	N	Br	I	Y	Br			
506.652	IV	D	P	T	A	Ssp	Br	I	Y	Br			
506.654	IV	D	P	T	A	Ssp	Br	I	Lgn	Br			
506.655	IV	D	P	G	A	N	Br	I	Y	Lbf			
506.657	IV	D	P	G	E	Ssp	Br	I	Y	Y			
506.658	IV	D	P	T	E	N	Br	I	Y	Br			
506.659	III	D	W	T	A	Ssp	Br	I	Y	Br			
506.661	II	D	P	T	A	Ssp	Br	I	Br	Br			
506.662	IV	D	P	T	A	Ssp	Br	I	Lgn	Br			
506.663	IV	D	P	T	A	N	Br	I	Lgn	Br			
506.669	II	D	P	T	E	Ssp	Br	I	Y	Lbr			
506.671	III	D	W	G	A	Ssp	Br	D	Y	Y			
506.672	III	D	W	G	A	Ssp	Br	I	Y	Y			
506.673	II	D	P	T	E	Ssp	Br	I	Y	Br			
506.674	IV	D	P	G	A	Ssp	Tn	I	Y	Y			
506.678	I	N	P	T	A	N	Br	S	G	Br			Sw
506.681	IV	D	P	T	A	N	Br	I	Y	Br			
506.685	III	D	P	T	Sa	N	Br	I	Y	Br			
506.692	IV	D	P	T	Sa	N	Br	I	Y	Br			
506.693	III	D	W	T	Sa	Ssp	Br	I	Y	Br			
506.698	IV	D	W	G	Sa	Ssp	Br	I	Gn	Gn			
506.699	III	D	W	G	Sa	Ssp	Br	I	Gn	Gn			
506.700	I	N	P	G	E	Ssp	Br	S	Y	Bf			
506.701	IV	D	P	T	E	Ssp	Br	I	Gn	Bl	Gncot		
506.703	III	D	P	-	C	N	Tn	I	Y	Bf			

Table 3.2
Agronomic data for USDA soybean germplasm collection in maturity groups I to IV, PI 490.765 to PI 507.573, grown at Urbana, IL

Entry	Flowering (days after May 31)	Maturity (days after May 31)	Lodging (score)	Height (cm)	Stem termination (score)	Shattering Early (score)	Shattering Late (score)	Seed Quality (score)	Seed Mottling (score)	Seed Weight (cg/sd)	Seed Yield (Mg/ha)
506.581C	58*	134	3.9*	85	1.5	2.7*	4.0	2.2	3.0	18.2	1.76
506.587	53	117	3.5	79	1.3	1.3	5.0	2.2	2.0	12.8	2.78
506.588	55	123	3.0	74	1.3	3.5	5.0	2.2	3.5	11.3	1.50*
506.590A	55	135	2.9*	85	1.5	2.0	.	2.7	3.0	22.1	1.71+
506.590B	55	132	2.8	80	1.5	1.5	5.0	2.5	3.0	20.7	1.61*
506.590C	54*	138	3.0	66	1.5	1.3	.	2.5	3.0	21.1	1.55+
506.590D	53*	136	3.3	68	1.5	1.8	.	2.7	3.0	22.3	1.25+
506.592	40	115	1.1	51	1.0	1.8*	.	2.0	-	37.8	1.73+
506.595A	43*	113	2.6	56	1.0	2.0*	5.0	2.5	2.0	27.7	1.64
506.595B	45	113	2.0*	54	1.0	2.0*	5.0	2.5	2.0	27.4	1.73
506.596	52*	114	2.5	77	2.0	3.0*	5.0	2.2	3.0	13.7	1.99
506.601	64*	144	4.2	88	1.8	1.3	.	2.5	2.5	19.9	0.91
506.602	48*	112	2.0	73	1.0	1.0	5.0	2.0	2.5	13.4	2.23
506.609	28	91*	1.5	66	3.0	1.0	1.0	1.3	1.0	12.0	2.27
506.610	49	119	1.9	45	1.0	1.0	1.5	2.5	-	26.8	1.84
506.631	52*	129	2.5	62	1.0	3.2	5.0	2.0	4.0	15.6	0.90+
506.634	41	102	4.2	42*	4.0	1.0	1.3	2.2	-	5.4	1.75+
506.635	63	127	3.6	75	1.3	1.3	4.5	2.0	2.0	21.1	2.38
506.637	43	122	1.9	65	1.0	2.2	4.5	2.5	2.0	36.5	2.23
506.641	47*	123	2.9	76	1.5	1.5	4.0	2.2	-	25.5	2.34
506.642	44	105	1.8	75	1.5	1.3	5.0	1.8	2.0	16.2	2.35
506.652	57*	130	3.3	74	1.3	3.5*	4.0*	1.8	1.5	16.4	1.48
506.654	59	132	3.2	82*	1.8	2.0	4.0	1.8	2.0	16.6	1.78+
506.655	56	138	3.0	68	1.3	2.5*	.	2.0	1.0	18.4*	2.26
506.657	55*	133	2.7	75	1.5	1.0	.	2.0	2.5	18.1	2.15
506.658	61	137	4.5	86	1.8	2.7*	.	2.0	1.5	17.7	1.56
506.659	53	124	1.9	71	1.5	2.5	5.0	2.5	2.5	16.1	1.74
506.661	43	105	2.3	63	1.3	1.3	5.0	2.0	-	24.9	2.37
506.662	59	134	4.4	83	1.5	2.2	4.0	1.8	1.5	16.6	1.97+
506.663	56*	129	4.6	68	1.5	2.0	4.2*	1.8	1.5	17.9	1.85+
506.669	47*	111	2.6	67	1.0	1.3	5.0	1.8	1.5	17.4	2.65
506.671	45	118	2.2	51	1.0	2.0	4.5	2.2	2.0	24.6	2.19+
506.672	53	123	4.3	67	1.5	3.2	5.0	2.2	2.5	18.6	0.52+
506.673	34	99	1.4	54	1.0	1.0	4.0*	2.2	2.0	24.9	2.07
506.674	56*	131	2.9*	71*	1.5	1.8*	3.2*	2.0	2.0	21.5	1.71
506.678	37	91	4.0	61*	4.7	1.0	2.5	1.8	-	3.7	1.48+
506.681	63*	129	3.4	71	1.5	1.3	2.7	2.0	2.0	17.8	2.09
506.685	49	118	2.7	67	1.0	4.5	5.0	2.2	3.0	11.7	1.39
506.692	61*	134	3.5	79	1.5	2.7*	4.5	2.0	2.0	13.1	1.75
506.693	56*	124	3.5	79	1.5	4.0	5.0	2.2	3.5	10.8	1.28
506.698	53	139	2.5	64	1.3	1.3	.	2.0	3.0	23.7	1.83+
506.699	52	129	2.2	53	1.0	2.5*	3.7*	2.0	2.5	21.1	1.66+
506.700	25*	94	1.0	66	3.0	1.0	1.0	1.5	1.0	16.1	2.59
506.701	67*	142	2.8	83	2.0	1.0	.	2.2	3.5	11.8	0.94
506.703	52	119	2.2	63	1.0	1.0	4.5	2.0	2.0	14.9	2.03

Table 4.2
Seed composition data for USDA soybean germplasm in maturity groups I to IV, PI 490765 to PI 507573, grown at Urbana, IL

Entry	Maturity group	Seed composition		Oil composition					
		Protein (%)	Oil (%)	Palmitic (%)	Stearic (%)	Oleic (%)	Linoleic (%)	Linolenic (%)	Other (%)
506.581C	IV	44.3	16.8	12.8	2.7	17.9	57.2	9.2	0.0
506.587	III	43.0	17.0	12.0	2.7	18.5	56.2	10.5	0.0
506.588	III	43.0	17.2	11.9	2.5	20.2	55.7	9.6	0.0
506.590A	IV	42.0	20.3	11.2	2.1	23.3	55.3	8.0	0.0
506.590B	IV	43.2	18.4	11.3	2.3	24.5	54.0	8.0	0.0
506.590C	IV	42.8	18.1	11.9	2.7	22.8	55.0	7.4	0.0
506.590D	IV	42.0	19.8	11.6	2.7	25.0	53.5	7.2	0.0
506.592	III	42.0	22.1	11.4	2.4	29.3	48.7	8.0	0.0
506.595A	III	42.3	19.8	11.7	2.9	27.5	50.6	7.2	0.0
506.595B	III	41.3	21.0	11.8	2.7	27.7	50.5	7.3	0.0
506.596	III	43.7	17.4	12.6	3.2	21.0	53.3	9.9	0.0
506.601	IV	41.6	19.8	12.2	2.9	17.7	58.1	8.9	0.1
506.602	III	45.2	16.4	13.3	2.8	22.5	52.8	8.6	0.0
506.609	I	41.3	19.2	13.6	3.1	25.1	50.2	8.0	0.0
506.610	III	43.8	21.2	10.5	2.7	25.2	52.7	9.0	0.0
506.631	IV	41.3	20.1	11.7	3.3	18.6	56.2	10.2	0.0
506.634	II	44.8	15.5	13.8	2.9	20.1	52.5	10.5	0.0
506.635	IV	43.2	17.9	13.7	2.6	21.8	53.0	8.9	0.0
506.637	III	42.8	19.1	10.7	2.5	26.9	51.7	8.1	0.0
506.641	III	40.8	20.8	12.6	2.0	29.1	48.9	7.4	0.0
506.642	II	44.2	17.4	11.7	2.7	21.1	55.5	9.0	0.0
506.652	IV	40.7	18.0	12.1	2.6	18.0	58.7	8.5	0.0
506.654	IV	41.8	18.5	11.8	2.4	19.4	56.5	9.7	0.0
506.655	IV	40.7	19.8	11.4	2.5	17.3	58.2	10.5	0.0
506.657	IV	44.8	18.4	11.7	2.6	19.6	58.1	8.0	0.0
506.658	IV	42.1	17.4	11.7	3.2	20.2	56.8	8.2	0.0
506.659	III	42.5	18.1	11.5	2.9	22.2	55.2	8.2	0.0
506.661	II	41.2	20.5	12.5	2.8	24.1	53.0	7.5	0.0
506.662	IV	40.6	20.1	11.6	2.1	21.1	55.9	9.3	0.0
506.663	IV	40.5	19.0	11.8	2.3	21.1	56.3	8.5	0.0
506.669	II	41.2	19.8	13.7	2.9	23.2	52.5	7.8	0.0
506.671	III	43.1	18.9	11.8	2.8	21.5	55.6	8.3	0.0
506.672	III	42.8	18.0	10.7	2.6	22.9	54.2	9.5	0.0
506.673	II	41.0	20.5	11.5	2.7	28.7	50.5	6.6	0.0
506.674	IV	41.8	20.3	11.6	2.6	15.7	59.9	10.2	0.0
506.678	I	42.0	15.0	13.6	3.1	14.7	55.8	12.7	0.0
506.681	IV	40.3	20.3	12.2	2.4	21.8	55.7	7.9	0.0
506.685	III	45.5	16.6	12.2	2.5	20.4	55.5	9.4	0.0
506.692	IV	42.2	17.3	11.9	2.6	18.8	57.3	9.5	0.0
506.693	III	43.5	16.6	11.2	2.9	25.3	51.5	9.1	0.0
506.698	IV	42.8	17.8	11.6	2.3	19.6	57.7	8.8	0.0
506.699	III	43.2	17.6	11.3	3.0	21.8	55.8	8.1	0.0
506.700	I	42.3	18.9	13.2	3.1	24.8	50.0	8.8	0.0
506.701	IV	41.3	20.1	12.0	2.7	17.6	57.6	10.0	0.0
506.703	III	41.8	18.6	11.1	2.5	28.8	49.2	8.3	0.0

Table 1.2
Identification and origin information for USDA soybean germplasm in maturity groups I to IV, PI 490.765 to PI 507.573

PI No.	Accession name	Foreign collection No.	Country of acquisition	Country of origin	Year introduced or released	Maturity group
506.705	Hachigatsukou 3	NIAR 020508	Japan	Japan	1987	IV
506.709	Hadaka	NIAR 040457	Japan	Japan	1987	II
506.710	Hadaka	NIAR 040458	Japan	Japan	1987	II
506.711A	Hadaka daizu	NIAR 040456	Japan	Japan	1987	II
506.711B	(Hadaka daizu)	NIAR 040456	Japan	Japan	1987	III
506.715	Hakuchuu 47	NIAR 040542	Japan	Japan	1987	IV
506.716	Hakuchuuta	NIAR 040101	Japan	Japan	1987	IV
506.720	Hanayome	NIAR 040530	Japan	Japan	1987	III
506.721	Hanayome	NIAR 020679	Japan	Japan	1987	III
506.722	Hanayome 1	NIAR 020670	Japan	Japan	1987	III
506.723	Hanayome ibaraki 1	NIAR 041023	Japan	Japan	1987	III
506.724	Hanayome (Shirome)	NIAR 040287	Japan	Japan	1987	III
506.726	Hashiri	NIAR 040710	Japan	Japan	1987	II
506.727	Hata zairai	NIAR 040844	Japan	Japan	1987	IV
506.728	Hatagoshi mame	NIAR 040747	Japan	Japan	1987	IV
506.731	Hato koroshi 10	NIAR 020475	Japan	Japan	1987	IV
506.732	Hatsukogane	NIAR 030108	Japan	Japan	1987	II
506.733A	Heijou	NIAR 030054	Japan	Japan	1987	IV
506.734	Heitou tamago mame 2	NIAR 060080	Japan	Japan	1987	IV
506.758	Honshu akasaya 37	NIAR 040527	Japan	Japan	1987	III
506.759	Houchiou	NIAR 040471	Japan	Japan	1987	II
506.760	Houei	NIAR 020354	Japan	Japan	1987	I
506.762A	Houten hakubi	NIAR 020589	Japan	Japan	1987	III
506.762B	(Houten hakubi)	NIAR 020589	Japan	Japan	1987	III
506.765	Ibaragi mame	NIAR 020546	Japan	Japan	1987	IV
506.766	Ibaragi mame 7	NIAR 020394	Japan	Japan	1987	III
506.769	Ichou	NIAR 040529	Japan	Japan	1987	III
506.770	Ihhon sangou	NIAR 040780	Japan	Japan	1987	IV
506.771	Ihhon sangou (W)	NIAR 040779	Japan	Japan	1987	III
506.779	Inasato zairai II	NIAR 040744	Japan	Japan	1987	IV
506.782	Ipponsou	NIAR 000019	Japan	Japan	1987	III
506.784	Ishi kei 131	NIAR 040309	Japan	Japan	1987	IV
506.785	Ishii wase	NIAR 020401	Japan	Japan	1987	III
506.787	Itachi	NIAR 040766	Japan	Japan	1987	II
506.788	Itachi	NIAR 020680	Japan	Japan	1987	III
506.789	Itsutsuba	NIAR 020502	Japan	Japan	1987	IV
506.790	Itsutsuba (Yamagata)	NIAR 020693	Japan	Japan	1987	III
506.799	Iwahin kuro 1	NIAR 020640	Japan	Japan	1987	III
506.800A	Iwahin kuro 2	NIAR 020641	Japan	Japan	1987	III
506.800B	(Iwahin kuro 2)	NIAR 020641	Japan	Japan	1987	III
506.801A	Iwahin kuro 4	NIAR 020642	Japan	Japan	1987	III
506.801B	(Iwahin kuro 4)	NIAR 020642	Japan	Japan	1987	III
506.803	Iwajiro 21 F 42	NIAR 040865	Japan	Japan	1987	III
506.808	Iwate wase kurome	NIAR 020578	Japan	Japan	1987	IV
506.809	Iwate wase kurome (Bunri)	NIAR 020579	Japan	Japan	1987	IV

Table 2.2
Descriptive data for USDA soybean germplasm in maturity groups I to IV, PI 490.765 to PI 507.573

Entry	Maturity group	Stem trm.	Flower color	Pubescence			Pod color	Seedcoat		Hilum color	Other traits		
				Color	Form	Density		Luster	Color		Seed	Leaf	Plant
506.705	IV	D	W	G	E	Ssp	Br	I	Y	Bf			
506.709	II	D	W	-	-	G	Tn	S	Y	G			
506.710	II	D	W	-	-	G	Br	I	Y	Br			
506.711A	II	D	P	-	-	G	Br	I	Lgn	Br			
506.711B	III	D	P	-	-	G	Br	I	Y	Br			
506.715	IV	D	P	T	E	N	Br	I	Y	Y			
506.716	IV	D	P	G	E	Ssp	Br	I	Y	Y			
506.720	III	D	W	G	A	Ssp	Tn	D	Y	Bf			
506.721	III	D	W	-	C	N	Tn	I	Y	Y			
506.722	III	D	W	-	C	N	Tn	D	Y	Y			
506.723	III	D	W	-	C	N	Tn	I	Y	Y			
506.724	III	D	P	-	C	N	Tn	I	Y	Y			
506.726	II	D	W	G	E	Ssp	Tn	I	Y	Bf			
506.727	IV	D	P	T	A	Ssp	Br	I	Lgn	Br			
506.728	IV	D	P	T	A	Ssp	Br	I	Lgn	Br			
506.731	IV	D	P	G	A	Ssp	Br	I	Y	Y			
506.732	II	D	P	T	A	Ssp	Br	S	Y	Lbr			
506.733A	IV	D	P	G	E	Ssp	Br	I	Y	Y			
506.734	IV	S	P	T	E	N	Br	I	Lgn	Br			
506.758	III	D	P	G	Sa	N	Br	I	Y	Bf			
506.759	II	D	W	G	E	Ssp	Br	I	Y	Y			
506.760	I	D	P	T	E	Ssp	Br	I	Y	Br			
506.762A	III	N	P	G	Sa	N	Br	I	Y	Y			
506.762B	III	D	P	G	A	N	Br	I	Y	Y			
506.765	IV	D	W	T	E	N	Dbr	I	Y	Br			
506.766	III	D	W	G	A	Ssp	Tn	D	Y	Y			
506.769	III	D	P	-	-	G	Br	I	Y	Bf			
506.770	IV	D	P	G	A	N	Tn	D	Y	Ib			
506.771	III	D	W	G	A	Ssp	Tn	D	Y	Bf			
506.779	IV	D	W	G	Sa	N	Br	I	Y	Bf			
506.782	III	D	W	G	A	Ssp	Tn	I	Y	Y			
506.784	IV	D	W	T	A	Ssp	Br	I	Y	Y			
506.785	III	D	P	G	A	N	Br	I	Y	Bf			
506.787	III	D	W	T	Sa	N	Tn	I	Y	Br			
506.788	II	D	P	T	A	Ssp	Tn	I	Y	Lbr			
506.789	IV	D	P	T	E	N	Br	I	Gn	Br		5lft	
506.790	III	D	P	T	E	Ssp	Br	I	Y	Bl		5lft	
506.799	III	D	Dp	T	Sa	Ssp	Br	I	Bl	Bl			
506.800A	III	D	Dp	T	Sa	Ssp	Br	I	Bl	Bl			
506.800B	III	D	Dp	T	Sa	Ssp	Br	I	Bl	Bl			
506.801A	III	D	Dp	T	E	Ssp	Br	I	Bl	Bl			
506.801B	III	D	Dp	T	E	Ssp	Br	I	Bl	Bl			
506.803	III	D	P	T	E	Ssp	Br	I	Y	Y		Na	
506.808	IV	D	P	T	E	Ssp	Bl	I	Gn	Bl	Gncot		
506.809	IV	D	P	T	E	Ssp	Bl	I	Gn	Br	Gncot		

Table 3.2
Agronomic data for USDA soybean germplasm collection in maturity groups I to IV, PI 490.765 to PI 507.573, grown at Urbana, IL

Entry	Flowering (days after May 31)	Maturity (days after May 31)	Lodging (score)	Height (cm)	Stem termination (score)	Shattering Early (score)	Shattering Late (score)	Seed Quality (score)	Seed Mottling (score)	Seed Weight (cg/sd)	Seed Yield (Mg/ha)
506.705	52*	127	2.3	78	1.0	3.0	5.0	2.0	2.5	12.9	1.87
506.709	49	109	1.9	46	1.0	1.0	5.0	1.8	2.5	12.3	1.76
506.710	49	111	1.4	49*	1.0	1.3	5.0	1.8	2.0	12.3	1.26
506.711A	44	110	1.0	40	1.0	1.0	1.8	1.8	2.5	10.6	1.30
506.711B	44	115*	1.0	33*	1.0	1.8	5.0	2.5	2.0	13.6	1.00
506.715	57*	133	4.3	78	1.5	2.2*	5.0	2.2	3.0	16.9	1.46
506.716	56*	133	3.0	82	1.3	1.0	.	2.0	3.5	18.1	1.96
506.720	44	116	2.3	59	1.3	2.7	5.0	2.2	2.0	25.3	1.90
506.721	50	123	2.5	61	1.3	1.8*	5.0	2.0	2.5	16.4	1.72
506.722	49	124	2.6	62	1.5	2.0	4.5	2.2	3.0	15.5	2.03
506.723	50	124	3.1*	71	1.3	1.8	5.0	2.0	3.0	16.2	1.84*
506.724	47*	120	3.2	58	1.5	2.7	5.0	2.5	3.0	15.7	1.40+
506.726	42	101	1.5	58	1.0	1.0	2.0*	1.8	2.0	15.2	2.22+
506.727	57*	135	4.2	74	1.8	2.0*	.	2.0	2.0	16.9	1.75+
506.728	62	135	4.5	84	1.5	1.8	.	2.0	2.0	17.1	1.62+
506.731	56*	137	4.4	58	1.0	2.5	.	2.0	2.0	22.1	1.59+
506.732	47	107	2.7	56	1.3	1.0	3.5*	1.8	1.0	15.8	2.28
506.733A	55*	138*	3.4	78	1.5	1.0	.	2.5	2.5	19.3	1.97
506.734	68*	140	3.5	108*	2.4	1.0	.	2.0	2.0	9.9	0.89
506.758	47	112	3.1	76	1.8	1.3	5.0	1.8	3.0	15.5	1.88
506.759	38	115	1.3	60	1.0	1.0	1.5	2.0	2.0	19.3	2.83+
506.760	33	98	1.1	52	1.0	1.5	4.2*	2.2	1.0	24.8	2.24
506.762A	50*	119	4.2	106	3.0	1.0	1.3	2.2	1.0	17.3	2.46
506.762B	53	122	3.3	80	1.3	1.0	1.0	1.5	1.0	15.5	3.12
506.765	65*	142	3.7	93	1.5	1.3	.	2.2	2.0	18.8	1.50
506.766	49*	125	2.2	66	1.8	1.8	4.0*	2.2	2.0	24.5	2.20*
506.769	50*	113	2.5	50*	1.0	1.3	4.5	2.0	2.0	15.4	1.66
506.770	67	136*	3.6	76	2.0	1.0	.	2.2	2.0	19.6	1.05
506.771	45	116	2.4	63	1.8	2.2	5.0	2.5	2.0	23.5	2.29
506.779	60	137	2.1	76	1.5	1.0	1.0	2.2	3.0	19.3	2.34+
506.782	46	116	2.6	61	1.5	2.5	5.0	2.5	2.0	23.2	1.96
506.784	55	136	2.7	67	1.0	2.0*	.	2.0	1.5	18.5	2.31
506.785	49	126	2.0	50	1.0	2.7*	5.0	2.5	3.0	26.4	.
506.787	52	116	2.5	71	2.0	4.2*	5.0	2.2	3.5	19.3	1.93
506.788	47*	109	3.0	65	1.0	1.0	2.7*	2.0	1.0	11.0	2.65
506.789	56*	136	2.2	66	1.0	1.8	.	2.5	3.5	29.5	1.60
506.790	44	111	1.0	49	1.0	1.5	5.0	2.0	2.0	32.5	2.03
506.799	44	121	2.1	70	1.5	1.3	3.5	2.2	-	33.4	2.13
506.800A	44	119	2.3	70	1.3	1.3	3.2	2.2	-	34.3	2.25
506.800B	42	122	1.6	71	1.5	2.5*	4.2*	2.5	-	34.0	1.65
506.801A	44	119	2.3	75	1.5	2.0	5.0	2.0	-	29.8	2.34
506.801B	42	122*	1.4	67	1.3	2.5*	4.5	2.2	-	32.7	2.25+
506.803	43*	117	1.6	65	1.0	1.8	3.7*	1.8	3.5	18.0	2.00
506.808	61*	133	3.1	91	1.5	1.8*	3.0	1.8	2.0	12.3	2.09
506.809	62*	134	3.2	87	1.5	1.3	2.0	2.0	2.5	16.6	2.29

Table 4.2
Seed composition data for USDA soybean germplasm in maturity groups I to IV, PI 490765 to PI 507573, grown at Urbana, IL

Entry	Maturity group	Seed composition		Oil composition					
		Protein (%)	Oil (%)	Palmitic (%)	Stearic (%)	Oleic (%)	Linoleic (%)	Linolenic (%)	Other (%)
506.705	IV	44.7	16.3	12.6	2.0	19.9	55.5	10.0	0.0
506.709	II	42.9	17.8	11.6	2.9	21.6	55.0	8.8	0.0
506.710	II	42.2	18.4	12.0	2.8	23.1	53.5	8.5	0.0
506.711A	II	42.3	18.2	12.6	2.9	19.3	56.7	8.4	0.0
506.711B	III	42.3	19.2	10.8	2.6	18.9	58.8	8.8	0.0
506.715	IV	42.5	19.9	11.4	2.7	19.3	57.7	8.9	0.0
506.716	IV	45.2	17.9	12.0	2.4	20.7	56.5	8.3	0.0
506.720	III	42.7	20.3	11.4	2.7	25.7	52.0	8.1	0.0
506.721	III	41.7	18.8	11.3	2.9	21.3	55.5	9.1	0.0
506.722	III	42.3	19.2	11.3	2.6	19.3	56.9	9.9	0.0
506.723	III	41.6	20.3	11.2	2.9	22.8	54.3	8.7	0.0
506.724	III	41.8	19.9	11.2	3.0	23.1	54.2	8.6	0.0
506.726	II	43.4	17.6	12.2	2.6	25.1	50.8	9.1	0.0
506.727	IV	40.9	18.4	11.7	2.6	18.5	56.4	10.6	0.0
506.728	IV	40.7	20.6	11.9	2.9	19.4	55.6	10.1	0.0
506.731	IV	42.3	17.4	12.0	2.3	17.4	58.3	9.8	0.0
506.732	II	42.2	18.6	13.4	3.0	21.3	53.5	8.7	0.0
506.733A	IV	43.3	18.8	11.6	2.6	21.6	56.8	7.4	0.0
506.734	IV	44.1	15.8	10.8	2.9	21.9	54.0	10.3	0.0
506.758	III	45.3	17.2	11.9	2.8	21.9	54.5	8.9	0.0
506.759	II	40.8	20.1	12.1	2.8	21.4	56.1	7.6	0.0
506.760	I	41.7	20.1	11.0	2.4	29.9	49.4	7.3	0.0
506.762A	III	42.7	19.0	12.8	2.8	21.6	53.6	9.2	0.0
506.762B	III	41.7	18.0	13.5	2.8	17.4	55.1	11.1	0.0
506.765	IV	42.1	19.6	11.7	2.6	19.7	56.0	9.8	0.0
506.766	III	42.8	18.6	11.1	2.8	23.2	53.3	9.5	0.0
506.769	III	44.8	17.1	11.0	2.8	26.2	50.6	9.3	0.0
506.770	IV	45.0	17.5	10.9	2.3	20.9	57.3	8.5	0.0
506.771	III	43.0	18.5	11.5	2.8	24.3	53.0	8.4	0.0
506.779	IV	41.0	18.3	11.0	2.7	20.9	57.2	8.2	0.0
506.782	III	42.5	19.6	11.3	2.9	27.6	50.6	7.6	0.0
506.784	IV	40.8	20.0	11.9	2.7	20.0	56.0	9.3	0.0
506.785	III	41.9	20.9	12.5	2.7	23.9	52.7	8.1	0.0
506.787	III	41.5	18.4	12.2	2.7	24.9	50.2	9.8	0.0
506.788	II	43.7	16.6	12.8	2.8	18.6	55.8	9.9	0.0
506.789	IV	41.7	19.0	12.5	2.7	19.8	55.8	9.1	0.0
506.790	III	41.4	21.4	12.0	3.0	22.8	52.6	9.5	0.0
506.799	III	43.6	21.6	11.5	2.4	18.3	59.7	8.0	0.0
506.800A	III	43.4	21.4	11.5	2.4	17.9	59.7	8.4	0.0
506.800B	III	44.2	21.4	11.8	2.5	17.8	59.9	8.0	0.0
506.801A	III	42.4	21.9	11.1	2.3	16.9	61.2	8.5	0.0
506.801B	III	43.2	21.3	11.0	2.4	18.7	60.2	7.7	0.0
506.803	III	40.5	20.8	11.4	2.9	22.1	54.5	9.0	0.0
506.808	IV	43.0	17.1	12.1	2.5	22.0	54.9	8.5	0.0
506.809	IV	44.5	18.1	12.3	2.6	18.6	58.0	8.4	0.0

Table 1.2
Identification and origin information for USDA soybean germplasm in maturity groups I to IV, PI 490.765 to PI 507.573

PI No.	Accession name	Foreign collection No.	Country of acquisition	Country of origin	Year introduced or released	Maturity group
506.814	Izumidasan	NIAR 040751	Japan	Japan	1987	IV
506.815	Jouan daizu	NIAR 040801	Japan	Japan	1987	IV
506.816	Jouhouji zairaishu	NIAR 020690	Japan	Japan	1987	IV
506.818	Kagoshima natsu daizu	NIAR 040772	Japan	Japan	1987	II
506.819	Kaifuu gyuumou ou 2	NIAR 060091	Japan	Japan	1987	IV
506.820	Kaifuu seitou	NIAR 060084	Japan	Japan	1987	III
506.821	Kaigen hakka	NIAR 030083	Japan	Japan	1987	III
506.823	Kairyou kimusume	NIAR 090201	Japan	Japan	1987	II
506.825	Kaki hadaka	NIAR 040223	Japan	Japan	1987	II
506.833	Kanan 66 daizu-1	NIAR 060086	Japan	Japan	1987	IV
506.836	Kantou 6	NIAR 040725	Japan	Japan	1987	III
506.837	Kantou 7	NIAR 040138	Japan	Japan	1987	III
506.838	Kantou 7	NIAR 041020	Japan	Japan	1987	III
506.839	Kantou 8	NIAR 040139	Japan	Japan	1987	III
506.840A	Kantou 9	NIAR 040140	Japan	Japan	1987	IV
506.840B	(Kantou 9)	NIAR 040140	Japan	Japan	1987	IV
506.841	Kantou 14	NIAR 040144	Japan	Japan	1987	II
506.842	Kantou 16	NIAR 040145	Japan	Japan	1987	IV
506.843	Kantou 30	NIAR 040150	Japan	Japan	1987	III
506.847	Kantou 50	NIAR 041025	Japan	Japan	1987	IV
506.848	Kantou 55	NIAR 040299	Japan	Japan	1987	IV
506.849	Kantou 56	NIAR 040300	Japan	Japan	1987	IV
506.850	Kantou 58	NIAR 040557	Japan	Japan	1987	IV
506.852	Kantou 60	NIAR 040303	Japan	Japan	1987	IV
506.853	Kantou 61	NIAR 040304	Japan	Japan	1987	IV
506.855	Kantou 64	NIAR 040307	Japan	Japan	1987	III
506.857	Kara shirazu	NIAR 040787	Japan	Japan	1987	II
506.858	Kariha takiya	NIAR 040288	Japan	Japan	1987	III
506.859	Kariha takiya	NIAR 030102	Japan	Japan	1987	III
506.860	Kariha takiya 28	NIAR 020458	Japan	Japan	1987	III
506.861	Karikachi	NIAR 010015	Japan	Japan	1987	I
506.862	Karikei 86	NIAR 020718	Japan	Japan	1987	IV
506.863	Karikei 35	NIAR 020573	Japan	Japan	1987	IV
506.864A	Karikei 80	NIAR 020710	Japan	Japan	1987	III
506.864B	Karikei 80	NIAR 020710	Japan	Japan	1987	IV
506.865	Karikei 82	NIAR 020711	Japan	Japan	1987	IV
506.866	Karikei 102	NIAR 020728	Japan	Japan	1987	IV
506.867	Karikei 112	NIAR 020735	Japan	Japan	1987	IV
506.868	Karikei 129	NIAR 020736	Japan	Japan	1987	IV
506.869	Karikei 179	NIAR 020737	Japan	Japan	1987	IV
506.870	Karumai	NIAR 020689	Japan	Japan	1987	III
506.872	Katsura kouden	NIAR 040247	Japan	Japan	1987	III
506.873	Kawamasan (B)	NIAR 040773	Japan	Japan	1987	II
506.874	Kawanagare	NIAR 040790	Japan	Japan	1987	III
506.876	Keburi	NIAR 041037	Japan	Japan	1987	II

Table 2.2
Descriptive data for USDA soybean germplasm in maturity groups I to IV, PI 490.765 to PI 507.573

Entry	Maturity group	Stem trm.	Flower color	Pubescence			Pod color	Seedcoat		Hilum color	Other traits		
				Color	Form	Density		Luster	Color		Seed	Leaf	Plant
506.814	IV	D	W	T	A	N	Br	I	Y	Br			
506.815	IV	D	P	G	Sa	Ssp	Br	I	Y	Y			
506.816	IV	D	P	G	E	Ssp	Br	I	Y	Y			
506.818	II	D	W	G	A	N	Br	I	Y	Bf			
506.819	IV	D	W	T	A	N	Br	I	Y	Br			
506.820	III	N	W	G	E	N	Br	I	Gn	Bf			
506.821	III	N	W	G	Sa	N	Br	I	Y	Bf			
506.823	II	D	W	T	Sa	Ssp	Tn	I	Y	Br			
506.825	II	D	P	-	C	N	Br	D	Y	Br			
506.833	IV	D	P	T	A	N	Br	I	Gn	Br			
506.836	III	D	P	-	C	N	Tn	I	Y	Y			
506.837	III	D	W	T	E	Ssp	Tn	I	Y	Y			
506.838	III	D	W	T	A	Ssp	Tn	I	Y	Lbr	Sabh		
506.839	III	D	W	T	A	Ssp	Tn	D	Y	Y			
506.840A	IV	D	Dp	T	A	Ssp	Br	I	Y	Br			
506.840B	IV	D	Dp	T	A	Ssp	Br	I	Y	Br			
506.841	II	D	W	G	A	Ssp	Br	I	Y	Bf			
506.842	IV	D	P	T	E	N	Br	I	Y	Br			
506.843	III	D	Dp	-	C	Ssp	Tn	I	Y	Bf			
506.847	IV	D	P	G	A	Ssp	Br	I	Y	Y			
506.848	IV	D	Dp	G	E	Ssp	Br	I	Y	Y			
506.849	IV	D	W	G	E	Ssp	Br	I	Y	Y			
506.850	IV	D	P	G	A	Ssp	Br	I	Y	Y			
506.852	IV	D	W	T	A	Ssp	Br	I	Y	Y			
506.853	IV	D	W	T	A	N	Br	I	Y	Y			
506.855	III	D	W	G	Sa	Ssp	Br	I	Y	Y		Na	
506.857	II	D	W	G	E	Ssp	Tn	D	Y	Y			
506.858	III	D	W	T	E	Ssp	Br	I	Y	Br			
506.859	III	D	W	T	E	Ssp	Br	I	Y	Br			
506.860	III	D	W	T	E	N	Br	S	Y	Br			
506.861	I	D	P	T	E	Ssp	Br	I	Y	Br			
506.862	IV	D	W	G	Sa	Ssp	Br	I	Y	Y			
506.863	IV	D	P	G	E	N	Tn	I	Y	Y			
506.864A	III	D	P	G	E	Ssp	Br	D	Y	Y		Na,5lft	
506.864B	IV	D	P	G	E	Ssp	Br	I	Y	Y		Na,5lft	
506.865	IV	D	P	G	E	Ssp	Br	I	Y	Y		Na,5lft	
506.866	IV	D	P	G	E	N	Br	I	Y	Y			
506.867	IV	D	P	G	Sa	N	Br	I	Y	Y			
506.868	IV	D	W	T	A	Ssp	Br	I	Y	Y			
506.869	IV	D	P	G	A	Ssp	Br	I	Y	Y			
506.870	III	D	Dp	G	Sa	Ssp	Br	I	Y	Y			
506.872	III	D	W	T	A	N	Br	I	Y	Br			
506.873	II	D	W	G	E	Sp	Tn	I	Y	Y			
506.874	III	D	P	G	Sa	Ssp	Br	I	Y	Lbf			
506.876	II	D	P	-	C	N	Tn	S	Y	Bf			

Table 3.2
Agronomic data for USDA soybean germplasm collection in maturity groups I to IV, PI 490.765 to PI 507.573, grown at Urbana, IL

Entry	Flowering (days after May 31)	Maturity (days after May 31)	Lodging (score)	Height (cm)	Stem termination (score)	Shattering Early (score)	Shattering Late (score)	Seed Quality (score)	Seed Mottling (score)	Seed Weight (cg/sd)	Seed Yield (Mg/ha)
506.814	61	138	3.9	79	1.5	2.2	.	2.2	2.5	16.5	1.86
506.815	65	140	3.1	79	1.5	1.0	.	2.5	4.0	18.8	1.48
506.816	59*	138	2.3	74	1.3	1.0	.	2.5	2.0*	25.2*	1.96+
506.818	48*	109	3.2	64	1.5	1.5	5.0	1.8	2.5	11.1	2.45
506.819	58*	131	4.0	102	1.8	1.0	1.0	2.0	3.0	12.5	1.95
506.820	56*	117	3.7	83	3.0	1.0	3.5	2.0	2.0	11.9	2.06*
506.821	45	113	3.0	91*	3.2	1.0	1.3	2.2	2.0	18.1	2.42
506.823	46	113	2.5	62	1.0	1.0	3.5	1.8	1.0	13.9	2.96
506.825	46*	106	1.8*	53	1.0	1.0	3.0	2.0	2.0	13.3	1.82
506.833	64*	128	3.5	83	1.5	1.5	2.2*	2.0	2.5	10.9	1.86
506.836	46	113	2.5	63	1.0	1.0	4.0	2.0	2.5	14.0	2.06
506.837	53	126	3.7*	70	1.3	3.0	4.5	2.2	3.0	19.4	1.61
506.838	54	125	3.2	82	1.8	1.8	5.0	2.0	2.0	17.3	2.37
506.839	49*	118	2.3	59	1.0	3.7*	5.0	2.2	2.5	20.6	1.93
506.840A	55	122	3.0	82	1.8	2.0	4.5	2.0	1.5	20.5	1.87*
506.840B	56	128	3.7	80	1.5	2.0	4.5	2.0	1.5	19.6	1.56+
506.841	44	106	1.3	51	1.0	2.0	5.0	1.8	2.0	13.5	2.23
506.842	56*	129	4.7	77	1.5	2.5	5.0	2.5	3.0	17.6	1.50
506.843	54	124	2.3	56	1.0	1.5	2.0	2.5	1.5	16.8	1.28
506.847	54	136	2.5	72*	1.0	1.0	.	2.0	3.0	20.7	2.05+
506.848	62	132	3.3	98	1.5	1.8*	2.7*	2.0	1.5	18.4	1.90
506.849	60*	133	2.1	86	1.8	2.0	3.5	2.2	3.0	22.4*	1.40*
506.850	56	129	2.7	63	1.0	2.7*	4.2*	2.0	2.0	20.6	2.63+
506.852	57*	132	2.4	65	1.0	1.8	4.0	2.2	4.0	18.3	1.81
506.853	60	136	3.4	69	1.3	1.8	.	2.5	3.5	19.1	1.95
506.855	44	116	2.5	70	1.5	2.7	5.0	2.0	2.0	20.4	2.35
506.857	39	104	2.0	61*	1.5	1.0	3.5	2.0	2.0	24.2	2.55
506.858	51	118	2.4	74	2.0	3.7	5.0	1.8	3.0	14.7	2.09
506.859	49*	113	2.6	75	1.8	2.0	5.0	2.0	3.5	13.1	1.70*
506.860	48	113	2.5	72	1.8	1.3	5.0	1.8	2.5	14.6	2.38
506.861	30	88	1.0	53	1.5	2.2	4.7	2.0	1.5	18.7	1.41
506.862	66*	136	3.7	76	1.5	1.5	.	2.2	2.0	15.0	1.41
506.863	65*	140	3.6	81*	1.5	1.0	.	2.0	2.5	15.2	2.46
506.864A	42	114	2.4	78	1.5	1.0	3.5	2.0	2.0	23.3	2.68
506.864B	55	133	2.5	82	1.5	1.5	.	2.5	3.0	22.2	2.06
506.865	52*	133	2.3	84	1.5	2.2	3.0	2.5	2.0	19.5	1.92
506.866	59*	137	2.1	81*	1.5	1.0	.	2.2	2.5	18.7	2.25
506.867	58*	134	2.7	80	1.3	1.0	1.0	2.0	2.5	17.2	2.60
506.868	57*	138	4.0	66	1.5	1.5	.	2.0	2.0	17.0	2.10
506.869	60*	131	4.8	64*	1.5	2.2	4.0	2.5	2.5	17.8*	0.47+
506.870	50	119	2.9*	63	1.0	1.5	4.0*	2.2	2.0	22.2	2.20
506.872	50*	113*	2.8	71	1.8	2.0*	5.0	2.0	3.0	17.5	2.41
506.873	39	102	1.5	60*	1.5	1.0	3.7	1.8	2.0	24.2	2.68
506.874	49*	115	2.3	70	1.0	1.0	3.0	2.0	2.5	16.4	2.51
506.876	49	114	1.8	60	1.3	1.3	4.5	1.8	2.0	15.1	2.09

Table 4.2
Seed composition data for USDA soybean germplasm in maturity groups I to IV, PI 490765 to PI 507573, grown at Urbana, IL

Entry	Maturity group	Seed composition		Oil composition					
		Protein (%)	Oil (%)	Palmitic (%)	Stearic (%)	Oleic (%)	Linoleic (%)	Linolenic (%)	Other (%)
506.814	IV	42.3	17.3	12.4	2.5	17.7	57.4	9.9	0.0
506.815	IV	43.7	17.6	11.6	2.4	20.0	56.7	9.1	0.1
506.816	IV	42.3	20.4	11.3	2.7	20.9	56.2	8.9	0.0
506.818	II	42.2	17.2	12.0	2.7	22.9	52.5	10.0	0.0
506.819	IV	43.6	18.3	10.9	2.5	18.7	59.7	8.2	0.0
506.820	III	44.9	18.3	11.8	2.8	19.3	57.5	8.7	0.0
506.821	III	42.4	20.2	11.7	2.3	24.1	54.3	7.7	0.0
506.823	II	42.9	17.0	14.0	2.9	19.4	54.0	9.6	0.0
506.825	II	40.2	19.8	11.8	2.8	24.3	52.4	8.6	0.0
506.833	IV	42.2	19.4	12.1	2.4	17.4	58.1	9.8	0.0
506.836	III	45.3	17.2	11.7	2.5	17.5	57.5	10.7	0.0
506.837	III	45.3	17.6	11.8	2.2	24.0	53.5	8.5	0.0
506.838	III	40.7	19.4	12.3	2.6	22.7	52.5	9.8	0.0
506.839	III	45.1	18.5	11.7	2.6	22.2	54.2	9.2	0.0
506.840A	IV	42.5	17.8	12.2	2.3	26.0	50.7	8.7	0.0
506.840B	IV	42.3	17.5	12.1	2.5	24.7	51.4	9.3	0.0
506.841	II	42.7	17.3	13.1	3.0	21.2	54.4	8.3	0.0
506.842	IV	43.5	18.1	11.7	2.8	22.1	55.0	8.4	0.0
506.843	III	44.8	18.0	11.6	2.6	22.8	54.3	8.7	0.0
506.847	IV	42.4	17.8	15.5	2.7	17.7	55.2	8.8	0.1
506.848	IV	42.7	19.8	11.7	2.6	18.9	58.6	8.2	0.0
506.849	IV	42.5	19.4	11.1	2.7	25.0	53.2	8.0	0.0
506.850	IV	41.6	17.1	10.6	2.4	27.2	50.8	9.1	0.0
506.852	IV	42.7	19.4	11.0	2.2	24.0	53.5	9.3	0.0
506.853	IV	44.2	17.3	10.6	2.3	20.3	57.7	9.1	0.0
506.855	III	42.3	19.1	11.9	3.4	19.2	55.1	10.4	0.0
506.857	II	43.3	18.0	11.8	2.7	30.0	47.7	7.7	0.0
506.858	III	46.9	17.1	12.9	2.3	24.2	52.8	7.7	0.0
506.859	III	44.2	19.6	12.6	2.4	23.8	53.8	7.4	0.0
506.860	III	42.8	20.2	12.8	2.3	23.6	52.6	8.7	0.0
506.861	I	40.1	20.6	11.3	3.0	28.7	50.0	6.9	0.0
506.862	IV	42.2	18.5	11.6	3.0	19.7	54.8	11.0	0.0
506.863	IV	44.2	16.6	12.6	2.8	16.8	56.9	10.9	0.0
506.864A	III	40.2	22.0	12.3	2.7	19.8	55.0	10.2	0.0
506.864B	IV	41.2	20.3	12.6	2.7	17.7	55.8	11.1	0.0
506.865	IV	43.4	17.3	12.7	2.7	16.9	56.3	11.3	0.0
506.866	IV	43.5	18.3	10.2	3.1	21.8	55.1	9.7	0.0
506.867	IV	42.0	19.3	11.9	2.3	20.1	55.5	10.2	0.0
506.868	IV	40.6	19.1	11.7	2.2	18.9	57.9	9.3	0.0
506.869	IV	42.3	18.7	10.5	3.0	21.1	56.2	9.1	0.0
506.870	III	42.2	19.3	12.3	2.5	21.7	54.2	9.2	0.0
506.872	III	41.5	18.6	11.9	2.2	26.3	50.0	9.6	0.0
506.873	II	44.7	16.2	11.9	2.6	29.5	48.0	8.0	0.0
506.874	III	42.5	19.1	11.3	2.1	22.3	55.4	8.8	0.0
506.876	II	41.7	19.4	11.8	3.0	23.9	52.5	8.6	0.0

Table 1.2
Identification and origin information for USDA soybean germplasm in maturity groups I to IV, PI 490.765 to PI 507.573

PI No.	Accession name	Foreign collection No.	Country of acquisition	Country of origin	Year introduced or released	Maturity group
506.881	Kimusume	NIAR 030064	Japan	Japan	1987	II
506.882	Kimusume ibaraki 1	NIAR 040451	Japan	Japan	1987	III
506.883	Kinako daizu	NIAR 040232	Japan	Japan	1987	III
506.887	Kinbee	NIAR 040767	Japan	Japan	1987	III
506.892	Kinoshita mame	NIAR 020535	Japan	Japan	1987	IV
506.894	Kinoshita mame	NIAR 040538	Japan	Japan	1987	III
506.895	Kitahomare	NIAR 010091	Japan	Japan	1987	I
506.896	Kitajiro	NIAR 040729	Japan	Japan	1987	II
506.897	Kitajiro 54	NIAR 020688	Japan	Japan	1987	II
506.898	Kitami shiro	NIAR 010034	Japan	Japan	1987	II
506.899	Kitami shiro	NIAR 040755	Japan	Japan	1987	II
506.900	Kitamusume	NIAR 010067	Japan	Japan	1987	II
506.901	Kitamusume	NIAR 010087	Japan	Japan	1987	II
506.903	Kizukuri zairai	NIAR 020594	Japan	Japan	1987	IV
506.906	Ko hachigatsu 14	NIAR 040475	Japan	Japan	1987	IV
506.909	Kogane daizu	NIAR 090150	Japan	Japan	1987	II
506.911	Kohachigatsu 14	NIAR 020660	Japan	Japan	1987	IV
506.912	Koibuchimura zairai	NIAR 040791	Japan	Japan	1987	IV
506.913	Kokasa zairai	NIAR 040047	Japan	Japan	1987	II
506.916	Komame	NIAR 040515	Japan	Japan	1987	IV
506.917	Kongou	NIAR 020600	Japan	Japan	1987	IV
506.918	Kongou shouryou	NIAR 040803	Japan	Japan	1987	IV
506.920	Koran 1	NIAR 010046	Japan	Japan	1987	II
506.927	Kou 4	NIAR 020457	Japan	Japan	1987	IV
506.928	Kou 66	NIAR 040482	Japan	Japan	1987	IV
506.929	Kou 235	NIAR 040761	Japan	Japan	1987	III
506.930	Kou 262	NIAR 020703	Japan	Japan	1987	II
506.931	Kouhai	NIAR 020122	Japan	Japan	1987	IV
506.932	Kouiku 1	NIAR 090166	Japan	Japan	1987	IV
506.933	Kouiku 1	NIAR 090187	Japan	Japan	1987	IV
506.935	Kouji irazu	NIAR 020539	Japan	Japan	1987	IV
506.937	Kouji shirazu	NIAR 020656	Japan	Japan	1987	IV
506.942	Koushurei 235	NIAR 020016	Japan	Japan	1987	II
506.943	Koushurei 555	NIAR 030062	Japan	Japan	1987	II
506.945	Koutoku	NIAR 040472	Japan	Japan	1987	II
506.951	Kuratate mame	NIAR 040792	Japan	Japan	1987	IV
506.954	Kuro chouhin 3	NIAR 040660	Japan	Japan	1987	IV
506.973	Kuro chouhin 23A	NIAR 040679	Japan	Japan	1987	IV
506.982	Kuro chouhin 31	NIAR 020638	Japan	Japan	1987	III
506.987	Kuro daizu	NIAR 020644	Japan	Japan	1987	III
506.989	Kuro daizu (Ishioka 45)	NIAR 040987	Japan	Japan	1987	IV
506.992	Kuro mame (Nagano)	NIAR 040988	Japan	Japan	1987	IV
506.993	Kuro mame (Yamagata)	NIAR 020445	Japan	Japan	1987	IV
506.994	Kuro sengoku	NIAR 040479	Japan	Japan	1987	IV
506.995	Kuro tairyuu daizu	NIAR 020444	Japan	Japan	1987	II

Table 2.2
Descriptive data for USDA soybean germplasm in maturity groups I to IV, PI 490.765 to PI 507.573

Entry	Maturity group	Stem trm.	Flower color	Pubescence			Pod color	Seedcoat		Hilum color	Other traits		
				Color	Form	Density		Luster	Color		Seed	Leaf	Plant
506.881	II	D	W	G	A	N	Br	I	Y	Bf			
506.882	III	D	P	-	C	N	Tn	I	Y	Bf			
506.883	III	D	P	-	-	G	Br	I	Gn	Br	Gncot		
506.887	III	D	P	T	E	Ssp	Tn	I	Y	Br			
506.892	IV	D	P	T	A	Ssp	Br	I	Y	Br			
506.894	III	D	P	T	A	Ssp	Br	I	Gn	Br	Gncot		
506.895	I	D	W	T	E	Ssp	Br	I	Y	Br			
506.896	II	D	P	Lt	E	Ssp	Br	I	Y	Y		Na	
506.897	II	D	P	G	E	Ssp	Br	I	Y	Y		Na	
506.898	II	D	P	T	E	Ssp	Br	I	Y	Br			
506.899	II	D	P	T	E	Ssp	Br	I	Y	Br			
506.900	II	D	P	T	E	Sp	Br	I	Y	Br			
506.901	II	D	P	T	E	Sp	Br	I	Y	Br			
506.903	IV	D	P	G	Sa	N	Br	I	Y	Y			
506.906	IV	D	P	G	Sa	N	Br	I	Y	Bf			
506.909	II	D	P	T	A	Ssp	Tn	I	Y	Br			
506.911	IV	D	P	G	E	N	Tn	I	Y	Bf			
506.912	IV	D	W	T	A	Ssp	Br	I	Gn	Br			
506.913	II	D	W	G	E	Ssp	Br	I	Gn	Bf			
506.916	IV	D	P	-	C	N	Tn	I	Y	Bf	Sdef		
506.917	IV	D	W	G	E	Ssp	Br	I	Y	Bf			
506.918	IV	D	P	G	E	Ssp	Br	I	Y	Y			
506.920	II	D	P	G	E	N	Br	I	Y	Ib			
506.927	IV	D	P	T	E	N	Br	I	Y	Br			
506.928	IV	D	P	G	A	Ssp	Br	I	Y	Bf			
506.929	III	D	W	G	Sa	Ssp	Tn	I	Y	Y			
506.930	II	S	W	G	E	N	Br	I	Y	Lbf			
506.931	IV	D	P	T	A	Ssp	Bl	I	Lgn	Br			
506.932	IV	D	P	T	E	N	Br	I	Y	Br			
506.933	IV	D	P	T	E	N	Br	I	Y	Br			
506.935	IV	D	W	T	A	Ssp	Br	D	Gn	Br			
506.937	IV	D	W	T	Sa	N	Br	I	Y	Br			
506.942	II	S	W	G	E	N	Br	I	Y	Bf			
506.943	II	D	P	G	A	N	Tn	D	Y	Dbf			
506.945	II	N	W	G	E	N	Br	I	Y	Bf			
506.951	IV	D	W	T	A	Ssp	Br	D	Gn	Br			
506.954	IV	D	P	T	A	N	Br	I	Bl	Bl			
506.973	IV	D	P	T	Sa	Ssp	Br	I	Bl	Bl	Gncot		
506.982	III	D	W	T	E	Sp	Br	I	Bl	Bl			
506.987	III	D	W	T	Sa	Ssp	Br	I	Bl	Bl			
506.989	IV	D	W	T	A	Ssp	Br	I	Bl	Bl			
506.992	IV	D	P	T	A	N	Br	I	Bl	Bl			
506.993	IV	S	P	T	E	Ssp	Br	D	Bl	Bl			
506.994	IV	D	W	T	Sa	N	Bl	I	Bl	Bl	Gncot		
506.995	II	D	P	T	E	N	Br	I	Bl	Bl			

Table 3.2
Agronomic data for USDA soybean germplasm collection in maturity groups I to IV, PI 490.765 to PI 507.573, grown at Urbana, IL

Entry	Flowering (days after May 31)	Maturity	Lodging (score)	Height (cm)	Stem termination (score)	Shattering Early (score)	Shattering Late (score)	Seed Quality (score)	Seed Mottling (score)	Seed Weight (cg/sd)	Seed Yield (Mg/ha)
506.881	47*	110	3.2	68	1.8	1.0	5.0	2.0	2.5	11.2	2.59
506.882	49	113	1.9*	56	1.0	1.0	3.7	2.0	2.0	14.3	1.76
506.883	48*	114	1.0	42*	1.0	1.3	4.0*	2.0	2.0	13.3	0.94
506.887	49	111	3.0	70	1.0	1.0	4.0*	2.0	2.5	9.1	2.19
506.892	57	132	3.2	83	1.5	3.5*	5.0	1.8	2.0	16.6	1.97
506.894	51	114	2.4	65	1.8	2.0*	5.0	1.8	3.5	13.1	1.74
506.895	28	98	1.0	43	1.0	1.5	4.0*	2.0	1.0	19.7	1.98
506.896	39	107	1.0	63	1.0	1.3	4.0	2.0	2.0*	19.7*	2.68+
506.897	39	104	1.0	63	1.0	1.0	3.7	2.0	2.5	19.3	2.29
506.898	34	103	1.0	53	1.0	2.2*	4.2*	2.0	2.0	18.3	1.91
506.899	34	103	1.0	55	1.0	1.8	4.0*	2.0	2.0	16.9	1.92
506.900	29	105	1.0	55	1.5	3.7	5.0	2.2	2.0	21.5	1.59
506.901	33	108	1.0	56	1.3	3.0	5.0	2.0	2.0	20.1	1.96
506.903	49	129	2.0	65	1.0	2.0	3.5	2.7	2.5	36.1	2.28+
506.906	59	131	4.0	86	1.5	1.5	4.0	1.8	1.0	13.1	2.14
506.909	47	110	2.4	67	1.3	1.0	3.0*	1.8	1.0	14.4	2.79
506.911	59	132	3.0	84*	1.5	1.5	3.0	2.0	4.5	12.3	1.82
506.912	55	132	2.2	66	1.0	2.2*	5.0	2.0	2.5	21.9	2.27
506.913	45	107	1.8	53	1.0	1.0	5.0	2.0	1.0	23.8	2.67
506.916	56*	132	2.3	59	1.0	1.5	3.0	2.2	1.5	16.3	1.70
506.917	57	144	2.6	64	1.0	1.0	.	3.2	2.5	26.1	1.59
506.918	59*	136	3.9	77	1.3	1.0	.	2.2	3.5	17.4	1.85
506.920	26	98	2.9*	53	1.0	1.0	1.0	2.0	2.0	16.8	2.97
506.927	56*	131	4.2	79	1.5	3.7	5.0	2.2	3.5	16.9	1.02
506.928	55	130	3.1	65	1.0	2.0	4.7	1.8	1.0	15.1	2.08
506.929	48*	123	3.3	68	1.3	2.2	5.0	2.0	2.5	17.4	2.10
506.930	26	103	1.9*	68	2.5	1.0	1.0	2.5	2.0	20.9	3.08
506.931	60	133	3.2	70	1.5	1.5	.	2.0	1.5	15.3	1.60
506.932	70*	143	4.2	110*	2.2	1.0	.	2.0	3.5	7.8	0.54
506.933	69	143	4.2	79	2.2	1.0	.	2.0	3.5	10.6*	0.50+
506.935	55	131	2.3	70	1.0	2.0	5.0	2.0	2.0	22.7*	2.10
506.937	53*	133	2.0	74*	1.3	1.8	.	2.5	2.0	29.0	1.73+
506.942	26	102	2.8	66	1.5	1.0	1.0	2.2	2.5	20.4	3.13+
506.943	46*	106	1.9	65	2.2	1.0	3.2	2.0	2.0	17.2	2.07
506.945	28	108	3.3	91	3.0	1.0	1.0	2.0	2.0	17.6	3.18
506.951	51	130	2.0	69	1.0	2.0	5.0	2.0	2.0	22.1	2.29*
506.954	56	135	2.4	69	1.0	1.0	.	2.0	-	24.9*	1.85
506.973	62	142	3.0	82	1.8	1.0	.	2.0	-	26.8*	1.27+
506.982	39	111	1.6	67	1.8	2.0	4.7	2.0	-	29.7	2.29
506.987	40	113	1.0	52	1.0	1.8	.	2.0	-	28.0	1.51+
506.989	54	122	2.7	77	1.8	2.0	4.0*	2.0	-	21.5*	2.39
506.992	55	134	2.3	69	1.0	1.0	.	2.0	-	25.4*	2.08+
506.993	61	139	3.0	107	2.5	1.0	.	2.0	-	31.7	1.47+
506.994	51	121	1.5	56	1.0	1.0	3.0	1.8	-	7.9	1.94
506.995	39	107	3.0	58	1.0	2.0	5.0	2.0	-	24.1	2.16

Table 4.2
Seed composition data for USDA soybean germplasm in maturity groups I to IV, PI 490765 to PI 507573, grown at Urbana, IL

Entry	Maturity group	Seed composition		Oil composition					
		Protein (%)	Oil (%)	Palmitic (%)	Stearic (%)	Oleic (%)	Linoleic (%)	Linolenic (%)	Other (%)
506.881	II	41.4	17.5	11.7	2.6	24.1	51.6	9.8	0.0
506.882	III	41.5	19.3	11.0	2.5	25.2	52.1	9.1	0.0
506.883	III	42.6	17.2	11.4	2.1	21.0	55.3	10.0	0.0
506.887	III	48.4	15.5	11.9	2.2	16.9	57.2	11.8	0.0
506.892	IV	41.8	18.1	12.0	2.3	17.3	59.3	9.1	0.0
506.894	III	43.3	16.6	11.3	2.1	25.5	51.2	9.9	0.0
506.895	I	39.8	21.9	10.9	2.7	23.0	56.0	7.4	0.0
506.896	II	39.0	20.8	12.8	3.7	21.7	53.0	8.8	0.0
506.897	II	39.7	20.8	12.7	3.5	22.4	52.7	8.7	0.0
506.898	II	41.3	19.3	13.3	2.9	20.3	55.3	8.1	0.0
506.899	II	41.5	19.6	13.1	2.9	21.4	54.6	8.0	0.0
506.900	II	40.0	21.1	11.6	2.8	26.6	52.5	6.4	0.0
506.901	II	40.4	21.0	12.1	2.9	23.5	54.2	7.2	0.0
506.903	IV	42.7	18.1	11.2	2.4	23.4	53.0	9.9	0.0
506.906	IV	44.2	17.2	11.3	2.2	19.1	57.7	9.6	0.0
506.909	II	42.7	17.6	13.3	3.5	30.8	48.7	3.7	0.0
506.911	IV	43.6	17.6	12.2	2.3	20.6	56.2	8.8	0.0
506.912	IV	41.9	18.4	12.5	2.3	22.5	53.6	9.0	0.0
506.913	II	44.1	18.5	12.4	3.0	23.5	52.2	8.9	0.0
506.916	IV	43.0	17.0	10.6	2.5	18.8	57.5	10.6	0.0
506.917	IV	45.5	18.1	11.1	2.6	19.8	57.7	8.7	0.0
506.918	IV	45.4	17.2	12.6	2.4	19.0	57.6	8.3	0.0
506.920	II	39.4	21.9	11.4	3.2	21.7	56.0	7.7	0.0
506.927	IV	44.0	17.3	12.0	2.9	22.3	54.5	8.3	0.0
506.928	IV	43.0	19.1	13.5	2.2	19.1	56.7	8.3	0.0
506.929	III	44.0	17.8	11.9	2.2	19.6	57.1	9.2	0.0
506.930	II	40.3	21.1	11.4	2.8	24.3	54.0	7.5	0.0
506.931	IV	42.8	17.6	11.2	2.3	18.6	57.5	10.3	0.0
506.932	IV	43.7	15.1	11.2	3.3	21.0	53.2	11.2	0.0
506.933	IV	43.7	14.6	11.2	3.3	21.3	52.6	11.7	0.0
506.935	IV	41.3	20.7	11.5	2.2	23.7	53.8	8.6	0.0
506.937	IV	40.5	21.0	11.3	2.4	22.7	55.2	8.4	0.0
506.942	II	40.7	21.1	11.4	2.7	24.9	53.5	7.5	0.0
506.943	II	44.2	16.6	13.5	3.2	22.4	51.5	9.4	0.0
506.945	II	42.2	20.0	11.0	3.3	30.3	49.0	6.3	0.0
506.951	IV	41.1	20.5	11.0	2.1	21.5	56.1	9.1	0.0
506.954	IV	42.5	21.9	12.4	2.3	16.2	58.5	10.5	0.0
506.973	IV	43.1	22.0	12.0	2.2	22.3	55.1	8.4	0.0
506.982	III	42.1	23.8	11.7	2.3	22.8	55.0	8.2	0.0
506.987	III	41.7	22.8	11.2	2.7	29.2	49.0	7.9	0.0
506.989	IV	44.0	20.6	12.3	2.1	19.8	56.5	9.2	0.0
506.992	IV	42.2	22.1	12.2	2.5	16.6	58.5	10.1	0.0
506.993	IV	43.0	20.2	11.7	3.4	18.5	58.5	7.8	0.0
506.994	IV	42.0	20.2	11.5	2.2	20.5	58.0	7.8	0.0
506.995	II	43.2	22.5	10.9	2.7	31.9	48.6	5.9	0.1

Table 1.2
Identification and origin information for USDA soybean germplasm in maturity groups I to IV, PI 490.765 to PI 507.573

PI No.	Accession name	Foreign collection No.	Country of acquisition	Country of origin	Year introduced or released	Maturity group
506.998	Kurosaya	NIAR 040748	Japan	Japan	1987	IV
507.015	M-I	NIAR 010060	Japan	Japan	1987	III
507.016	M-S	NIAR 010061	Japan	Japan	1987	III
507.019	Majison nishiki	NIAR 040708	Japan	Japan	1987	III
507.021	Manshuu	NIAR 040776	Japan	Japan	1987	IV
507.022	Manshuu gata B	NIAR 020645	Japan	Japan	1987	IV
507.025	Manshuu midori meaka	NIAR 010078	Japan	Japan	1987	IV
507.026	Maru kotsubu	NIAR 020643	Japan	Japan	1987	IV
507.027	Masshoku mame (Kou 504)	NIAR 020587	Japan	Japan	1987	II
507.028	Masuyama	NIAR 020055	Japan	Japan	1987	IV
507.029	Meguro	NIAR 090014	Japan	Japan	1987	II
507.047	Mitsu buto	NIAR 040812	Japan	Japan	1987	IV
507.051	Mitsuba	NIAR 020507	Japan	Japan	1987	IV
507.053	Mizuhara 1	NIAR 040802	Japan	Japan	1987	IV
507.054	Mizukuguri (Wase)	NIAR 040775	Japan	Japan	1987	III
507.060	Mushi shirazu (1)	NIAR 040774	Japan	Japan	1987	IV
507.061	N-B	NIAR 020252	Japan	Japan	1987	IV
507.062A	N-B(B)	NIAR 020251	Japan	Japan	1987	III
507.062B	[N-B(B)]	NIAR 020251	Japan	Japan	1987	IV
507.063	N-B(C)	NIAR 020256	Japan	Japan	1987	II
507.064	N-B(D)	NIAR 020257	Japan	Japan	1987	IV
507.065	N-B (Katsuge)	NIAR 020259	Japan	Japan	1987	IV
507.066	N-B (Katsuge)	NIAR 020261	Japan	Japan	1987	IV
507.067	Nagano 7	NIAR 040503	Japan	Japan	1987	IV
507.071A	Naichigata	NIAR 020247	Japan	Japan	1987	IV
507.071B	(Naichigata)	NIAR 020247	Japan	Japan	1987	IV
507.072	Naichigata B	NIAR 020253	Japan	Japan	1987	IV
507.073	Nakaide	NIAR 020027	Japan	Japan	1987	IV
507.080	Nakate hadaka	NIAR 010077	Japan	Japan	1987	III
507.082A	Nanbu	NIAR 020357	Japan	Japan	1987	IV
507.082B	(Nanbu)	NIAR 020357	Japan	Japan	1987	IV
507.082C	(Nanbu)	NIAR 020357	Japan	Japan	1987	IV
507.086	Nasu shirome	NIAR 040686	Japan	Japan	1987	IV
507.089A	Nattou mame	NIAR 020719	Japan	Japan	1987	IV
507.089B	(Nattou mame)	NIAR 020719	Japan	Japan	1987	IV
507.090	Nezumi	NIAR 040781	Japan	Japan	1987	III
507.091	Nezumi saya 3	NIAR 040783	Japan	Japan	1987	III
507.092	Nichiren	NIAR 041041	Japan	Japan	1987	IV
507.093	Ninohe zairai	NIAR 020725	Japan	Japan	1987	IV
507.094	Ninomiya	NIAR 041039	Japan	Japan	1987	III
507.095A	Nioi mame	NIAR 020664	Japan	Japan	1987	IV
507.097	Nishitsugaru zairaishu	NIAR 020216	Japan	Japan	1987	IV
507.100	Nonse mouse	NIAR 040432	Japan	Japan	1987	IV
507.101	Nonsemond	NIAR 030015	Japan	Japan	1987	IV
507.104	Nouken 5	NIAR 020581	Japan	Japan	1987	IV

Table 2.2
Descriptive data for USDA soybean germplasm in maturity groups I to IV, PI 490.765 to PI 507.573

Entry	Maturity group	Stem trm.	Flower color	Pubescence			Pod color	Seedcoat		Hilum color	Other traits		
				Color	Form	Density		Luster	Color		Seed	Leaf	Plant
506.998	IV	D	P	T	A	Ssp	Br	I	Lgn	Br			
507.015	III	N	P	G	E	N	Br	I	Y	Y			
507.016	III	N	P	G	E	N	Br	I	Y	Y			
507.019	III	N	W	G	E	N	Br	I	Y	Bf		Cd	
507.021	IV	D	P	T	A	N	Br	I	Y	Br			
507.022	IV	N	W	G	E	N	Br	I	Y	Y			
507.025	IV	D	P	Lt	Sa	N	Br	D	Gn	Br			
507.026	IV	D	P	T	E	N	Br	I	Y	Br			
507.027	II	N	P	T	A	Ssp	Br	I	B	Br			Sw
507.028	IV	D	P	G	E	Ssp	Br	S	Y	Y	Sdef		
507.029	II	D	W	T	A	N	Tn	D	Lgn	Br			
507.047	IV	D	P	G	E	Ssp	Br	I	Y	Ib			
507.051	IV	D	P	-	C	Ssp	Tn	S	Y	Bf			
507.053	IV	D	P	G	E	Ssp	Br	I	Y	Y			
507.054	III	D	Dp	T	A	Sp	Br	I	Y	Br			
507.060	IV	D	W	T	A	Ssp	Br	I	Y	Br			
507.061	IV	D	W	T	Sa	N	Br	I	Y	Bl			
507.062A	III	D	W	G	A	Ssp	Tn	I	Y	Y			
507.062B	IV	D	W	G	A	Ssp	Br	I	Y	Y			
507.063	II	D	W	T	E	N	Br	I	Y	G			
507.064	IV	D	W	T	Sa	N	Br	I	Y	Bl			
507.065	IV	D	W	T	E	N	Br	I	Y	Bl			
507.066	IV	D	W	T	Sa	Ssp	Br	I	Y	Br			
507.067	IV	D	P	T	A	Ssp	Br	I	Lgn	Br			
507.071A	IV	D	W	G	E	N	Br	I	Y	Lbf			
507.071B	IV	D	W	G	E	Ssp	Br	I	Y	Lbf			
507.072	IV	D	W	T	Sa	N	Br	I	Y	Bl			
507.073	IV	D	P	T	A	Ssp	Br	I	Lgn	Br			
507.080	III	D	P	-	-	G	Bl	I	Y	Br			
507.082A	IV	D	W	T	Sa	N	Bl	I	Y	Br			
507.082B	IV	D	W	T	Sa	Ssp	Bl	I	Y	Br			
507.082C	IV	D	P	T	E	Ssp	Br	D	Y	Br			
507.086	IV	D	W	G	E	Ssp	Br	I	Y	Y			
507.089A	IV	D	W	T	Sa	Ssp	Br	I	Lgn	Br			
507.089B	IV	D	W	T	Sa	N	Br	I	Lgn	Br			
507.090	III	D	W	G	A	N	Br	I	Y	Bf			
507.091	III	D	P	G	A	Ssp	Br	D	Y	Bf			
507.092	IV	D	P	T	A	N	Br	I	Y	Br			
507.093	IV	D	W	G	E	N	Br	D	Y	Y			
507.094	III	D	P	-	C	Sp	Tn	I	Y	Y			
507.095A	IV	D	P	G	E	Ssp	Br	I	Gn	Gn			
507.097	IV	D	W	G	Sa	N	Br	I	Y	Bf			
507.100	IV	D	W	T	E	Ssp	Br	I	Y	Br	Saddle		
507.101	IV	D	W	T	E	Ssp	Br	I	Y	Br	Saddle		
507.104	IV	D	W	G	A	Ssp	Tn	I	Y	Y			

Table 3.2
Agronomic data for USDA soybean germplasm collection in maturity groups I to IV, PI 490.765 to PI 507.573, grown at Urbana, IL

Entry	Flowering	Maturity	Lodging	Height	Stem termination	Shattering		Seed			
						Early	Late	Quality	Mottling	Weight	Yield
	(days after May 31)		(score)	(cm)	(score)	(score)		(score)	(score)	(cg/sd)	(Mg/ha)
506.998	60*	134	3.5	79*	1.5	1.8	4.0	1.8	2.0	17.0	1.69*
507.015	40	111	3.4	92	3.0	1.0	1.0	2.2	2.0	24.5	2.52
507.016	40	113	3.0	90	3.0	1.0	1.5	2.5	2.0	25.8	2.91
507.019	49*	127	2.4	86	3.0	1.0	1.3	2.7	2.0	12.4	1.55
507.021	59*	127	3.0	84	1.3	1.8	5.0	2.0	1.5	19.4	2.03
507.022	33*	121	2.7	100	3.0	1.0	1.8*	2.7	2.5	20.6*	2.32*
507.025	55	128	1.6	62	1.0	1.8	3.0	2.0	3.0	14.6	2.23
507.026	54	126	1.6	68	1.3	1.5	3.0*	2.0	4.0	14.5	2.21
507.027	36	100	4.4	50	4.5	1.0	1.3	2.2	-	4.7	1.70+
507.028	60*	138	3.1	91	2.1	1.0	.	2.5	3.0	25.3*	1.83
507.029	47*	109	3.6	70	1.8	1.5	5.0	1.8	3.0	15.0	2.17
507.047	69*	149	3.5	97	1.5	1.0	.	2.0	1.0	15.9	1.57
507.051	57*	127	3.0	61	1.5	1.8	3.5*	2.2	2.5	14.7	1.46
507.053	59*	140*	3.1	78	1.5	1.0	.	2.0	2.5	15.0	1.70
507.054	46*	117	2.6	75	1.8	2.7	5.0	2.0	1.5	20.1	2.22*
507.060	57*	121	3.6	63	1.5	4.0*	5.0	2.0	3.5	13.3	1.42
507.061	59	130	1.9	72	1.0	2.7	4.5	2.2	3.5	17.0	2.34
507.062A	49*	123	2.0	67	1.3	1.5	4.5	2.0	2.0	25.6	2.64
507.062B	53*	130	2.8	67	1.5	2.5*	3.5*	2.2	1.5	22.2	2.36*
507.063	44	106	1.1	74	1.3	1.0	1.0	1.8	2.5	17.9	2.86
507.064	59	129*	1.8	71*	1.3	3.0	5.0	2.2	3.5	16.0	2.04
507.065	59	128	2.0	76*	1.0	2.7	5.0	2.2	3.5	16.8	1.99
507.066	67*	137	2.9	103*	2.0	1.0	.	2.0	3.5	13.7	1.75
507.067	58*	135	4.8	78	1.5	2.0	.	2.0	1.5	20.9	1.29
507.071A	56	131	2.8	72	1.0	2.2	4.0	1.8	1.0	20.2	2.25
507.071B	56	134	2.4	66	1.0	2.0	4.5	2.0	1.5	20.8	2.27
507.072	61	133	1.7	71	1.3	1.5	4.0	2.7	3.5	17.7	2.03*
507.073	60	134	3.1	79*	1.3	1.5	3.0	2.0	2.0	16.2	2.07
507.080	46*	114	1.0	45	1.0	1.8*	5.0	2.5	2.5	12.6	1.49
507.082A	56	130	4.0	90	1.5	2.5	3.7*	2.5	2.0	17.6	1.88*
507.082B	56	132	3.7	79	1.5	2.5*	4.0	2.2	2.5	16.8	2.02*
507.082C	57	133	3.5	82	1.5	2.5	.	2.2	3.0	19.1	1.73*
507.086	59	135	2.2	80	1.5	1.3	.	2.0	2.5	20.5	2.22
507.089A	66*	136	3.1	86	1.3	1.8	.	2.0	2.5	10.4	1.77
507.089B	67	137	3.2	80	1.3	1.3	.	2.0	2.5	9.4	1.53
507.090	55	122	3.0	77	2.0	2.2	5.0	2.5	2.5	17.3	1.56
507.091	54	125	3.7*	67	1.3	2.7*	4.0*	2.0	1.0	18.0	1.79
507.092	63	143	4.5	80	1.5	1.0	.	2.7	2.5	20.0	0.89+
507.093	51	127	1.4	48	1.0	1.3	3.2	2.0	3.0	18.5	2.14+
507.094	48	113	2.6	51	1.0	1.0	4.0*	2.0	2.5	17.5*	1.74
507.095A	54	132*	3.1	71	1.5	1.3	.	2.2	3.0	20.7	1.84
507.097	56	135	2.6	55	1.0	1.5	.	2.2	3.0	13.0	1.61+
507.100	55	131	3.7	67*	1.5	2.0	4.0	2.0	-	17.1	1.85*
507.101	54	129	3.5	76	1.5	1.5	2.2	2.0	-	17.0*	2.14*
507.104	48*	125	1.8	65	1.3	1.5	4.0	2.2	2.5	25.0	1.97+

Table 4.2
Seed composition data for USDA soybean germplasm in maturity groups I to IV, PI 490765 to PI 507573, grown at Urbana, IL

Entry	Maturity group	Seed composition		Oil composition					
		Protein (%)	Oil (%)	Palmitic (%)	Stearic (%)	Oleic (%)	Linoleic (%)	Linolenic (%)	Other (%)
506.998	IV	40.7	18.7	11.6	2.3	18.5	57.1	10.5	0.0
507.015	III	41.9	20.6	11.4	2.7	27.7	50.6	7.6	0.0
507.016	III	42.4	20.0	11.2	2.5	30.3	48.9	7.0	0.0
507.019	III	45.5	17.8	11.0	2.6	24.6	53.3	8.4	0.0
507.021	IV	40.5	18.6	11.7	1.9	22.0	55.7	8.7	0.0
507.022	IV	43.1	19.0	11.1	2.0	22.9	55.8	8.2	0.0
507.025	IV	42.5	18.1	12.8	2.6	14.8	58.8	10.9	0.0
507.026	IV	40.4	18.8	12.5	2.0	18.3	56.9	10.2	0.0
507.027	II	43.8	15.5	13.0	3.3	17.2	55.8	10.6	0.0
507.028	IV	42.5	19.8	11.9	1.8	21.2	56.8	8.3	0.0
507.029	II	43.3	16.1	12.8	3.0	24.0	51.2	9.1	0.0
507.047	IV	44.2	16.9	12.4	3.1	17.7	57.3	9.5	0.0
507.051	IV	45.5	16.4	10.9	2.1	23.0	54.6	9.3	0.0
507.053	IV	45.3	16.4	12.6	2.9	17.0	57.6	9.8	0.0
507.054	III	41.5	20.2	11.5	2.3	17.7	58.4	10.2	0.0
507.060	IV	42.3	16.6	10.7	2.4	28.9	49.5	8.4	0.0
507.061	IV	42.4	18.0	10.9	2.3	20.3	57.0	9.4	0.0
507.062A	III	42.0	19.3	11.0	2.1	26.7	52.1	8.0	0.0
507.062B	IV	42.6	18.6	10.8	2.3	19.5	58.7	8.7	0.0
507.063	II	41.8	20.4	11.6	2.6	21.9	56.1	7.7	0.0
507.064	IV	44.7	17.3	11.3	2.5	20.7	56.4	9.1	0.0
507.065	IV	44.6	17.3	10.5	2.3	18.7	58.2	10.1	0.0
507.066	IV	45.7	14.3	11.9	2.3	14.4	59.7	11.6	0.0
507.067	IV	43.0	18.0	11.4	2.3	18.4	58.4	9.4	0.0
507.071A	IV	43.7	17.6	11.2	1.9	17.5	58.3	11.0	0.0
507.071B	IV	43.7	17.7	11.9	2.2	18.4	57.1	10.3	0.0
507.072	IV	43.2	18.1	11.2	2.4	20.2	56.7	9.5	0.0
507.073	IV	41.5	17.6	11.5	2.4	19.0	56.6	10.4	0.0
507.080	III	46.2	16.4	12.1	2.2	20.9	55.3	9.4	0.0
507.082A	IV	41.5	19.0	11.2	2.3	19.7	56.8	9.9	0.0
507.082B	IV	40.8	19.4	11.2	2.4	19.5	57.2	9.6	0.0
507.082C	IV	41.7	19.3	11.3	2.4	18.1	58.5	9.5	0.0
507.086	IV	40.6	18.0	12.0	2.4	20.1	56.0	9.4	0.0
507.089A	IV	43.5	16.3	13.0	2.7	17.8	55.9	10.5	0.0
507.089B	IV	43.0	16.9	13.1	2.6	17.4	55.7	11.1	0.0
507.090	III	43.8	17.8	11.8	2.3	29.8	47.7	8.3	0.0
507.091	III	41.3	18.4	11.1	2.2	19.2	56.6	10.9	0.0
507.092	IV	42.7	17.1	11.7	2.8	18.4	58.0	9.1	0.0
507.093	IV	41.3	19.3	11.4	2.1	22.9	55.9	7.7	0.0
507.094	III	43.0	19.5	11.3	2.2	25.9	52.7	7.8	0.0
507.095A	IV	43.1	19.1	10.8	2.4	19.6	58.6	8.6	0.0
507.097	IV	42.1	17.5	11.4	2.5	22.1	55.3	8.7	0.0
507.100	IV	43.7	18.1	11.1	2.2	20.3	56.8	9.5	0.0
507.101	IV	43.2	18.0	10.7	1.9	19.9	57.7	9.8	0.0
507.104	IV	43.1	19.0	11.0	2.2	24.1	53.1	9.4	0.0

Table 1.2
Identification and origin information for USDA soybean germplasm in maturity groups I to IV, PI 490.765 to PI 507.573

PI No.	Accession name	Foreign collection No.	Country of acquisition	Country of origin	Year introduced or released	Maturity group
507.106	Obonai zairai	NIAR 020345	Japan	Japan	1987	IV
507.107	Ode zairai	NIAR 020687	Japan	Japan	1987	IV
507.108	Ogasawara zairai	NIAR 040769	Japan	Japan	1987	II
507.123	Oiarukon	NIAR 020054	Japan	Japan	1987	IV
507.125	Oiranwase	NIAR 040760	Japan	Japan	1987	III
507.130	Okuzai 125-5-30-4-1	NIAR 020337	Japan	Japan	1987	II
507.131	Oni hadaka 7	NIAR 041054	Japan	Japan	1987	IV
507.132A	Oni hadaka sai 1	NIAR 040225	Japan	Japan	1987	II
507.132B	(Oni hadaka sai 1)	NIAR 040225	Japan	Japan	1987	III
507.133	Oni hadaka (1)	NIAR 090229	Japan	Japan	1987	III
507.134	Oni hadaka (Kounosu)	NIAR 020676	Japan	Japan	1987	IV
507.141	Oosaka mame	NIAR 040806	Japan	Japan	1987	IV
507.145	Ootsuka	NIAR 040501	Japan	Japan	1987	IV
507.147	Oraku mame	NIAR 040218	Japan	Japan	1987	III
507.148	Orugibaru	NIAR 040499	Japan	Japan	1987	IV
507.149	Ou kei 5	NIAR 020289	Japan	Japan	1987	IV
507.150	Ou kei 6	NIAR 020290	Japan	Japan	1987	IV
507.151	Ou kei 7	NIAR 020291	Japan	Japan	1987	IV
507.152	Ou kei 9	NIAR 020470	Japan	Japan	1987	IV
507.153	Ou kei 15	NIAR 020293	Japan	Japan	1987	IV
507.155	Ouhouju	NIAR 040717	Japan	Japan	1987	II
507.158	Ouu 5	NIAR 020469	Japan	Japan	1987	IV
507.160	Ouu 8	NIAR 020282	Japan	Japan	1987	IV
507.162	Pine pu	NIAR 040425	Japan	Japan	1987	II
507.163	Potten 26	NIAR 040789	Japan	Japan	1987	IV
507.164	Rankoshi 1	NIAR 020185	Japan	Japan	1987	II
507.165	Ransei	NIAR 040470	Japan	Japan	1987	II
507.166	Rigai seitou	NIAR 040118	Japan	Japan	1987	IV
507.167A	Rikuu 3	NIAR 020646	Japan	Japan	1987	III
507.167B	(Rikuu 3)	NIAR 020646	Japan	Japan	1987	IV
507.168	Rikuu 4	NIAR 040477	Japan	Japan	1987	III
507.169	Rikuu 4 (Chuukan shoku)	NIAR 040478	Japan	Japan	1987	III
507.171	Rikuu 7	NIAR 040423	Japan	Japan	1987	III
507.172	Rikuu 8	NIAR 020542	Japan	Japan	1987	IV
507.173	Rikuu 9	NIAR 040422	Japan	Japan	1987	IV
507.174A	Rikuu 10	NIAR 040421	Japan	Japan	1987	III
507.174B	(Rikuu 10)	NIAR 040421	Japan	Japan	1987	III
507.175	Rikuu 11	NIAR 020269	Japan	Japan	1987	IV
507.176	Rikuu 13	NIAR 040486	Japan	Japan	1987	IV
507.178	Rikuu 17	NIAR 040420	Japan	Japan	1987	IV
507.179	Rikuu 18	NIAR 020648	Japan	Japan	1987	IV
507.180	Rikuu 21	NIAR 040419	Japan	Japan	1987	IV
507.181	Rikuu 2l	NIAR 020649	Japan	Japan	1987	III
507.182	Rikuu 22	NIAR 020650	Japan	Japan	1987	IV
507.184A	Rikuu 25	NIAR 040418	Japan	Japan	1987	III

Table 2.2
Descriptive data for USDA soybean germplasm in maturity groups I to IV, PI 490.765 to PI 507.573

Entry	Maturity group	Stem trm.	Flower color	Pubescence			Pod color	Seedcoat		Hilum color	Other traits		
				Color	Form	Density		Luster	Color		Seed	Leaf	Plant
507.106	IV	D	P	T	E	N	Br	I	Gn	Bl	Gncot		
507.107	IV	D	W	T	Sa	N	Br	I	Y	Br			
507.108	II	D	W	G	Sa	N	Br	I	Gn	Bf			
507.123	IV	D	P	G	E	Ssp	Br	I	Y	Y			
507.125	III	D	W	G	A	Ssp	Tn	I	Y	Y			
507.130	II	D	W	G	E	Ssp	Br	I	Y	Y		Na	
507.131	IV	D	P	T	Sa	N	Br	I	Y	Br			
507.132A	II	D	P	-	C	N	Tn	I	Y	Bf			
507.132B	III	D	P	-	C	N	Tn	I	Y	Bf			
507.133	III	D	Dp	T	A	N	Tn	I	Y	Br			
507.134	IV	D	P	T	Sa	N	Br	I	Y	Br			
507.141	IV	D	P	G	E	N	Tn	I	Y	Bf			
507.145	IV	D	P	T	A	Ssp	Br	I	Y	Br			
507.147	III	D	W	-	-	G	Br	I	Lgn	Lbf			
507.148	IV	D	P	T	E	Ssp	Br	I	Y	Lbr	St		
507.149	IV	D	W	T	Sa	N	Br	I	Y	Y			
507.150	IV	D	W	T	E	Ssp	Br	I	Y	Y			
507.151	IV	D	P	G	A	N	Tn	I	Y	Y			
507.152	IV	D	W	G	A	Ssp	Br	I	Y	Y			
507.153	IV	D	W	G	A	Ssp	Tn	I	Y	Lbf			
507.155	II	N	W	G	E	N	Br	I	Y	Lbf	Sabh		
507.158	IV	D	W	G	A	Ssp	Tn	I	Y	Y			
507.160	IV	D	P	G	A	N	Tn	I	Y	Ib			
507.162	II	N	P	G	E	N	Tn	I	Y	Y			
507.163	IV	D	P	G	Sa	N	Bl	I	Gn	Gn	Gncot		
507.164	II	D	W	G	Sa	N	Br	D	Y	Bf			
507.165	II	D	P	G	E	Ssp	Br	I	Y	G			
507.166	IV	D	P	G	E	N	Br	I	Gn	G	Gncot		
507.167A	III	D	P	T	A	Ssp	Br	I	Y	Br			
507.167B	IV	D	P	T	A	Ssp	Br	I	Y	Br			
507.168	III	D	P	G	A	Ssp	Br	I	Y	Lbf			
507.169	III	D	Lp	G	A	Ssp	Br	I	Y	Bf			
507.171	III	D	P	T	Sa	Ssp	Br	I	Y	Br			
507.172	IV	D	P	T	A	Ssp	Br	I	Y	Br			
507.173	IV	D	P	T	A	Ssp	Br	I	Y	Br			
507.174A	III	D	W	G	E	N	Tn	I	Y	Bf			
507.174B	III	D	W	G	E	N	Tn	I	Y	Bf			
507.175	IV	D	W	T	A	Ssp	Br	I	Y	Br			
507.176	IV	D	P	T	A	Ssp	Br	I	Y	Br			
507.178	IV	D	P	G	Sa	N	Tn	I	Y	Lbf			
507.179	IV	D	W	G	E	Ssp	Br	I	Y	Lbf			
507.180	IV	D	W	T	A	Ssp	Br	I	Gn	Br			
507.181	III	D	Dp	T	A	Ssp	Br	I	Y	Br			
507.182	IV	D	P	G	Sa	N	Br	I	Y	Lbf			
507.184A	III	D	P	G	A	Ssp	Br	I	Y	Lbf			

Table 3.2
Agronomic data for USDA soybean germplasm collection in maturity groups I to IV, PI 490.765 to PI 507.573, grown at Urbana, IL

Entry	Flowering (days after May 31)	Maturity (days after May 31)	Lodging (score)	Height (cm)	Stem termination (score)	Shattering Early (score)	Shattering Late (score)	Seed Quality (score)	Seed Mottling (score)	Seed Weight (cg/sd)	Seed Yield (Mg/ha)
507.106	60*	140	2.7	86	1.8	1.3	.	2.2	1.5	26.4*	1.82
507.107	65	136	3.3	92	1.8	2.2	.	2.2	3.0	14.9*	1.64*
507.108	42	110	1.1	47	1.0	3.0	5.0	1.8	2.0	25.1	2.02
507.123	57	136	3.0	77	1.5	1.0	.	2.2	3.5	28.8	1.64*
507.125	46	113	1.5	59	1.3	2.2*	5.0	2.2	2.0	24.6	1.55
507.130	38	113	1.1	60	1.0	1.0	1.8	2.2	2.0	24.4	2.52
507.131	57	127	3.1	69	1.3	4.0*	5.0	2.2	3.0	12.8	1.49*
507.132A	48*	108	2.3	59	1.0	1.0	2.0*	1.8	2.0	14.1	1.99
507.132B	50	115	1.9	54*	1.0	1.0	4.5	2.2	2.5	13.3	1.70
507.133	52*	113	2.8	61	1.8	1.0	3.0*	1.8	3.0	11.0	2.17
507.134	56	123	3.2	73	1.8	3.5	5.0	2.2	3.0	12.0	1.66*
507.141	56	129	2.9	88	1.3	2.2*	3.7*	2.0	4.0*	11.4	1.89*
507.145	60	135	3.9	89	1.8	2.2	.	2.0	2.0	16.9	1.81
507.147	55	122	1.1	44	1.0	2.7*	4.7	2.2	2.0	12.2	1.03
507.148	65	137	2.6	90	1.8	1.0	.	2.0	2.5	20.8	2.11
507.149	60	133	2.0	75	1.3	1.3	2.5	2.2	5.0	17.2	1.63*
507.150	57	138	3.1	84	2.0	2.0	.	2.5	2.5	22.3	1.81
507.151	52*	128	3.0	62	1.5	2.2*	5.0	2.5	2.0	18.3	1.32+
507.152	52*	129	2.5	72	1.3	1.3	4.5	2.0	2.0	19.5	2.38
507.153	47	128	2.3	72	1.0	2.0*	4.0*	2.0	2.0	25.4	1.97*
507.155	26	103	2.5	76	3.0	1.0	1.0	2.2	2.0	20.6*	2.96
507.158	53	124	2.5	68	1.8	1.8*	3.7*	2.5	2.5	26.4	2.53+
507.160	67	139	3.7	78	2.0	1.0	.	2.7	2.0	17.4	0.38+
507.162	37	102*	3.6*	88	3.0	1.0	1.0	2.0	2.0	16.0	2.98
507.163	65	132	3.4	90	1.5	1.0	1.0	1.5	2.0	9.7	2.54
507.164	44	106	3.5	55	1.0	1.0	4.0*	2.0	2.5	15.8	2.23
507.165	39	107	1.0	56	1.0	1.0	1.0	1.8	2.0	12.8	2.68
507.166	52*	132	1.1	70	1.0	1.0	1.3	2.5	2.0	25.5	1.73
507.167A	54	125	2.8	70	1.0	3.5*	4.5	2.0	1.5	15.5	1.96*
507.167B	60	130	2.8	73	1.3	2.0*	3.5*	1.8	1.5	14.5	1.94*
507.168	55	123	3.6*	66	1.5	2.2	4.2*	2.0	1.0	17.6	1.56+
507.169	55	124	3.7	66	1.5	2.5	4.2*	2.0	1.0	17.5	1.87+
507.171	58	127	2.8	77	1.3	4.0	5.0	2.7*	4.0	12.5	1.62
507.172	60	136	3.2	76*	1.3	1.5	.	2.0	1.5	15.9	2.13
507.173	59	134	3.6*	97	1.8	2.5	.	2.0	1.5	18.2	1.90
507.174A	49*	115	2.5	79	2.0	1.5	4.5	2.0	2.5	12.6	2.08
507.174B	50*	126	2.8	87	1.5	2.7*	3.7*	2.2	2.0	15.0	2.15
507.175	67*	136	3.2	83*	1.8	1.0	.	2.2	2.5	17.1	1.82
507.176	55	131	3.6*	80	1.5	2.0	5.0	2.0	1.5	16.5	1.91+
507.178	57*	134	3.5	95	1.8	1.3	.	2.0	3.0	14.3	2.38
507.179	57*	148	3.3	88*	1.3	1.0	.	2.5	2.5	30.4*	1.47+
507.180	53	133	2.1	67*	1.3	2.2*	5.0	1.5	2.5	24.1	2.05*
507.181	54	127	3.5	66*	1.3	2.0*	4.0*	2.2	4.0	17.2	1.83*
507.182	55	130	4.2	90	1.5	2.0*	4.0*	2.0	3.0	14.4	1.81
507.184A	53	124	3.6*	64	1.3	2.2	4.2*	2.0	1.0	17.4	1.51+

Table 4.2
Seed composition data for USDA soybean germplasm in maturity groups I to IV, PI 490765 to PI 507573, grown at Urbana, IL

Entry	Maturity group	Seed composition		Oil composition					
		Protein (%)	Oil (%)	Palmitic (%)	Stearic (%)	Oleic (%)	Linoleic (%)	Linolenic (%)	Other (%)
507.106	IV	42.2	18.6	10.7	2.5	20.1	57.3	9.3	0.0
507.107	IV	44.9	16.1	11.6	2.3	20.1	57.1	8.9	0.0
507.108	II	44.2	17.8	12.5	2.7	33.8	43.2	7.7	0.0
507.123	IV	45.0	16.8	12.0	2.4	20.3	56.3	8.9	0.0
507.125	III	42.0	21.2	12.2	2.3	27.7	50.0	7.7	0.0
507.130	II	41.2	21.1	11.8	2.7	24.2	53.5	7.7	0.0
507.131	IV	43.0	16.0	12.1	2.3	17.9	57.2	10.5	0.0
507.132A	II	41.6	19.0	11.1	2.2	29.3	48.9	8.5	0.0
507.132B	III	41.8	19.1	10.9	2.3	27.2	51.1	8.5	0.0
507.133	III	45.0	15.1	13.4	2.6	19.2	53.2	11.4	0.0
507.134	IV	43.7	16.7	11.9	2.0	21.4	56.2	8.5	0.0
507.141	IV	44.5	17.6	12.1	2.0	20.9	56.6	8.4	0.0
507.145	IV	42.0	17.5	11.8	2.5	18.7	56.8	10.1	0.0
507.147	III	42.8	16.2	10.4	2.1	23.5	54.8	9.3	0.0
507.148	IV	43.3	18.4	11.5	2.7	19.7	57.6	8.4	0.0
507.149	IV	43.1	17.6	11.8	2.3	16.4	59.8	9.6	0.0
507.150	IV	43.2	17.4	12.0	2.3	19.1	57.3	9.2	0.0
507.151	IV	41.3	19.1	14.6	2.4	19.3	54.9	8.8	0.0
507.152	IV	41.7	18.3	11.7	2.1	17.0	58.1	11.1	0.0
507.153	IV	41.7	20.6	10.7	2.2	25.1	54.5	7.4	0.0
507.155	II	40.5	20.9	11.6	3.2	22.7	54.6	7.8	0.0
507.158	IV	41.2	19.6	10.8	2.3	27.2	51.2	8.6	0.0
507.160	IV	47.2	16.1	11.8	2.4	20.3	57.0	8.5	0.0
507.162	II	41.9	19.6	12.9	2.3	24.6	51.8	8.3	0.0
507.163	IV	43.7	17.0	11.4	2.6	17.8	58.3	9.6	0.0
507.164	II	41.3	19.9	10.8	2.5	22.9	55.5	8.2	0.0
507.165	II	45.8	17.0	12.0	2.9	19.2	57.4	8.5	0.0
507.166	IV	44.8	18.4	11.1	2.2	21.6	55.3	9.7	0.0
507.167A	III	42.4	18.1	12.0	2.2	19.1	57.6	9.0	0.0
507.167B	IV	43.3	17.6	12.6	2.2	16.9	58.5	9.8	0.0
507.168	III	41.3	18.3	10.9	2.2	22.0	54.6	10.2	0.0
507.169	III	42.3	17.8	12.0	2.3	23.2	52.2	10.4	0.0
507.171	III	44.0	16.8	11.9	2.2	21.8	54.2	9.8	0.0
507.172	IV	40.9	18.4	11.8	2.7	19.4	56.0	10.0	0.0
507.173	IV	40.7	19.5	11.6	2.5	21.6	55.0	9.2	0.0
507.174A	III	48.1	13.5	12.0	2.3	20.4	54.5	10.6	0.0
507.174B	III	45.5	15.5	12.2	2.3	21.5	54.2	9.7	0.0
507.175	IV	42.5	16.9	10.4	2.8	21.9	54.5	10.3	0.0
507.176	IV	40.7	18.4	12.0	2.3	18.1	58.5	9.1	0.0
507.178	IV	43.0	18.3	12.7	2.4	23.7	53.3	7.8	0.0
507.179	IV	42.8	18.9	11.5	2.4	18.7	58.0	9.4	0.0
507.180	IV	42.0	18.6	11.4	2.4	23.3	54.0	8.8	0.0
507.181	III	42.0	20.1	10.9	2.2	24.8	53.2	8.9	0.0
507.182	IV	43.7	17.5	11.9	2.2	18.9	56.8	10.1	0.0
507.184A	III	41.7	18.2	11.2	2.2	20.2	55.9	10.5	0.0

Table 1.2
Identification and origin information for USDA soybean germplasm in maturity groups I to IV, PI 490.765 to PI 507.573

PI No.	Accession name	Foreign collection No.	Country of acquisition	Country of origin	Year introduced or released	Maturity group
507.184B	(Rikuu 25)	NIAR 040418	Japan	Japan	1987	III
507.188	Rinkan	NIAR 040746	Japan	Japan	1987	IV
507.189A	Rokugatsu daizu	NIAR 020018	Japan	Japan	1987	III
507.189B	(Rokugatsu daizu)	NIAR 020018	Japan	Japan	1987	III
507.190	Rokugatsu mame	NIAR 040799	Japan	Japan	1987	IV
507.191	Rokujuunichi mame	NIAR 030080	Japan	Japan	1987	II
507.195	Saikai 2	NIAR 090194	Japan	Japan	1987	II
507.197A	Saikai 15	NIAR 090196	Japan	Japan	1987	III
507.197B	(Saikai 15)	NIAR 090196	Japan	Japan	1987	III
507.198	Saikai 19	NIAR 090197	Japan	Japan	1987	II
507.199	Saikai 25	NIAR 090199	Japan	Japan	1987	III
507.200	Saikai 29	NIAR 090200	Japan	Japan	1987	III
507.204	Sakata wase	NIAR 020692	Japan	Japan	1987	IV
507.213	Sasaga zairai (Sou)	NIAR 040326	Japan	Japan	1987	IV
507.221	Sennari	NIAR 020666	Japan	Japan	1987	III
507.222	Senryuu ao	NIAR 040797	Japan	Japan	1987	IV
507.226A	Shichigatsu mame	NIAR 020714	Japan	Japan	1987	III
507.226B	(Shichigatsu mame)	NIAR 020714	Japan	Japan	1987	III
507.229	Shimabara wase	NIAR 020090	Japan	Japan	1987	I
507.237	Shin 1	NIAR 030020	Japan	Japan	1987	III
507.238	Shin 2	NIAR 030065	Japan	Japan	1987	III
507.239	Shin 2	NIAR 030077	Japan	Japan	1987	III
507.240	Shin 3	NIAR 040536	Japan	Japan	1987	III
507.241	Shin shimabara	NIAR 090192	Japan	Japan	1987	II
507.244	Shinano mejiro	NIAR 040502	Japan	Japan	1987	IV
507.245	Shinanojiri zairai	NIAR 040498	Japan	Japan	1987	IV
507.248	Shirasaya	NIAR 040452	Japan	Japan	1987	III
507.253	Shiro bankon	NIAR 040442	Japan	Japan	1987	IV
507.255	Shiro chonkon	NIAR 040488	Japan	Japan	1987	IV
507.265	Shiro hachikoku	NIAR 020595	Japan	Japan	1987	IV
507.267	Shiro hadaka 12	NIAR 030101	Japan	Japan	1987	III
507.268A	Shiro higo	NIAR 020580	Japan	Japan	1987	III
507.268B	(Shiro higo)	NIAR 020580	Japan	Japan	1987	IV
507.271	Shiro pankon	NIAR 040428	Japan	Japan	1987	IV
507.272	Shiro pankon	NIAR 040430	Japan	Japan	1987	IV
507.273	Shiro tairyuu	NIAR 040248	Japan	Japan	1987	III
507.274	Shiro tsuru no ko	NIAR 010055	Japan	Japan	1987	III
507.277	Shirobana shou	NIAR 040794	Japan	Japan	1987	II
507.279	Shirohana	NIAR 020456	Japan	Japan	1987	III
507.280	Shirohana 1	NIAR 020455	Japan	Japan	1987	III
507.281	Shirohana oosodefuri	NIAR 010040	Japan	Japan	1987	II
507.282	Shirohana sai 1	NIAR 040450	Japan	Japan	1987	II
507.286A	Shirosaya 1	NIAR 040197	Japan	Japan	1987	IV
507.286B	(Shirosaya 1)	NIAR 040197	Japan	Japan	1987	IV
507.286C	(Shirosaya 1)	NIAR 040197	Japan	Japan	1987	IV

Table 2.2
Descriptive data for USDA soybean germplasm in maturity groups I to IV, PI 490.765 to PI 507.573

Entry	Maturity group	Stem trm.	Flower color	Pubescence			Pod color	Seedcoat		Hilum color	Other traits		
				Color	Form	Density		Luster	Color		Seed	Leaf	Plant
507.184B	III	D	P	G	A	Ssp	Br	I	Y	Lbf			
507.188	IV	D	P	T	A	Ssp	Br	I	Lgn	Br			
507.189A	III	D	Dp	G	E	Ssp	Br	I	Y	Y	Sdef		
507.189B	III	D	Dp	G	E	Ssp	Br	I	Y	Y	Sdef		
507.190	IV	D	W	T	A	Ssp	Br	I	Gn	Br			
507.191	II	D	W	G	E	N	Tn	I	Y	Bf			
507.195	II	D	W	G	Sa	Ssp	Br	I	Y	Bf			
507.197A	III	D	P	G	E	N	Tn	I	Y	Bf			
507.197B	III	D	P	G	A	N	Tn	I	Y	Bf			
507.198	II	D	P	T	Sa	Ssp	Br	I	Y	Lbr			
507.199	III	D	W	T	Sa	Ssp	Tn	I	Y	Br			
507.200	III	D	P	T	A	Ssp	Br	I	Y	Lbr			
507.204	IV	D	P	T	E	Ssp	Br	I	Y	Bl			
507.213	IV	D	P	G	Sa	N	Tn	I	Y	Y			
507.221	III	D	W	T	Sa	N	Tn	I	Y	Br			
507.222	IV	D	P	G	E	Ssp	Br	I	Gn	Bf	Gncot		
507.226A	III	D	W	T	E	Ssp	Br	I	Bl	Bl			
507.226B	III	D	W	T	E	Ssp	Br	I	Bl	Bl			
507.229	I	D	P	Lt	A	N	Tn	I	Y	Bf			
507.237	III	D	P	T	E	Ssp	Br	S	Y	Lbr			
507.238	III	D	P	T	E	Ssp	Br	S	Y	Br			
507.239	III	D	P	T	E	Ssp	Br	S	Y	Y			
507.240	III	D	W	-	C	Ssp	Tn	I	Y	Y			
507.241	II	D	P	G	Sa	N	Br	D	Y	Bf			
507.244	IV	D	W	G	E	Ssp	Br	I	Y	Y			
507.245	IV	D	Dp	T	A	Ssp	Br	I	Lgn	Br			
507.248	III	D	W	G	A	Ssp	Tn	D	Y	Y			
507.253	IV	D	P	G	E	Ssp	Br	I	Y	Ig			
507.255	IV	D	P	G	A	Ssp	Tn	I	Y	Y			
507.265	IV	D	P	G	A	Ssp	Tn	I	Y	Bf			
507.267	III	D	W	-	-	G	Tn	I	Y	Bf			
507.268A	III	D	W	G	A	N	Tn	I	Y	Bf			
507.268B	IV	D	W	G	A	N	Tn	I	Y	Bf			
507.271	IV	D	P	G	A	N	Tn	I	Y	Ib			
507.272	IV	D	P	G	E	Ssp	Br	I	Y	Y			
507.273	III	D	P	G	E	N	Br	I	Y	Bf			
507.274	III	D	W	G	E	Ssp	Br	I	Y	Y			
507.277	II	D	W	G	Sa	N	Br	D	Gn	Bf			
507.279	III	D	W	T	Sa	N	Tn	I	Gn	Gn			
507.280	III	D	W	G	Sa	Ssp	Tn	I	Y	Y			
507.281	II	D	W	T	Sa	Sp	Br	D	Gn	Bl			
507.282	II	D	W	G	E	N	Tn	I	Y	Bf			
507.286A	IV	D	P	T	Sa	N	Br	I	Lgn	Br			
507.286B	IV	D	P	T	Sa	N	Br	I	Lgn	Br			
507.286C	IV	D	P	T	Sa	Ssp	Br	I	Lgn	Br			

Table 3.2
Agronomic data for USDA soybean germplasm collection in maturity groups I to IV, PI 490.765 to PI 507.573, grown at Urbana, IL

Entry	Flowering (days after May 31)	Maturity (days after May 31)	Lodging (score)	Height (cm)	Stem termination (score)	Shattering Early (score)	Shattering Late (score)	Seed Quality (score)	Seed Mottling (score)	Seed Weight (cg/sd)	Seed Yield (Mg/ha)
507.184B	55	125	4.2	67	1.5	2.2	4.2*	2.2	1.0	17.1	1.56
507.188	60	134	3.3*	90	1.5	1.5	2.5	1.8	1.5	17.5	1.83
507.189A	43*	117	1.8	57	1.0	1.3	3.7*	2.0	1.5	24.5	2.57
507.189B	45*	121	2.0	59	1.0	1.5	4.0*	2.0	1.5	24.4	2.83*
507.190	54*	131	2.4	63	1.3	2.7*	5.0	2.0	2.5	22.7	2.18
507.191	45	104	2.0	69	1.3	1.0	5.0	2.0	2.0	15.8	2.15
507.195	48	103	2.4	58	1.0	1.0	3.0*	1.8	2.0	10.3	2.39
507.197A	56	113	3.3	69*	1.3	1.3	5.0	1.8	1.0	11.5	2.23
507.197B	55	117	4.0	53	1.8	1.8	5.0	2.0	1.0	12.1	2.21
507.198	44	107	2.6	64	1.0	1.0	4.5	2.0	1.0	17.3	2.29
507.199	48*	112	2.8	64	1.3	1.0	4.5	1.5	1.0	13.3	3.02
507.200	48*	114	3.5	55	1.3	1.3	5.0	1.8	1.0	13.7	2.72
507.204	59*	133	3.3	71	1.5	2.0	5.0	2.5	3.5	13.2	1.40
507.213	58	142	3.0	76	1.3	1.0	.	2.0	4.0	21.9	1.64+
507.221	55	122	3.1	71	1.5	1.5	2.5	2.0	3.5	15.0	2.48
507.222	58	134	3.2	82	1.5	1.0	.	2.5	2.5	22.0*	2.30
507.226A	42	118	1.4	61	1.0	2.0	.	2.2	-	35.3	1.40
507.226B	43	118	1.6	57	1.0	2.5	3.5	2.2	-	33.6	1.39
507.229	44	93	2.6	52	1.0	1.0	2.7*	1.5	1.5	12.2	1.86
507.237	48*	118	2.6	73	2.0	1.0	2.0	2.0	2.0	16.6	2.42
507.238	53*	125	2.6	74	1.3	1.5	1.8	2.0	1.5	16.8	1.94
507.239	56*	125	2.6	84	1.5	1.5	2.0	2.0	2.5	16.5	2.09
507.240	47*	117	1.1	44	1.0	1.8	5.0	2.0	2.5	18.3	1.53
507.241	44	100	1.8	52	1.0	1.0	3.2*	1.5	2.0	12.7	2.66+
507.244	59*	139	4.2	81	1.5	1.3	.	2.0	1.5	21.9	1.66+
507.245	60	133	3.2*	90	1.8	1.8	3.0	2.0	1.5	16.9*	1.81
507.248	45*	118	1.9	56	1.0	1.8	5.0	2.2	2.0	24.8*	2.01
507.253	67*	148	3.6	89	1.3	1.0	.	2.0	1.5	16.9	1.72
507.255	53	129	3.3	58	1.3	1.3	3.0	2.0	2.0*	22.9*	1.69+
507.265	58*	132	2.6	71*	1.3	1.5	3.0	2.0	1.0	24.6	2.81
507.267	57*	129	1.8	56*	1.0	2.2*	5.0	2.7	4.0	13.6	1.03
507.268A	46	117	1.8	64	1.5	1.8	4.5	1.8	1.0	25.4	2.31
507.268B	55	128	2.4	83	1.5	1.5	3.2*	2.0	1.0	23.0	2.15
507.271	66	136	3.6	83	1.5	1.3	.	2.5	1.5	19.4	1.31*
507.272	56*	128	3.0	70	1.5	1.8	2.5	2.7	3.0	21.0	2.25
507.273	39	116	1.3	51	1.0	2.0	4.5	3.0	2.5	29.3	2.52+
507.274	38	121	1.6	57	1.0	2.0	4.5	2.5	2.0	36.8	2.08+
507.277	43*	108	2.3	65	1.0	2.7	5.0	2.0	2.0	20.9	2.19
507.279	47*	130	2.1	60*	1.0	1.8*	2.2*	2.7	3.0*	27.6	2.30
507.280	47*	119	3.1*	61	1.8	2.7	5.0	2.5	2.0	26.0	2.16
507.281	32	100	1.0	33	1.0	1.0	2.7*	2.0	1.0	25.0	1.58+
507.282	48*	108	2.8	71	1.5	1.0	5.0	2.0	2.0	15.2	2.28
507.286A	58*	133	3.3	90	1.5	2.0*	4.0	2.2	1.5	19.6	1.88*
507.286B	72*	138	4.0	90	1.8	1.3	.	2.0	2.0	13.3	1.70
507.286C	67	143	4.2	77	1.5	1.3	.	2.7	3.0*	15.9	1.21

Table 4.2
Seed composition data for USDA soybean germplasm in maturity groups I to IV, PI 490765 to PI 507573, grown at Urbana, IL

Entry	Maturity group	Seed composition		Oil composition					
		Protein (%)	Oil (%)	Palmitic (%)	Stearic (%)	Oleic (%)	Linoleic (%)	Linolenic (%)	Other (%)
507.184B	III	41.1	20.4	11.2	2.2	20.1	56.0	10.4	0.0
507.188	IV	40.7	18.0	11.2	2.5	20.9	55.0	10.3	0.0
507.189A	III	44.0	19.0	11.7	2.1	20.9	55.9	9.3	0.0
507.189B	III	44.7	18.3	11.8	2.2	22.3	54.6	9.0	0.0
507.190	IV	42.7	18.6	11.7	2.5	24.0	53.6	8.2	0.0
507.191	II	45.0	16.8	12.0	2.7	25.3	50.8	9.2	0.0
507.195	II	45.1	14.4	12.7	2.9	16.3	55.3	12.6	0.0
507.197A	III	46.0	15.0	13.7	2.5	19.5	53.3	10.8	0.0
507.197B	III	45.8	14.6	12.8	2.1	21.3	53.3	10.3	0.0
507.198	II	44.0	18.6	12.3	2.8	21.5	54.6	8.7	0.0
507.199	III	42.8	17.6	12.8	2.3	19.1	55.2	10.4	0.0
507.200	III	40.5	18.9	12.3	2.7	22.4	53.5	9.2	0.0
507.204	IV	44.1	18.4	11.7	2.9	21.6	55.4	8.4	0.0
507.213	IV	42.9	17.8	14.3	2.5	17.0	56.8	9.4	0.0
507.221	III	43.3	17.1	11.5	2.4	25.6	51.1	9.4	0.1
507.222	IV	43.9	18.5	11.4	2.4	22.2	55.4	8.5	0.0
507.226A	III	42.3	21.9	11.4	2.3	32.4	46.7	7.1	0.0
507.226B	III	41.7	22.0	11.5	2.5	31.2	47.1	7.6	0.0
507.229	I	45.6	14.1	13.4	2.8	23.6	50.7	9.4	0.0
507.237	III	43.5	19.1	13.2	2.6	26.2	51.0	7.1	0.0
507.238	III	47.8	15.9	12.8	2.3	24.5	52.5	7.7	0.0
507.239	III	47.0	16.4	12.8	2.1	23.1	53.5	8.3	0.0
507.240	III	43.5	18.6	11.2	2.4	23.0	54.9	8.4	0.0
507.241	II	43.1	16.4	12.0	3.0	22.8	52.0	10.3	0.0
507.244	IV	41.8	19.0	11.5	2.6	21.3	55.0	9.6	0.0
507.245	IV	41.5	18.5	11.4	2.6	19.9	55.8	10.3	0.0
507.248	III	42.7	19.0	11.1	2.4	26.0	52.5	8.0	0.0
507.253	IV	42.5	18.1	12.1	3.3	19.3	56.5	8.8	0.0
507.255	IV	43.3	18.9	10.9	2.7	20.0	56.7	9.5	0.0
507.265	IV	42.2	17.7	12.6	2.5	15.7	59.7	9.5	0.0
507.267	III	44.6	16.6	11.9	2.4	25.0	52.0	8.7	0.0
507.268A	III	40.5	21.0	11.3	2.3	29.7	48.8	7.7	0.1
507.268B	IV	41.0	19.8	11.4	2.2	24.9	52.8	8.6	0.0
507.271	IV	45.8	16.5	10.0	2.5	20.3	57.7	9.3	0.0
507.272	IV	42.5	19.6	11.3	2.6	20.2	56.0	9.9	0.0
507.273	III	42.4	19.3	10.7	2.2	30.8	48.7	7.6	0.0
507.274	III	41.6	21.1	10.5	2.1	30.0	50.0	7.5	0.0
507.277	II	43.3	18.0	12.3	2.7	32.2	44.2	8.6	0.0
507.279	III	41.2	21.2	12.0	2.6	23.0	53.8	8.5	0.0
507.280	III	41.8	20.7	11.5	2.4	25.6	52.2	8.2	0.0
507.281	II	41.3	20.9	11.6	2.9	26.3	51.5	7.8	0.0
507.282	II	44.5	16.5	11.9	2.7	22.8	52.0	10.5	0.0
507.286A	IV	43.0	17.3	12.0	2.6	19.0	56.3	10.1	0.0
507.286B	IV	42.9	16.9	11.3	2.7	18.7	57.1	10.1	0.0
507.286C	IV	44.5	16.5	11.3	2.8	19.4	57.0	9.4	0.0

Table 1.2
Identification and origin information for USDA soybean germplasm in maturity groups I to IV, PI 490.765 to PI 507.573

PI No.	Accession name	Foreign collection No.	Country of acquisition	Country of origin	Year introduced or released	Maturity group
507.291	Shou ouryuushu	NIAR 030093	Japan	Japan	1987	IV
507.293A	Shoukin ou	NIAR 030087	Japan	Japan	1987	II
507.293B	Shoukin ou	NIAR 030087	Japan	Japan	1987	III
507.294A	Shoukin ou 1	NIAR 040469	Japan	Japan	1987	II
507.294B	(Shoukin ou 1)	NIAR 040469	Japan	Japan	1987	II
507.295	Shoutou 1 (Chou)	NIAR 020734	Japan	Japan	1987	III
507.296	Shuutai 2	NIAR 040466	Japan	Japan	1987	III
507.297	Shuutai 4	NIAR 040467	Japan	Japan	1987	II
507.303	Sumoto zairai	NIAR 030082	Japan	Japan	1987	II
507.309	Tairadate zairaishu	NIAR 020712	Japan	Japan	1987	IV
507.311	Takagaki zairai	NIAR 040866	Japan	Japan	1987	IV
507.312	Takagaki zairai (Kurosaya)	NIAR 040867	Japan	Japan	1987	IV
507.313	Takagi 1	NIAR 040507	Japan	Japan	1987	IV
507.316	Takayama zairai	NIAR 041042	Japan	Japan	1987	IV
507.317	Takei 1	NIAR 020516	Japan	Japan	1987	IV
507.318	Takei 4	NIAR 040439	Japan	Japan	1987	IV
507.319	Takei 8	NIAR 020296	Japan	Japan	1987	I
507.320A	Takei 8	NIAR 040437	Japan	Japan	1987	IV
507.320B	(Takei 8)	NIAR 040437	Japan	Japan	1987	IV
507.323	Takiya 560	NIAR 020681	Japan	Japan	1987	III
507.325	Tamagomame 1	NIAR 060081	Japan	Japan	1987	IV
507.328	Tamamusume	NIAR 040734	Japan	Japan	1987	III
507.332	Tamatsukuri 2	NIAR 020384	Japan	Japan	1987	IV
507.334	Tamatsukuri (Ishioka)	NIAR 040835	Japan	Japan	1987	IV
507.339	Tanryoku (1)	NIAR 020342	Japan	Japan	1987	IV
507.341	Tashoutou	NIAR 090159	Japan	Japan	1987	IV
507.344	Ten-an	NIAR 040533	Japan	Japan	1987	III
507.347	Teratsuka	NIAR 040245	Japan	Japan	1987	III
507.348	Tochigi 1	NIAR 040737	Japan	Japan	1987	III
507.349	Toiku 118 (Toyosuzu)	NIAR 010037	Japan	Japan	1987	II
507.352	Toiku 152	NIAR 010065	Japan	Japan	1987	II
507.353	Toiku 155	NIAR 010066	Japan	Japan	1987	II
507.354	Tokei 421	NIAR 010080	Japan	Japan	1987	I
507.355	Tokei 423	NIAR 010062	Japan	Japan	1987	I
507.362	Touhoku 25	NIAR 020706	Japan	Japan	1987	II
507.363	Touhoku 26	NIAR 020570	Japan	Japan	1987	IV
507.364	Touhoku 31	NIAR 020571	Japan	Japan	1987	IV
507.365	Touhoku 41	NIAR 020721	Japan	Japan	1987	III
507.366	Touhoku 42	NIAR 020731	Japan	Japan	1987	III
507.367	Touhoku 46	NIAR 020729	Japan	Japan	1987	IV
507.368	Touhoku 51	NIAR 020732	Japan	Japan	1987	IV
507.369	Touhoku 53	NIAR 020722	Japan	Japan	1987	IV
507.370	Toukichi	NIAR 020353	Japan	Japan	1987	IV
507.373	Tounou keitou	NIAR 010058	Japan	Japan	1987	I
507.379	Tousan 39	NIAR 040629	Japan	Japan	1987	IV

Table 2.2
Descriptive data for USDA soybean germplasm in maturity groups I to IV, PI 490.765 to PI 507.573

Entry	Maturity group	Stem trm.	Flower color	Pubescence			Pod color	Seedcoat		Hilum color	Other traits		
				Color	Form	Density		Luster	Color		Seed	Leaf	Plant
507.291	IV	D	P	G	Sa	N	Tn	I	Y	Bf			
507.293A	II	D	P	G	E	Ssp	Br	I	Y	Lbf			
507.293B	III	D	P	G	E	Ssp	Br	I	Y	Lbf			
507.294A	II	D	W	G	E	Ssp	Br	I	Y	Bf			
507.294B	II	D	W	G	E	N	Br	I	Y	Bf			
507.295	III	D	W	G	E	N	Br	I	Y	Lbf		Na	
507.296	III	D	W	G	E	N	Br	I	Y	Lbf			
507.297	II	D	P	G	E	N	Br	I	Y	Ib			
507.303	II	D	W	G	E	Ssp	Tn	I	Y	Y			
507.309	IV	D	P	G	E	Ssp	Br	D	Y	Y			
507.311	IV	D	P	G	Sa	Ssp	Tn	D	Y	Y			
507.312	IV	D	P	G	E	N	Bl	I	Y	Lbf			
507.313	IV	D	P	T	A	N	Br	I	Y	Br			
507.316	IV	D	W	T	E	Ssp	Br	I	Gn	Bl	Gncot,Saddle		
507.317	IV	D	P	G	E	Ssp	Br	S	Y	Bf			
507.318	IV	D	P	T	E	Ssp	Br	I	Y	Y			
507.319	I	D	W	T	E	Ssp	Br	I	Gn	Bl			
507.320A	IV	D	P	T	Sa	Ssp	Br	I	Y	Br			
507.320B	IV	D	P	T	Sa	Ssp	Br	I	Y	Br			
507.323	III	D	W	T	E	Ssp	Br	I	Y	Br			
507.325	IV	D	P	T	E	N	Br	I	Y	Br			
507.328	III	D	W	-	C	Ssp	Tn	I	Y	Y			
507.332	IV	D	P	G	A	N	Br	I	Y	Bf			
507.334	IV	D	Dp	T	Sa	Ssp	Br	I	Y	Br			
507.339	IV	D	W	T	E	Ssp	Br	I	Gn	Br			
507.341	IV	D	W	T	E	N	Tn	I	Y	Br			
507.344	III	D	W	T	A	N	Br	I	Bl	Bl			
507.347	III	D	P	-	C	N	Tn	I	Y	Bf			
507.348	III	D	P	G	A	Ssp	Br	I	Y	Lbf			
507.349	II	D	P	G	Sa	Ssp	Br	I	Y	Y			
507.352	II	D	W	G	Sa	N	Br	I	Y	Y			
507.353	II	D	W	G	Sa	N	Br	I	Y	Y			
507.354	I	D	P	G	Sa	Ssp	Br	I	Y	Y		Na	
507.355	I	D	P	G	E	Ssp	Br	I	Y	Y			
507.362	II	D	W	G	Sa	Ssp	Br	D	Y	Y			
507.363	IV	D	P	G	A	Ssp	Br	I	Y	Y			
507.364	IV	D	P	G	A	Ssp	Br	I	Y	Y			
507.365	III	D	P	G	E	Ssp	Br	I	Y	Y			
507.366	III	D	P	G	Sa	Ssp	Br	I	Y	Y		Na	
507.367	IV	D	P	G	E	N	Br	I	Y	Y			
507.368	IV	D	Dp	G	A	Ssp	Br	I	Y	Y			
507.369	IV	D	P	G	Sa	Ssp	Br	I	Y	Y			
507.370	IV	D	P	T	A	Ssp	Br	I	Lgn	Br			
507.373	I	N	P	G	E	N	Br	S	Y	Y			
507.379	IV	D	W	G	E	Ssp	Br	I	Y	Y			

Table 3.2
Agronomic data for USDA soybean germplasm collection in maturity groups I to IV, PI 490.765 to PI 507.573, grown at Urbana, IL

Entry	Flowering	Maturity	Lodging	Height	Stem termination	Shattering		Seed			
						Early	Late	Quality	Mottling	Weight	Yield
	(days after May 31)		(score)	(cm)	(score)	(score)		(score)	(score)	(cg/sd)	(Mg/ha)
507.291	55	127	3.6	82	1.5	1.8	3.5	2.0	1.0	14.4	2.42
507.293A	49	115	1.0	72	1.0	1.3	2.5	1.5	1.5	14.7	3.31
507.293B	49	116	1.0	67	1.0	1.0	4.0*	1.5	1.0	14.9	3.10
507.294A	32	106	2.7	82	2.0	1.0	1.0	2.2*	1.0	14.6	3.15
507.294B	37	106	3.0*	80	2.0	1.0	1.0	2.2	2.0	14.3	3.20
507.295	46*	119	3.0	73	1.5	1.0	1.3	1.8	1.0	14.7	3.40*
507.296	46*	119	3.0	86	2.0	1.0	1.3	2.0	2.0	20.8	3.06*
507.297	33	103	3.0	76	2.2	1.0	1.0	2.2	1.0	14.3	2.88
507.303	39	101	1.8	64	1.0	1.0	2.0*	2.0	2.0	23.1	2.33
507.309	47*	124	1.8	55*	1.0	1.8	4.0*	2.5	1.5	33.6*	2.21*
507.311	65*	133	2.6	87	1.3	1.0	1.0	1.8	2.0	11.6	2.36
507.312	67*	133	3.6	85	1.5	1.3	.	1.5	2.0*	6.4	1.86
507.313	65	142	4.3	88	1.5	1.0	.	2.7	2.0	17.1*	1.76
507.316	61*	141	3.5	93	1.8	1.5	.	2.0	-	21.5	2.16
507.317	51	129*	1.6	63	1.0	2.0*	4.0*	2.2	3.0	20.3	1.98*
507.318	58	140*	2.5	73	1.0	1.5	.	2.5	4.0	20.6	1.79+
507.319	30	92	1.0	31	1.0	1.0	2.7	2.0	1.0	24.1*	1.98+
507.320A	57	129	2.7*	68	1.3	4.0*	5.0	2.5	2.0	16.5	2.43+
507.320B	58	132	2.2	64*	1.5	3.5	5.0	2.5	2.0	16.4	1.87*
507.323	49	113	2.7	76	2.0	2.2	5.0	1.8	3.0	14.1	1.78*
507.325	64	139	3.5	90	2.5	1.0	.	2.0	3.0	8.8	1.03
507.328	48	118	1.0	44	1.0	1.8	5.0	2.0	2.5	18.2	1.50
507.332	60	135	3.6	94	1.8	1.0	.	2.5	2.0	16.8	1.98
507.334	55	132	3.0	80	1.8	1.3	3.0	2.7	2.0	18.6	2.24
507.339	56	130*	2.9*	61	1.0	2.2	.	2.5	2.5	19.3	1.42
507.341	65	141	3.8	98	2.1	1.0	.	2.2	3.5	10.9	1.49
507.344	50*	117	3.1	88	2.0	1.8	3.2*	2.0	-	17.2	2.10
507.347	49	116	1.6	61	1.0	1.3	4.2	2.0	2.0	14.8	2.07
507.348	56	126	4.2	80	1.5	2.2	4.5	2.0	1.0	16.4	1.57+
507.349	29	111	1.0	45	1.0	2.2	5.0	2.0	2.0	23.3	2.17
507.352	31	101	1.0	38	1.0	1.5	2.5	2.5	2.0	22.6	1.75+
507.353	31	103	1.0	39	1.0	1.3	3.0*	2.0	2.0	17.8	1.46+
507.354	32	92	1.0	43*	1.0	1.0	3.7*	1.5	1.5	10.4	1.49*
507.355	29	95	1.0	42	1.0	1.3	5.0	2.2	1.5	21.3	1.68
507.362	41	115	2.0	53	1.0	1.0	2.5	2.2	2.0	22.9	2.49+
507.363	50	127	2.1	68*	1.0	1.5	1.8	2.7	2.0	23.6	2.27
507.364	62	137	2.4	90	1.5	1.0	.	2.2	1.0	16.3	2.19
507.365	49	123	2.0	60	1.3	1.5	4.0*	2.0	2.0	21.5	2.09
507.366	44	117	1.6	58	1.0	1.0	3.5	2.0	1.0	21.3*	3.10
507.367	58*	130	3.0	86*	1.8	1.3	1.5	2.2	2.0*	17.2	2.86
507.368	52*	129	2.6	75	1.3	1.3	2.0	2.2	2.0*	16.7	2.70
507.369	57*	134	2.5	80	1.5	1.3	.	2.2	1.0	20.4	2.81
507.370	59	134	3.1	84	1.5	1.3	3.0	2.2	2.0	17.7	1.84
507.373	24	88	1.0	57	3.0	1.0	1.0	1.8	1.0	14.0	2.30
507.379	60	138	3.3	97	1.8	1.0	.	2.2	2.5	22.9	2.04

Table 4.2
Seed composition data for USDA soybean germplasm in maturity groups I to IV, PI 490765 to PI 507573, grown at Urbana, IL

Entry	Maturity group	Seed composition		Oil composition					
		Protein (%)	Oil (%)	Palmitic (%)	Stearic (%)	Oleic (%)	Linoleic (%)	Linolenic (%)	Other (%)
507.291	IV	43.0	16.9	11.6	2.2	19.3	56.8	10.0	0.0
507.293A	II	40.3	20.0	11.9	3.4	20.5	55.5	8.7	0.0
507.293B	III	40.9	20.3	11.7	2.9	21.0	55.8	8.4	0.0
507.294A	II	40.8	20.1	11.8	3.3	22.8	54.5	7.6	0.0
507.294B	II	40.0	21.4	11.3	3.2	23.7	54.3	7.5	0.0
507.295	III	39.8	21.7	12.1	3.0	23.1	53.5	8.3	0.0
507.296	III	41.8	20.9	12.4	2.8	20.5	55.7	8.7	0.0
507.297	II	40.2	20.9	11.9	3.3	22.5	54.6	7.7	0.0
507.303	II	44.7	16.8	11.7	3.2	29.7	47.3	8.1	0.0
507.309	IV	43.1	19.5	11.2	2.5	22.4	55.0	8.9	0.0
507.311	IV	44.0	16.4	10.1	2.3	18.5	58.3	10.7	0.1
507.312	IV	46.5	15.1	11.3	2.4	16.8	58.5	11.0	0.0
507.313	IV	42.5	17.3	11.2	2.7	18.1	56.6	11.3	0.0
507.316	IV	43.9	20.5	11.5	2.7	22.7	53.7	9.4	0.0
507.317	IV	43.0	19.0	12.0	2.5	21.2	55.4	8.9	0.0
507.318	IV	42.6	19.1	11.5	2.5	18.3	58.7	8.9	0.0
507.319	I	41.8	20.0	11.4	2.9	28.0	49.7	8.0	0.0
507.320A	IV	43.5	16.7	10.3	2.1	17.5	58.7	11.2	0.0
507.320B	IV	43.6	16.4	11.5	2.5	17.9	57.1	10.8	0.0
507.323	III	44.7	19.2	12.6	2.3	23.4	53.8	7.8	0.0
507.325	IV	43.1	15.0	11.6	2.5	18.7	56.3	10.8	0.0
507.328	III	42.5	19.9	11.1	2.4	21.7	56.0	8.8	0.0
507.332	IV	43.7	16.7	12.1	2.7	19.3	56.1	9.8	0.0
507.334	IV	40.5	18.5	11.5	2.7	24.1	52.2	9.5	0.0
507.339	IV	44.0	18.2	11.7	2.5	21.5	55.7	8.6	0.0
507.341	IV	43.6	15.1	11.6	3.1	23.9	50.6	10.7	0.0
507.344	III	42.1	22.6	12.3	2.3	21.6	54.1	9.7	0.0
507.347	III	41.0	19.4	10.9	2.5	28.4	49.9	8.2	0.0
507.348	III	42.1	17.9	11.0	2.5	22.1	54.2	10.1	0.0
507.349	II	43.0	20.1	12.0	2.8	21.4	56.4	7.4	0.0
507.352	II	38.7	21.4	10.4	2.9	29.6	49.8	7.3	0.0
507.353	II	40.7	20.5	11.6	2.9	23.8	52.8	8.7	0.0
507.354	I	38.8	19.2	11.6	2.9	19.4	57.5	8.5	0.0
507.355	I	39.9	19.6	11.0	2.7	21.1	57.6	7.5	0.0
507.362	II	42.0	19.5	11.9	2.9	22.4	53.5	9.3	0.0
507.363	IV	40.6	21.2	10.8	2.6	26.5	52.1	7.9	0.0
507.364	IV	43.5	17.4	11.7	2.4	17.8	58.4	9.7	0.0
507.365	III	41.2	18.9	10.4	2.4	19.7	57.2	10.4	0.0
507.366	III	42.2	20.1	11.2	2.7	23.2	55.0	7.9	0.0
507.367	IV	42.6	18.1	11.9	2.5	18.9	55.8	10.8	0.0
507.368	IV	42.8	19.3	11.5	2.6	20.8	55.2	9.8	0.0
507.369	IV	42.4	18.8	11.3	2.7	20.1	56.7	9.1	0.0
507.370	IV	41.5	18.3	11.3	2.4	20.5	55.5	10.2	0.0
507.373	I	41.7	19.4	11.8	2.7	24.3	52.8	8.3	0.0
507.379	IV	41.3	19.2	11.4	2.6	18.7	57.2	10.0	0.0

Table 1.2
Identification and origin information for USDA soybean germplasm in maturity groups I to IV, PI 490.765 to PI 507.573

PI No.	Accession name	Foreign collection No.	Country of acquisition	Country of origin	Year introduced or released	Maturity group
507.382	Tousan 43	NIAR 040630	Japan	Japan	1987	IV
507.383	Tousan 44	NIAR 040550	Japan	Japan	1987	IV
507.384	Tousan 45	NIAR 040551	Japan	Japan	1987	IV
507.385	Tousan 46	NIAR 040625	Japan	Japan	1987	IV
507.386	Tousan 47	NIAR 040642	Japan	Japan	1987	IV
507.387	Tousan 48	NIAR 040626	Japan	Japan	1987	IV
507.390	Tousan 51	NIAR 040632	Japan	Japan	1987	IV
507.392	Tousan 53	NIAR 040627	Japan	Japan	1987	IV
507.395	Tousan 56	NIAR 040556	Japan	Japan	1987	IV
507.396	Tousan 58	NIAR 040635	Japan	Japan	1987	IV
507.398	Tousan 60	NIAR 040887	Japan	Japan	1987	IV
507.400	Tousan 62	NIAR 040889	Japan	Japan	1987	IV
507.404	Tousan 66	NIAR 040893	Japan	Japan	1987	IV
507.405	Tousan 67	NIAR 040894	Japan	Japan	1987	IV
507.406A	Tousan 68	NIAR 041047	Japan	Japan	1987	IV
507.406B	(Tousan 68)	NIAR 041047	Japan	Japan	1987	IV
507.407	Tousan 69	NIAR 040896	Japan	Japan	1987	IV
507.408	Tousan 69	NIAR 041048	Japan	Japan	1987	IV
507.411	Tousan 73	NIAR 041002	Japan	Japan	1987	IV
507.412	Tousan 74	NIAR 040901	Japan	Japan	1987	IV
507.413	Tousan 75	NIAR 040902	Japan	Japan	1987	IV
507.415	Tousan 77	NIAR 040904	Japan	Japan	1987	IV
507.418	Tousan 79	NIAR 040906	Japan	Japan	1987	IV
507.419	Tousan 80	NIAR 041078	Japan	Japan	1987	IV
507.424	Tousan 84	NIAR 040911	Japan	Japan	1987	IV
507.425	Tousan 85	NIAR 041064	Japan	Japan	1987	IV
507.429	Tousan 89	NIAR 041079	Japan	Japan	1987	III
507.430	Tousan 90	NIAR 040917	Japan	Japan	1987	IV
507.431	Tousan 91	NIAR 041073	Japan	Japan	1987	IV
507.432	Tousan 92	NIAR 041086	Japan	Japan	1987	IV
507.434	Tousan 96	NIAR 041088	Japan	Japan	1987	IV
507.435	Tousan 97	NIAR 041089	Japan	Japan	1987	IV
507.436	Tousan 98	NIAR 041074	Japan	Japan	1987	IV
507.439	Tousan 101	NIAR 041098	Japan	Japan	1987	III
507.440	Tousan 102	NIAR 041090	Japan	Japan	1987	IV
507.441A	Tousan 109	NIAR 041091	Japan	Japan	1987	IV
507.441B	(Tousan 109)	NIAR 041091	Japan	Japan	1987	IV
507.442A	Tousan 110	NIAR 041092	Japan	Japan	1987	IV
507.442B	(Tousan 110)	NIAR 041092	Japan	Japan	1987	IV
507.443	Tousan 111	NIAR 041082	Japan	Japan	1987	IV
507.445	Tousan 114	NIAR 041093	Japan	Japan	1987	IV
507.446	Tousan 115	NIAR 041100	Japan	Japan	1987	IV
507.447	Tousan 119	NIAR 041101	Japan	Japan	1987	IV
507.448	Tousan 121	NIAR 041094	Japan	Japan	1987	IV
507.449	Tousan hitashi 106	NIAR 041085	Japan	Japan	1987	IV

Table 2.2
Descriptive data for USDA soybean germplasm in maturity groups I to IV, PI 490.765 to PI 507.573

Entry	Maturity group	Stem trm.	Flower color	Pubescence			Pod color	Seedcoat		Hilum color	Other traits		
				Color	Form	Density		Luster	Color		Seed	Leaf	Plant
507.382	IV	D	P	G	A	Ssp	Br	I	Y	Y			
507.383	IV	D	P	G	E	N	Br	I	Y	Y			
507.384	IV	D	P	G	A	Ssp	Br	I	Y	Y			
507.385	IV	D	W	G	Sa	Ssp	Br	I	Y	Y			
507.386	IV	D	W	G	A	Ssp	Br	I	Y	Y			
507.387	IV	D	P	G	A	Ssp	Br	I	Y	Y			
507.390	IV	D	P	G	A	Ssp	Br	I	Y	Y			
507.392	IV	D	P	G	E	Ssp	Dbr	D	Lgn	Lgn		Na	
507.395	IV	D	P	G	A	N	Br	I	Y	Y			
507.396	IV	D	P	G	Sa	Ssp	Br	I	Y	Y			
507.398	IV	D	P	G	A	Ssp	Br	I	Y	Y			
507.400	IV	D	P	G	A	Ssp	Br	I	Lgn	Lgn		Na	
507.404	IV	N	W	G	Sa	N	Br	I	Y	Lbf			
507.405	IV	D	W	G	Sa	Ssp	Br	I	Y	Y			
507.406A	IV	D	Dp	G	E	N	Br	I	Y	Y			
507.406B	IV	D	Dp	G	E	Ssp	Tn	I	Y	Y			
507.407	IV	N	P	G	A	N	Br	I	Y	Y			
507.408	IV	N	P	G	A	N	Br	I	Y	Y			
507.411	IV	D	W	G	A	Ssp	Tn	I	Y	Y			
507.412	IV	D	W	G	A	Ssp	Br	I	Lgn	Y			
507.413	IV	D	P	G	E	N	Tn	I	Y	Ib			
507.415	IV	N	P	G	A	Ssp	Br	I	Y	Y			
507.418	IV	D	W	G	Sa	Ssp	Br	I	Y	Y			
507.419	IV	D	P	G	A	N	Br	I	Y	Y			
507.424	IV	N	W	G	A	N	Br	I	Y	Y			
507.425	IV	D	P	G	E	N	Br	I	Y	Y			
507.429	III	D	W	T	E	N	Br	S	Y	Bl		Scd	
507.430	IV	D	P	G	A	Ssp	Br	I	Y	Y		Cd	
507.431	IV	D	Dp	G	Sa	N	Br	I	Y	Y			
507.432	IV	D	P	G	Sa	Ssp	Br	I	Y	Y			
507.434	IV	D	W	G	Sa	N	Br	I	Y	Y			
507.435	IV	D	P	G	A	Ssp	Br	I	Y	Y			
507.436	IV	D	P	G	E	N	Br	I	Y	Y			
507.439	III	D	Dp	G	A	Ssp	Br	D	Y	Y			
507.440	IV	D	W	G	A	Ssp	Br	I	Y	Y			
507.441A	IV	D	P	G	E	Ssp	Br	I	Y	Y			
507.441B	IV	D	P	G	E	Ssp	Br	I	Y	Y			
507.442A	IV	D	P	G	Sa	N	Br	I	Y	Y			
507.442B	IV	D	P	G	A	N	Br	I	Y	Y			
507.443	IV	D	P	G	E	Ssp	Tn	I	Y	Bf			
507.445	IV	D	P	G	A	N	Br	I	Y	Y			
507.446	IV	D	Dp	G	A	N	Br	I	Y	Y			
507.447	IV	D	P	G	A	Ssp	Br	I	Y	Y			
507.448	IV	D	W	G	E	N	Tn	I	Y	Y			
507.449	IV	D	W	T	E	Ssp	Br	I	Gn	Bl	Saddle		

Table 3.2
Agronomic data for USDA soybean germplasm collection in maturity groups I to IV, PI 490.765 to PI 507.573, grown at Urbana, IL

Entry	Flowering (days after May 31)	Maturity (days after May 31)	Lodging (score)	Height (cm)	Stem termination (score)	Shattering Early (score)	Shattering Late (score)	Seed Quality (score)	Seed Mottling (score)	Seed Weight (cg/sd)	Seed Yield (Mg/ha)
507.382	54	132	3.2	74	1.5	1.8*	2.2*	2.0	2.0	20.3	2.76
507.383	56	134	2.9	80	1.5	1.0	.	2.5	2.0	25.7	2.51
507.384	60	128	3.0	79	1.5	1.3	1.8	2.2	2.5	17.2	2.27
507.385	59	131	3.3	85	1.5	1.5	2.5	2.2	1.5	23.9*	2.29
507.386	60	134	4.3	87*	1.5	1.5	3.5	2.0	2.0	19.9*	2.33
507.387	60	134	3.2	74	1.3	1.0	.	2.5	2.0	16.4	2.10
507.390	54	125	2.5	68	1.0	1.8	5.0	2.2	2.0	18.1	2.82+
507.392	67	138	3.2	94	1.8	1.0	.	2.2	2.0	16.5	2.32
507.395	59	131	2.5	73	1.5	1.0	1.5	2.2	2.0	21.6	2.62+
507.396	57	141	3.6	103	1.5	1.0	.	2.0	2.0	16.5	2.18
507.398	59	132	2.1	67	1.3	1.8*	4.0	1.8	2.0	18.4*	2.26+
507.400	57	139	3.0	70*	1.0	1.0	.	2.0	2.0*	18.9*	2.42+
507.404	52	133	3.9	108	3.0	2.2*	.	2.2	2.5	21.0	1.86*
507.405	57	134	2.5	64	1.3	2.5	.	1.8	1.5	19.2	2.64
507.406A	63	136	3.0	88	1.8	1.3	.	2.5	2.5	22.8	1.91
507.406B	59	135	3.3	88	1.5	1.3	.	2.2	2.5	21.2	2.34+
507.407	49*	133	2.7	104	3.0	1.3	2.0	1.8	2.0	20.4	2.67
507.408	50	134	3.1	107	3.0	1.5	2.0	2.2	2.0	19.0	2.29
507.411	55	128	3.2*	57*	1.3	2.5	5.0	2.2	2.0	21.9	1.55+
507.412	59	135	3.0	87*	1.5	1.8	3.0	2.0	1.0	18.2	2.58+
507.413	57	134	1.3	73	1.0	1.0	.	2.2	1.0	18.6	2.29+
507.415	46	134	2.5	102	3.0	2.2*	.	2.0	1.5	25.1*	2.63
507.418	59	136	2.6	88	1.5	1.0	.	2.0	2.0	20.4	2.53
507.419	56*	136	2.3	85*	1.5	1.3	.	2.0	1.5	24.2	2.39
507.424	57	135	3.1	115	3.0	1.0	1.0	2.0	2.5	19.7	2.38
507.425	52*	131	2.6*	54	1.0	3.0*	4.0	2.2	2.0*	27.9*	2.15+
507.429	55	129	1.1	70	1.0	2.7*	3.7*	2.0	2.0	16.0	1.85
507.430	60	141	2.9	86	1.8	1.5	.	2.0	2.5	17.0	1.49
507.431	56*	133	2.6	79	1.3	1.8	.	2.0	1.5	24.4	2.40+
507.432	63	140	3.1	84	1.5	1.0	.	2.0	2.5	18.4	2.15
507.434	58	129	1.9	71	1.3	1.8	1.5	2.2	1.5	24.8	2.37
507.435	52*	133	2.6	68	1.3	2.0*	4.0	1.8	2.0	21.9	2.69
507.436	55	138	2.7	61	1.3	1.8*	.	2.0	1.5	26.8	1.95
507.439	46*	120	3.0	73*	1.8	1.0	2.0*	2.0	1.5	22.5	2.93*
507.440	57	133	2.3	68	1.0	2.7*	5.0	2.2	1.5	21.6	1.82
507.441A	49*	131	2.4	71	1.5	1.0	2.5	2.0	2.0	25.0	2.81
507.441B	51*	133	2.5	74	1.5	1.3	.	2.0	2.0	25.0	2.44
507.442A	57	133	4.4	70	1.5	1.0	.	2.0	1.5	23.3	2.23+
507.442B	56	134	3.8	73	1.5	1.3	.	2.2	1.5	23.4	2.07
507.443	55	135	2.5	79	1.0	1.0	.	2.0	1.5	19.3*	2.52
507.445	54	131*	2.3	69	1.3	2.0	2.5	2.2	1.5	31.3*	2.58+
507.446	52*	132	2.3	75	1.3	1.5	2.0	1.8	1.0	25.3	2.91*
507.447	58	137	3.8	68	1.5	1.5	.	2.2	2.0	27.3	2.77
507.448	56*	141	2.5	70*	1.5	1.0	.	2.0	1.5	26.0	2.56+
507.449	57	124*	2.6*	83	1.8	1.5	3.0	2.2	-	29.3	2.18*

Table 4.2
Seed composition data for USDA soybean germplasm in maturity groups I to IV, PI 490765 to PI 507573, grown at Urbana, IL

Entry	Maturity group	Seed composition		Oil composition					
		Protein (%)	Oil (%)	Palmitic (%)	Stearic (%)	Oleic (%)	Linoleic (%)	Linolenic (%)	Other (%)
507.382	IV	41.3	19.6	12.6	2.5	20.0	56.2	8.7	0.0
507.383	IV	42.0	18.4	12.0	2.5	19.6	56.3	9.4	0.0
507.384	IV	42.8	18.1	11.2	2.1	19.2	57.6	9.8	0.0
507.385	IV	42.5	19.5	11.2	2.5	22.4	55.4	8.5	0.0
507.386	IV	42.0	18.6	12.5	2.2	18.6	56.2	10.5	0.0
507.387	IV	42.0	18.9	11.7	2.5	19.1	57.3	9.4	0.0
507.390	IV	41.0	19.7	11.2	2.4	19.5	59.0	7.9	0.0
507.392	IV	42.4	17.9	10.9	2.6	16.6	58.2	11.5	0.0
507.395	IV	42.3	18.6	11.4	2.4	22.1	55.5	8.6	0.0
507.396	IV	43.1	17.5	11.2	2.0	16.4	60.1	10.1	0.0
507.398	IV	43.2	17.9	11.9	2.2	19.4	57.2	9.3	0.0
507.400	IV	41.0	19.0	12.0	2.5	15.9	59.7	9.8	0.0
507.404	IV	43.0	19.5	12.2	2.8	22.0	55.3	7.6	0.0
507.405	IV	42.3	17.9	11.7	2.3	17.9	57.6	10.5	0.0
507.406A	IV	43.2	17.1	11.2	2.8	19.3	58.0	8.7	0.0
507.406B	IV	41.9	18.5	10.9	2.6	20.6	56.6	9.2	0.0
507.407	IV	41.5	19.8	12.9	2.6	19.6	55.2	9.6	0.0
507.408	IV	41.0	20.0	13.1	2.7	19.0	55.3	9.7	0.0
507.411	IV	40.8	20.0	11.6	2.4	17.9	58.5	9.6	0.0
507.412	IV	41.8	17.5	11.3	2.5	20.8	55.2	10.1	0.0
507.413	IV	43.2	19.7	11.6	2.5	22.2	55.7	8.0	0.0
507.415	IV	43.1	18.6	11.9	2.5	20.5	55.8	9.3	0.0
507.418	IV	43.0	17.0	11.0	2.4	18.2	57.0	11.3	0.0
507.419	IV	41.1	19.6	11.6	2.7	18.4	58.0	9.3	0.0
507.424	IV	41.9	19.4	12.8	2.2	17.1	58.4	9.5	0.0
507.425	IV	45.3	18.1	12.4	2.2	22.4	54.3	8.5	0.0
507.429	III	37.8	20.8	11.8	2.6	22.1	54.5	8.8	0.0
507.430	IV	36.8	19.1	13.7	2.6	15.5	57.7	10.4	0.0
507.431	IV	42.6	18.9	12.8	2.4	21.7	53.8	9.3	0.0
507.432	IV	43.7	16.1	11.2	2.4	18.0	58.2	10.2	0.0
507.434	IV	43.0	19.4	11.3	2.5	26.8	50.3	9.1	0.0
507.435	IV	40.4	19.1	11.4	2.3	18.4	58.0	9.9	0.0
507.436	IV	41.8	19.2	11.5	2.8	23.7	53.0	9.0	0.0
507.439	III	41.2	20.4	11.8	2.4	22.5	55.1	8.1	0.0
507.440	IV	42.3	18.6	12.3	2.3	21.6	54.5	9.3	0.0
507.441A	IV	41.2	20.3	11.3	2.3	27.2	49.9	9.2	0.0
507.441B	IV	42.2	18.9	11.6	2.3	23.8	52.0	10.2	0.0
507.442A	IV	42.6	18.5	11.5	2.3	20.5	56.0	9.6	0.0
507.442B	IV	42.1	17.9	11.7	2.2	19.2	57.1	9.7	0.0
507.443	IV	42.7	18.8	13.4	2.4	16.5	58.0	9.6	0.0
507.445	IV	43.7	18.5	11.3	2.2	25.7	53.0	7.8	0.0
507.446	IV	41.9	19.6	11.2	2.5	21.0	56.0	9.2	0.0
507.447	IV	44.2	18.8	11.6	2.4	21.9	56.2	7.9	0.0
507.448	IV	40.6	20.1	11.3	2.7	18.6	57.7	9.7	0.0
507.449	IV	42.2	19.1	10.8	1.6	23.0	55.7	8.9	0.0

Table 1.2
Identification and origin information for USDA soybean germplasm in maturity groups I to IV, PI 490.765 to PI 507.573

PI No.	Accession name	Foreign collection No.	Country of acquisition	Country of origin	Year introduced or released	Maturity group
507.455	Tousan kei B 590	NIAR 040549	Japan	Japan	1987	IV
507.456	Tousan kei BL 25	NIAR 041065	Japan	Japan	1987	IV
507.458	Tousan kei BL 521	NIAR 041084	Japan	Japan	1987	IV
507.460	Tousan kei C 491(2)	NIAR 040621	Japan	Japan	1987	IV
507.461	Tousan kei C 536	NIAR 040552	Japan	Japan	1987	IV
507.464	Tousan kei D 806	NIAR 040884	Japan	Japan	1987	IV
507.465	Tousan kei E 664	NIAR 040555	Japan	Japan	1987	IV
507.466	Tousan kei E 876	NIAR 040554	Japan	Japan	1987	IV
507.467	Tousan kei F 764	NIAR 040885	Japan	Japan	1987	IV
507.468	Tousan kei G 423	NIAR 041004	Japan	Japan	1987	IV
507.471	Tousan kei na 16	NIAR 041016	Japan	Japan	1987	III
507.473	Tousan kei na 18	NIAR 041018	Japan	Japan	1987	III
507.480	Tousan kei YL 24	NIAR 041067	Japan	Japan	1987	IV
507.481	Toushuu	NIAR 040514	Japan	Japan	1987	IV
507.483	Toushuu	NIAR 041022	Japan	Japan	1987	IV
507.487	Tsuru no ko shirohana	NIAR 020191	Japan	Japan	1987	III
507.491	Tsuru no tamago 6	NIAR 020225	Japan	Japan	1987	III
507.492	Tsuru no tamago (Kuratachisan)	NIAR 040540	Japan	Japan	1987	IV
507.493	Tsuru no tamago (Shiraishisan)	NIAR 040541	Japan	Japan	1987	IV
507.494	Tsuru no tomo	NIAR 020449	Japan	Japan	1987	IV
507.501	Urusan	NIAR 020605	Japan	Japan	1987	IV
507.502	Ushi no shirige	NIAR 040805	Japan	Japan	1987	IV
507.515	Wase 4	NIAR 040770	Japan	Japan	1987	II
507.516	Wase 12	NIAR 040795	Japan	Japan	1987	II
507.517	Wase akasaya 124	NIAR 040526	Japan	Japan	1987	II
507.519	Wase bon	NIAR 000014	Japan	Japan	1987	II
507.520	Wase daizu 1 (Chiba)	NIAR 041038	Japan	Japan	1987	II
507.521	Wase date cha	NIAR 020713	Japan	Japan	1987	I
507.523	Wase kuro mame	NIAR 030109	Japan	Japan	1987	III
507.524	Wase midori	NIAR 010041	Japan	Japan	1987	I
507.526	Wase oosaya	NIAR 040449	Japan	Japan	1987	II
507.527	Wase oosaya	NIAR 041035	Japan	Japan	1987	IV
507.528	Wase shiro daizu	NIAR 040333	Japan	Japan	1987	IV
507.529	Wase tsuru no ko	NIAR 010025	Japan	Japan	1987	III
507.530	Wase tsuru no ko	NIAR 040539	Japan	Japan	1987	III
507.531	Waseshu (2)	NIAR 030081	Japan	Japan	1987	II
507.535	Yagi mame	NIAR 020376	Japan	Japan	1987	IV
507.540	Yama shirotama	NIAR 040849	Japan	Japan	1987	IV
507.541	Yamagata tanryoku	NIAR 020463	Japan	Japan	1987	IV
507.543	Yamajirushi (China)	NIAR 000012	Japan	Japan	1987	II
507.544	Yamajirushi (USA)	NIAR 000011	Japan	Japan	1987	III
507.548	Yatsufusa	NIAR 040768	Japan	Japan	1987	III
507.552	Yore	NIAR 020678	Japan	Japan	1987	II
507.553	Yorimachi zairai (1)	NIAR 040543	Japan	Japan	1987	IV
507.554	Yoshioka dairyuu	NIAR 010083	Japan	Japan	1987	III

Table 2.2
Descriptive data for USDA soybean germplasm in maturity groups I to IV, PI 490.765 to PI 507.573

Entry	Maturity group	Stem trm.	Flower color	Pubescence			Pod color	Seedcoat		Hilum color	Other traits		
				Color	Form	Density		Luster	Color		Seed	Leaf	Plant
507.455	IV	D	W	G	E	N	Tn	I	Y	Y			
507.456	IV	D	W	T	A	Ssp	Br	I	Bl	Bl			
507.458	IV	D	W	T	E	N	Dbr	I	Bl	Bl	Gncot		
507.460	IV	D	P	G	E	N	Br	I	Y	Y			
507.461	IV	D	P	G	A	N	Br	I	Y	Y			
507.464	IV	D	P	G	Sa	Ssp	Tn	I	Y	Y		Na	
507.465	IV	N	W	G	Sa	Sdn	Br	I	Y	Y			
507.466	IV	D	W	G	Sa	Ssp	Br	I	Y	Lbf			
507.467	IV	N	W	G	A	N	Br	I	Y	Y			
507.468	IV	D	W	G	A	Ssp	Br	I	Y	Y		Na	
507.471	III	N	P	G	Sa	N	Br	I	Y	Y			
507.473	III	N	P	T	Sa	N	Tn	I	Y	Y			
507.480	IV	D	W	T	E	N	Tn	I	Y	Br		Cd	
507.481	IV	D	P	G	E	Ssp	Br	I	Lgn	Bf			
507.483	IV	D	P	G	E	Ssp	Br	I	Y	Lbf			
507.487	III	D	W	G	E	Ssp	Br	I	Y	Y			
507.491	III	D	P	G	A	Ssp	Tn	I	Y	Y			
507.492	IV	D	W	G	Sa	N	Br	I	Y	Y			
507.493	IV	D	P	G	E	Ssp	Tn	I	Y	Y			
507.494	IV	D	P	G	Sa	Ssp	Br	I	Y	Y			
507.501	IV	D	W	G	E	Ssp	Br	I	Y	Lbf			
507.502	IV	D	P	T	A	N	Br	I	Y	Br			
507.515	II	D	W	G	E	N	Tn	I	Y	Bf			
507.516	II	D	W	T	E	N	Br	I	Gn	Br			
507.517	II	D	W	T	E	N	Br	I	Y	Br			
507.519	II	D	W	G	Sa	Ssp	Tn	D	Y	Y			
507.520	II	D	W	T	E	Ssp	Br	I	Y	Br			
507.521	I	D	P	T	E	N	Br	I	Br	Br			
507.523	III	D	P	T	A	Ssp	Br	I	Bl	Bl			
507.524	I	D	W	T	Sa	N	Br	I	Gn	Bl			
507.526	II	D	W	G	E	Ssp	Tn	I	Y	Y			
507.527	IV	D	W	G	Sa	Ssp	Tn	I	Y	Y			
507.528	IV	D	W	G	E	N	Br	I	Y	Lbf			
507.529	III	D	W	G	E	Ssp	Br	I	Y	Y			
507.530	III	D	W	G	A	Ssp	Tn	I	Y	Y			
507.531	II	D	W	G	E	N	Tn	D	Y	Y			
507.535	IV	D	P	T	E	Ssp	Br	I	Y	Br			
507.540	IV	D	W	G	A	N	Tn	I	Y	Y			
507.541	IV	D	W	T	A	Ssp	Br	D	Gn	Br			
507.543	II	D	P	G	E	N	Br	S	Y	Y			
507.544	III	N	P	G	E	N	Br	I	Y	Y			
507.548	III	D	P	T	Sa	N	Br	I	Y	Br			
507.552	II	D	W	T	A	N	Tn	D	Y	Br			
507.553	IV	D	Dp	-	C	N	Br	I	Y	Br			
507.554	III	D	P	T	E	N	Br	I	Gn	Bl			

Table 3.2
Agronomic data for USDA soybean germplasm collection in maturity groups I to IV, PI 490.765 to PI 507.573, grown at Urbana, IL

Entry	Flowering (days after May 31)	Maturity (days after May 31)	Lodging (score)	Height (cm)	Stem termination (score)	Shattering Early (score)	Shattering Late (score)	Seed Quality (score)	Seed Mottling (score)	Seed Weight (cg/sd)	Seed Yield (Mg/ha)
507.455	62	139	2.9	79	1.5	2.0*	.	2.0	3.0*	16.3	1.70+
507.456	59	135	4.2	78	1.5	1.0	.	2.0	-	24.3	2.40
507.458	60	136	3.9	85	1.8	1.0	.	2.2	-	15.9	2.17
507.460	60	141	4.0	78	1.5	1.0	.	2.2	2.0	18.5*	1.47+
507.461	67	139	2.7	85	2.0	1.0	.	2.0	2.0	18.5	1.68+
507.464	60	134	3.7	83	1.5	3.5*	.	2.0	2.5	15.8	2.08+
507.465	60	140	4.3	95	3.0	1.0	.	2.5	2.0	20.1	1.84*
507.466	59	134	4.1	83	1.5	1.3	.	2.5	2.5	18.3	2.03
507.467	57	134	3.7	106*	3.0	1.5	2.0	2.2	2.0	19.8	2.29
507.468	59	132	2.1	65	1.0	1.3	.	1.5	1.0	20.2	1.92*
507.471	37	117	2.8	116	3.0	1.0	4.0*	2.2	2.0	14.4	2.85
507.473	49	122	3.5	105	3.0	1.8	5.0	2.0	3.0*	15.8	2.28
507.480	68*	142	2.5	73	1.8	1.0	.	2.0	1.5	13.5	1.28
507.481	56*	135	3.3	90	1.8	2.0*	4.0	2.2	1.5	18.1	1.99
507.483	55*	140	2.0	81	1.8	1.3	.	3.0	2.5	24.6	.
507.487	38	122*	1.9	64	1.0	2.2*	3.5*	2.2	2.0	35.7	2.53+
507.491	46	118	2.4	66	1.5	2.7*	5.0	2.2	2.0	23.5*	1.84
507.492	61	145	2.3	69	1.0	1.0	.	2.5	3.0	20.8	1.60+
507.493	59	142*	3.0	78	1.5	1.0	.	3.0	3.0	27.3*	1.06+
507.494	55	134	3.7	73	1.3	1.3	.	2.0	2.0	23.2	2.08+
507.501	58	142	3.3	61*	1.5	1.0	.	2.7	2.5	22.5	1.38+
507.502	64*	138	3.6	85	1.8	1.0	.	2.5	2.5	20.5	1.50
507.515	45	104	2.4	66	1.8	1.0	5.0	2.2	2.0	15.4	2.00
507.516	50	114	2.8	86	2.0	2.0*	5.0	2.0	3.0	13.4	1.73
507.517	43	105	1.4	77	2.0	1.5	5.0	2.0	2.0	16.7	2.28
507.519	43	111	2.6*	51	1.3	1.8	5.0	3.0	2.0	26.5	1.59+
507.520	47*	103	2.5	63	1.3	1.0	5.0	2.0	3.5	15.4	1.69
507.521	31	94	1.0	47	1.0	1.0	1.8	2.0	-	19.0	1.66
507.523	56*	128	2.8	72	1.0	2.5	5.0	2.0	-	32.2	2.24
507.524	30	92	1.0	33	1.0	1.0	3.0	2.0	1.0	25.3*	1.72+
507.526	41	105	2.0*	63	1.5	1.0	4.5	2.0	2.5	23.8	2.61
507.527	56*	133	3.0	82	1.5	2.7	.	2.5	2.5	18.7	1.19
507.528	75	148	3.7	104	2.0	1.0	.	2.5	3.0*	15.0	1.15
507.529	39	122*	1.3	55	1.0	2.5	3.0	2.2	3.5	30.2	1.79
507.530	46*	118	3.0	71	2.0	2.7	5.0	2.2	3.0	25.1	2.23
507.531	38	100	1.5	61	1.3	1.0	2.0*	2.0	2.0	21.5	2.45
507.535	59	133	2.8	87	1.8	2.5	.	2.0	1.5	19.1	1.44
507.540	60	135	1.4	67*	1.0	1.0	.	2.5	3.0	22.2	2.02
507.541	55	134	1.9	65	1.3	1.5	.	2.2	2.0	21.5	2.15+
507.543	36	105	4.0	65	2.0	1.0	1.0	2.2	2.0	14.6	3.20
507.544	41	113	3.3	97	3.0	1.0	1.5	2.5	2.0	25.3	2.91
507.548	49	116	3.3	78	1.8	2.5	5.0	2.0	3.0	11.2	1.25
507.552	48*	109	2.8	73	1.5	1.5	5.0	1.5	3.0	10.4	2.15
507.553	57	127	2.4	63	1.5	1.8	4.0	2.2*	1.5	15.3	1.61*
507.554	36	117	1.0	38	1.0	1.3	3.2*	2.0	1.5	23.2	1.81

Table 4.2
Seed composition data for USDA soybean germplasm in maturity groups I to IV, PI 490765 to PI 507573, grown at Urbana, IL

Entry	Maturity group	Seed composition		Oil composition					
		Protein (%)	Oil (%)	Palmitic (%)	Stearic (%)	Oleic (%)	Linoleic (%)	Linolenic (%)	Other (%)
507.455	IV	42.2	17.4	12.0	2.6	18.3	57.5	9.6	0.0
507.456	IV	42.9	22.0	11.7	2.7	17.5	58.5	9.4	0.0
507.458	IV	42.6	21.3	12.5	2.6	18.6	57.5	8.7	0.0
507.460	IV	42.3	18.9	11.8	2.3	16.4	59.8	9.7	0.0
507.461	IV	44.1+	16.0+	12.1+	2.5+	15.5+	60.7+	9.4+	0.0
507.464	IV	41.5	18.3	14.3	2.8	14.5	58.5	9.8	0.0
507.465	IV	43.2	17.6	11.8	2.4	18.6	57.0	10.2	0.0
507.466	IV	41.5	18.5	12.8	2.4	19.9	55.8	9.1	0.0
507.467	IV	41.9	19.1	13.1	2.2	17.2	57.8	9.4	0.1
507.468	IV	42.5	18.1	12.6	2.5	18.4	55.7	10.6	0.1
507.471	III	40.5	19.7	11.0	2.5	25.0	53.5	7.9	0.0
507.473	III	43.0	18.5	11.4	2.1	23.8	53.4	9.4	0.0
507.480	IV	44.1	15.9	11.9	2.8	20.5	53.8	10.9	0.1
507.481	IV	42.4	18.9	13.5	2.6	15.4	59.5	9.0	0.0
507.483	IV	43.4+	18.3+	12.6+	2.7+	16.7+	59.7+	8.5+	0.0
507.487	III	42.1	19.6	10.2	2.0	32.2	48.3	7.2	0.0
507.491	III	40.6	20.9	10.3	2.4	33.2	47.5	6.5	0.0
507.492	IV	42.0	17.6	11.9	2.8	18.9	55.5	10.7	0.0
507.493	IV	44.3	17.9	12.5	2.2	17.2	58.7	9.3	0.0
507.494	IV	42.2	18.2	12.4	2.1	19.7	56.3	9.4	0.0
507.501	IV	43.0	17.8	11.8	2.3	16.4	58.7	10.7	0.0
507.502	IV	43.6	16.9	12.1	2.5	17.2	58.7	9.5	0.0
507.515	II	43.7	17.3	12.0	2.9	22.5	52.6	9.9	0.0
507.516	II	47.7	15.2	11.9	3.0	22.0	54.0	9.2	0.0
507.517	II	43.9	17.8	11.6	2.6	26.9	51.1	7.8	0.0
507.519	II	42.5	19.0	11.2	3.0	30.3	47.7	7.7	0.0
507.520	II	45.1	17.6	10.8	2.9	28.6	49.1	8.5	0.0
507.521	I	41.6	19.7	12.6	3.0	20.4	55.5	8.5	0.0
507.523	III	21.5	10.8	12.1	2.9	22.8	52.8	9.3	0.0
507.524	I	42.5	18.9	11.2	2.8	29.8	48.4	7.7	0.0
507.526	II	44.3	17.4	12.2	2.8	29.7	47.3	8.0	0.0
507.527	IV	45.7	16.8	11.8	2.0	18.0	57.8	10.2	0.0
507.528	IV	43.5	17.3	11.9	3.3	18.3	56.2	10.2	0.0
507.529	III	42.1	20.1	10.2	1.8	36.8	44.1	7.1	0.0
507.530	III	42.1	19.5	11.4	2.4	23.8	53.6	8.7	0.0
507.531	II	44.1	16.1	11.6	2.6	29.0	48.5	8.2	0.0
507.535	IV	42.4	18.3	11.7	2.4	19.3	57.0	9.5	0.0
507.540	IV	42.1	20.0	12.2	2.4	17.4	58.6	9.4	0.0
507.541	IV	42.3	18.9	11.6	2.4	23.2	54.1	8.7	0.0
507.543	II	39.0	21.6	12.0	3.5	22.6	53.5	8.4	0.0
507.544	III	41.5	20.4	11.2	2.6	29.0	49.8	7.3	0.0
507.548	III	44.5	16.2	12.0	2.2	19.8	56.0	10.0	0.0
507.552	II	41.2	17.7	12.3	2.8	22.5	53.5	8.9	0.0
507.553	IV	42.5	18.6	11.9	2.4	21.6	55.3	8.6	0.0
507.554	III	42.3	19.2	11.8	2.3	18.9	57.2	9.7	0.0

Table 1.2
Identification and origin information for USDA soybean germplasm in maturity groups I to IV, PI 490.765 to PI 507.573

PI No.	Accession name	Foreign collection No.	Country of acquisition	Country of origin	Year introduced or released	Maturity group
507.555	Yoshioka tairyuu	NIAR 010056	Japan	Japan	1987	III
507.563	Yukinoshita	NIAR 040167	Japan	Japan	1987	IV
507.564	Yukinoshita	NIAR 010086	Japan	Japan	1987	I
507.569	Yuumou shinnamon	NIAR 020168	Japan	Japan	1987	IV
507.570	Yuuzura	NIAR 020715	Japan	Japan	1987	III
507.571	Zaika hi	NIAR 040830	Japan	Japan	1987	IV
507.573	Zairai misonimame	NIAR 040497	Japan	Japan	1987	IV

Table 2.2
Descriptive data for USDA soybean germplasm in maturity groups I to IV, PI 490.765 to PI 507.573

Entry	Maturity group	Stem trm.	Flower color	Pubescence			Pod color	Seedcoat		Hilum color	Other traits		
				Color	Form	Density		Luster	Color		Seed	Leaf	Plant
507.555	III	D	P	T	E	N	Br	I	Gn	Bl			
507.563	IV	D	P	T	E	Ssp	Bl	I	Y	Br			
507.564	IV	D	W	G	E	Ssp	Br	I	Gn	Gn	Sdef		
507.569	IV	D	W	G	Sa	N	Br	I	Bf	Bf			
507.570	III	D	W	G	E	Ssp	Br	I	Y	Y			
507.571	IV	D	P	G	E	Ssp	Br	I	Y	Y			
507.573	IV	D	Dp	T	A	Ssp	Br	I	Y	Br			

Table 3.2
Agronomic data for USDA soybean germplasm collection in maturity groups I to IV, PI 490.765 to PI 507.573, grown at Urbana, IL

Entry	Flowering (days after May 31)	Maturity (days after May 31)	Lodging (score)	Height (cm)	Stem termination (score)	Shattering Early (score)	Shattering Late (score)	Seed Quality (score)	Seed Mottling (score)	Seed Weight (cg/sd)	Seed Yield (Mg/ha)
507.555	37	116	1.0	39	1.0	1.3	4.5	2.0	1.5	18.7	1.83
507.563	46*	123	1.8	49	1.0	4.0	5.0	2.2	3.0	15.7	1.28
507.564	44*	129*	1.4	59	1.0	1.5	.	2.5	2.5	38.1	1.64*
507.569	58	135	2.6	70	1.5	1.3	.	2.0	-	17.7	1.30
507.570	37	112	1.0	48	1.0	2.2	5.0	2.5	2.0	33.5*	1.68
507.571	61	136	2.6	85	2.0	1.0	.	2.5	2.5	16.2	1.57
507.573	58	134	3.5	86	1.5	2.0	.	2.0	2.0	17.8	1.39+

Table 4.2
Seed composition data for USDA soybean germplasm in maturity groups I to IV, PI 490765 to PI 507573, grown at Urbana, IL

Entry	Maturity group	Seed composition		Oil composition					
		Protein (%)	Oil (%)	Palmitic (%)	Stearic (%)	Oleic (%)	Linoleic (%)	Linolenic (%)	Other (%)
507.555	III	42.0	19.7	11.6	2.5	19.5	57.5	8.9	0.0
507.563	IV	43.3	19.9	10.9	2.5	27.0	52.2	7.4	0.0
507.564	IV	42.8	19.8	12.1	2.0	21.5	55.5	8.9	0.0
507.569	IV	46.5	16.1	13.6	2.3	20.1	55.0	9.0	0.0
507.570	III	41.4	19.6	10.9	2.5	27.9	50.4	8.3	0.0
507.571	IV	43.1	18.1	10.9	2.3	20.4	56.8	9.5	0.0
507.573	IV	41.3+	18.7+	11.5+	2.5+	20.7+	56.0+	9.4+	0.0

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