Progress Report 323

1989 Kentucky Soybean Performance Tests

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Tables

Acknowledgements

In addition to the county agents and farm cooperators mentioned in Table 1, several people have contributed greatly to the production of this publication: Eugene Lacefield, Brenda Hays, José Carlos, John Byars, and Sallie Wood.

The Kentucky Soybean Performance Tests are conducted to provide an unbiased, objective estimate of the relative performance of soybean varieties in Kentucky. This information may be used by growers and seedsmen to aid in selecting a variety that will give the highest total production in a specific situation.

Soybean tests in 1989 were planted at six locations in the state. The testing locations, soil types, planting dates, and other information are shown on the following page.

The date of a 50% chance of a fall killing frost is important in determining which variety you select to plant (Table 1). For maximum yield, a variety must mature before the first killing frost in the fall. Maturity dates of varieties are listed for the Princeton, Hickman, and Lexington locations in Tables 6, 7, and 8. Particular attention should be given to the maturity date of a variety when double-cropping soybeans (see the discussion on double-crop soybeans).

The dates presented in Table 1 are average dates over a long term. Actual dates will vary from year to year. For the date of a 1 year out of 10 chance of a fall killing frost subtract 13-18 days from the dates in Table 1.

Methods

All tests were planted in a randomized complete block design with three replications (plots) of each variety. Individual plots were 20 feet long and 4 rows wide with 30 inches between rows in the conventional tests; in the double-crop tests the plots were 20 feet long and 8 rows wide with 15 inches between rows. The seeding rate for the conventional tests was 8-10 viable seeds per foot of row and for the double-crop tests was 5-6 viable seeds per foot of row. All plots were planted with a modified soybean planter. All plots were treated with herbicides and maintained as weed free as possible.

Harvesting was done with a small plot combine according to maturity; thus several harvests were made at each location. Sixteen feet of the center rows were harvested from the plots. No allowances were made for beans that may have been lost as a result of combining or shattering.

Location of the 1989 Kentucky Soybean Performance Tests

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Agricultural Experiment Station • Department of Agronomy • Lexington 40546

1. Location, Planting Date, and Climatic Data for the 1989 Soybean Performance Tests.

	1	2	3	3	4	5	6
	Morganfield	Nebo	Princeton	Princeton[1] Double Crop	Hickman	Lexington	Glasgow[1] Double Crop
Farmer Cooperator	Charles Ray & Adam O'Nan	Ray Weir	Exp. Sta.	Exp. Sta.	Austin & Doug Voorhees	Exp. Sta.	LeRoyce Burkes
Extension Agent	Gene Brown	George Kelley			Darold Akridge		Gary Tilghman
Soil Type	Patton Silt Loam (Overwash)	Grenada Silt Loam	Crider Silt Loam	Crider Silt Loam	Sharky Clay	Maury Silt Loam	Dickson Silt Loam
Date of Planting	5/2	5/24	5/17	6/21	5/16	5/18	6/10
Row Width (inches)	30	30	30	15	30	30	15
Herbicides [2] *	8 pt. Freedon	2 pt. Treflan 2/3 pt. Scepter	1 1/2 pt. Treflan 6 pt. Lasso	2 pt. Lorox 10 pt. Bronco	1 1/2 pt. Treflan	8 pt. Lasso	6 pt. Lasso
Soil Test							
P	153	71	149	149	95	240+	26
K	436	167	501	501	501	311	128
pH	6.9	6.8	5.9	5.9	6.0	6.1	7.3
Fertilizer Applied	None	None	None	None	None	2T. Lime	None
50% chance of Killing Frost[3]	10/25	10/20	10/19	10/19	10/24	10/26	10/23

[1] No-till double-cropped after wheat.

[2] Amount per acre.

[3] Based on 30-year average.

* Trade names or products mentioned or similar products not named is neither intended as an endorsement nor criticism of such products by the Kentucky Agricultural Experiment Station.

Yield—Yield is reported in bushels per acre adjusted to 13% moisture.

Lodging—Lodging was rated on a scale of 1 to 5; 1=almost all plants erect; 2=all plants over slightly or a few down; 3=all plants over moderately or 25% down; 4=all plants over considerably or 50-80% down; 5=all plants over badly.

Maturity date—A variety was considered mature when 95% of the pods had turned their normal mature color. One to two weeks of good drying weather will be needed beyond the date given before the beans will be ready to combine. Maturity may also be expressed as days earlier (–) or later (+) than that of a standard variety (Williams 82). Maturity dates were recorded at the Lexington, Wickliffe, and Princeton locations.

Plant height—Plant height was measured in inches from the soil surface to the tip of the main stem.

Pod height—Height of the lowest pod was measured in inches from the soil surface to the point of attachment of the lowest pod on the plant.

Interpretation

An important step in profitable soybean production is selecting good quality seed of the best variety for **your** management system. The Kentucky Soybean Performance Tests are conducted to provide information useful in making this selection.

Performance of soybean varieties is affected by many factors including season, location, soil type, and time of planting. A particular soybean variety is adapted for full-season growth in a band approximately 100 miles wide from north to south. Thus, the best variety in northern Kentucky may not be the best in southern areas. For this reason the Kentucky Soybean Performance Tests are conducted at several locations in the major soybean-producing areas of the state. Data from the location nearest to a soybean grower's farm probably provide the best estimate of the potential of the soybean varieties in that area. **The yields as reported in this publication should be used for relative comparisons; absolute yields on a grower's farm may be different.**

Yield is only one factor to consider in selecting a variety for your production system. Maturity, lodging resistance, disease resistance, seed shattering resistance, and time and equipment availability are other factors that need to be considered.

Performance of the soybean varieties will vary from year to year and location to location depending on adaptability, weather conditions, and management. The average performance of a variety over a period of years provides a better estimate of its potential and stability than its performance in a particular year. **When selecting a variety it is important to consider the three- or two-year average presented in the tables; this provides an estimate of a variety's stability and performance potential over years.**

Small differences in yield are usually of little importance. The yield of two varieties at a single location may differ because of chance factors (difference in soil characteristics, fertility, or availability of moisture) even though the inherent yielding ability is the same. To decide if an observed yield difference is real, use the

LSD (least significant difference) value quoted at the bottom of the tables. The significance level used in the tables is 0.10. If the difference in yield is greater than the LSD value, you may be reasonably certain that the entries actually do differ in yielding ability. "N.S." in the tables indicates that no statistically significant differences were determined.

Soybean Production in Kentucky

Variety Adaptation

Early-maturing varieties (Group III), such as Pella 86 and Williams 82, are best adapted in areas of Kentucky north of the line indicated on the following map. The line is approximately the same as where the Western Kentucky Parkway is located. Late-maturing varieties (Group V), such as Essex and Forrest, are best adapted in areas south of the indicated line. Mid-season varieties (Group IV), such as Union and Pennyrile, can be successfully grown in most areas in Kentucky.

Double-Crop Soybeans

Planting soybeans in a double-cropping system usually results in a later planting date than conventional-planted beans. Previous research has shown that soybean yields are generally reduced by 1/2-3/4 bu/acre per day for each day planting is delayed after mid-June and 1 bu/acre per day when planted after the last part of June. Practices such as high-moisture harvesting or swathing of the small grains and no-till planting of the soybeans all help to get the soybeans planted earlier and should be used where possible.

The shorter growing season of a double-cropping system results in a shorter vegetative growth period, reduced plant height, and a smaller plant canopy. Row spacing research has indicated that the highest yields in double-crop plantings are obtained using narrow rows (10-12 in.), particularly when the planting date is in late June and July.

Variety selection is very important in a soybean double-cropping system. Research has shown that the mid- to full-season maturing varieties adapted in your area perform best in a double-crop planting. Caution must be used to select a variety that will mature before the first fall frost. When plantings are made in July, a variety that is one maturity group earlier than normally used should be selected to prevent a yield reduction due to frost injury.

Approximate areas of adaptation of the maturity groups commonly grown in Kentucky.

Soil Fertility and Inoculation

Failure to adjust soil acidity is often the most limiting fertility practice. Acid soils should be limed to pH 6.4. If soil pH is below 6.2 at planting, molybdenum should be applied. Apply phosphate and potash as needs are indicated by soil test results. For double-cropped beans, phosphate and potash can be applied for both crops when seeding the small grain. Foliar applications may be necessary to correct manganese deficiency problems on some soils with high pH levels in the Western Coal Field region.

No nitrogen is recommended for soybeans. However, if soybeans have not been planted in the field in the past 3 years, seed should be inoculated as close to planting time as possible. See Kentucky Cooperative Extension publication AGR-1 for specific fertility and inoculation recommendations.

Seeding Rates

Soybean seeding rates should be governed by the final stand desired in terms of plants per foot of row. To obtain a given number of plants per foot of row, seed size and percent germination of the seed lot must be considered. Soybean varieties differ considerably in seed size, with the more common varieties ranging from 2,600 to 3,500 seed per pound. After selecting the variety, row spacing, and the number of seeds per foot, the planting rate in pounds per acre can be determined from Table 2. If the field conditions are nearly ideal and the seed is of high quality

2. Soybean Planting Guide

Row spacing (inches)	7	15	20	30	36
Seeding Rate (seeds per ft. of row)	2-3	5-6	6-8	8-10	9-11
Viable seeds per pound	Pounds of Seed per Acre				
2000	80-110	85-105	78-104	70-87	65-80
2200	73-100	77-95	71-95	64-79	59-72
2400	66-93	71-88	65-87	58-73	54-66
2600	61-86	65-81	60-80	54-67	50-61
2800	57-80	61-75	56-75	50-62	46-56
3000	53-75	57-70	52-70	46-58	43-53
3200	50-70	53-66	49-65	44-54	41-49
3400	47-66	50-62	46-61	41-51	38-46
3600	44-62	47-58	44-58	39-48	36-44
3800	42-59	45-55	41-55	37-46	34-42
4000	40-56	43-53	39-52	35-44	33-40

use the lower rate. Adjustments also need to be made for differences in seed lot germination. The seeding rates in Table 2 are recommended for both conventional plantings and double-crop plantings. **When planting with a no-till system, the seeding rates should be increased by 10% to compensate for higher seedling mortality.**

Certified Seed

Always plant high quality seed of the variety you select. Certified seed is a reliable source of good seed. Certified seed has passed rigid field and laboratory standards for genetic identity and purity of a variety. Certified soybean seed also has good germination and is free of noxious weed seed and other crop seed. The Agricultural Experiment Station recommends that Kentucky-certified seed be used whenever possible for growing a commercial crop of soybeans. Information on certified seed growers in Kentucky can be obtained from your local county Extension agent or the Kentucky Seed Improvement Association (P.O. Box 12008, Lexington, KY 40579).

For More Information

The Kentucky Cooperative Extension Service has a series of publications which contain a more detailed discussion of soybean production practices: "Soybean Production in Kentucky"—Part I. Status, Uses, and Planning (AGR 128); Part II. Seed Selection, Variety Selection, and Fertilization (AGR 129); Part III. Planting Practices and Double Cropping (AGR 130); and Part IV. Weed, Disease, and Insect Control (AGR 131).

Growing Conditions

Adequate rainfall over most of Kentucky in 1989 made for excellent soybean growing conditions. All test locations showed high yields except the Glasgow double-crop location where excessive rainfall and poor drainage reduced both plant size and yield.

Special Notes

No data are presented for the 1988 Glasgow or Princeton double-crop tests due to drought damage. Data from Nebo and Wickliffe in 1988 were affected by the soybean cyst nematode. This should be considered in evaluating the 2 and 3 year data from these locations.

Miles Farm Supply variety Isaac was incorrectly listed as a Group IV maturity. Isaac is a Group III maturity.

Average Statewide Performance

The performance data presented in Table 3 have been averaged across all locations. **Performance of a variety across a period of years and at several locations in the state is a good indicator of its production potential.** Varieties that have shown satisfactory yields and lodging resistance in Table 3 can be expected to have satisfactory field performance under similar conditions and locations in Kentucky. If you have soybean cyst nematode problems a resistant variety should be used in your production system in conjunction with a recommended crop rotation program (see Kentucky Cooperative Extension publication PPA-3, "Soybean Cyst Nematode," available at your county Extension office.)

Kentucky State Seed Law

The Kentucky state seed law requires all seed exposed, offered for sale, or sold in Kentucky to be labeled as to kind and variety for each agricultural seed component present in excess of 5% of the whole and the percentage by weight of each component. All soybean seed blends should be labeled as to the percentage composition of each variety that makes up the mixture. No blends were tested in 1989.

Changes In Data Presentation

This year the data are presented differently. In the past, there was one table with one-year, two-year and three-year data for each location; varieties were listed alphabetically. There will now be three separate tables (one-year, two-year and three-year) for each location with varieties within each maturity group ranked by yield. Also, averages of all data within a maturity group will be presented in addition to a grand average over all maturity groups. Data are viewed on an agronomic regional basis rather than strictly a location basis. This will allow us to always present three years of data despite any location moves within a region.

Also, the across years and locations data are combined across all locations to better predict yielding ability. (See *Agronomy Notes* Volume 21, No.3, "Using Performance Test Results in Soybean Variety Selection in Kentucky.")

We have made these changes in format so that the data will be easier to understand and use.

Soybean Cyst Nematode Resistance Data

The importance of resistant varieties has increased as the number of acres affected by the soybean cyst nematode (SCN) has increased. In an effort to address this increasing problem we are including data from tests conducted to evaluate SCN resistant varieties. These tests were conducted at two locations, Fulton County, with light to moderate Race 3 and 4 cyst pressure, and Hopkins County, with heavy Race 3 cyst pressure.

These tests were conducted using the same experimental design as the regular variety test plots except the SCN plots had four replications. Cyst numbers were collected from six 6-inch deep soil probes from each plot. Cysts were then extracted using a sucrose density centrifugation flotation method.

These data are provided in Table 11 to illustrate the necessity of matching the SCN resistance type of the soybean variety with the particular nematode population present for maintaining soybean yield and reducing SCN numbers. Note not only yield but also cyst numbers in these tables.

Oil and Protein Data

Protein and oil concentrations are provided from the five full-season tests for all soybean varieties entered in the Kentucky Soybean Performance Tests. The Federal Grain Inspection Service is offering soybean oil and protein testing as official criteria for grade. At this time the testing is optional. Soybean varieties differ in their protein and oil concentrations, and the protein and oil concentrations are influenced by the production environments. Because soybean is grown primarily

for its oil and protein, these data are provided to indicate differences which exist between varieties produced in Kentucky. The data are reported in Table 12 on a 13 percent moisture basis.

Source of Seed

The seed planted in the 1989 Soybean Performance Tests was acquired from the following sources:

AgriPro, Hwy. 30 East RR2, Ames, IA 50010
- *AP4321*

Asgrow Seed Company, P.O. Box 7570, Des Moines, IA 50322
- *A3935*
- *A4393*
- *A4595*
- *A5403*

Barlow Farm Center, P.O. Box 155, Glendale, KY 42740
- *B412*
- *B405*

Callahan Seeds, 1122 East 169th St., Westfield, IN 46074
- *Callahan 8464*
- *Callahan 7510N*
- *Callahan 9480*
- *Callahan 7390*

Dekalb-Pfizer, 3100 Sycamore Rd., Dekalb, IL 60115
- *Dekalb CX366*
- *Dekalb CX415*
- *Dekalb CX458*

Golden Acres Seed Company, 8888 Parsons Rd., P.O. Box 226, Croton, OH 43013
- *GA8490*

Helena Chemical Company, 5100 Poplar Ave., Suite 3200, Memphis, TN 38137
- *Hyperformer Brand 401*
- *HSC 579*
- *Shenandoah*

Jacob Hartz Seed Company, Inc., P.O. Box 946 North Park Ave., Stuttgart, AR 72160
- *Hartz 5164*
- *Hartz Brand H5240*

Jacques Seed Co., Hwy. 10E, Lincoln, IL 62656
- *Jacques J-442*
- *Jacques J-499*

Kentucky Foundation Seed Project, P.O. Box 11950, Lexington, KY 40579
- *Avery*
- *Douglas*
- *Essex*
- *Fayette*
- *Flyer*
- *Forrest*
- *Hutcheson*
- *Lawrence*
- *Pella 86*
- *Pennyrile*
- *Pershing*
- *Pyramid*
- *Ripley*
- *Spencer*
- *Stafford*
- *TN 5-85*
- *TN 4-86*
- *Union*
- *Vance*
- *Williams 82*

Madison Seed Co., Inc., 13455 State Rt. 38 S.E., London, OH 43140
- *KE 416*
- *KE 518*

Miles Farm Supply, Inc., 2760 Keller Road, Owensboro, KY 42301
- *Isaac*
- *Jacob*

The New Northrup King, R.R. #2, Box 200, Highland, IL 62249
- *Coker 425*
- *Coker 6925*
- *RA-393*
- *S42-50*
- *RA-452*
- *S42-40*

Pioneer Hi-Bred Int., Inc., 1000 W. Jefferson St., Tipton, IN 46072
- *Pioneer Variety 9391*
- *Pioneer Variety 9442*
- *Pioneer Variety 9461*
- *Pioneer Variety 9531*
- *Pioneer Variety 9501*

Ridgway Seed Co., P.O. Box 212, Ridgway, IL 62979
- *Jader 467*
- *Jader 586*

Scott Brand Seeds 709 E. 4th St., P.O. Box 849, New Albany, IN 47150
- *Scott 8045 Brand (CM 455)*
- *Scott 8047 Brand (CM 497)*

Southern States Cooperative, Inc., P.O. Box 26234, Richmond, VA 23260
- *FFR-398*
- *SS-391*
- *SS-443*
- *SS-431*
- *SS-487*
- *FFR-499*
- *FFR-544*
- *SS-516*
- *FFR-561*
- *FFR-565*

3. Summary for all Full-Season Locations

Statewide[f] — Year 1

VARIETY	YIELD BU/AC 1989	LODG -ING 1989	HT. (IN) 1989	MAT. DATE 1989	MAT.[a,b] DATE 1989	APPROX. SEED/LB.
EARLY (GROUPS II AND III)						
A3935	55.3	1.6	35	9/20	+2	3000
PIONEER®BRAND 9391	54.3	2.2	36	9/14	-4	3250
SS-391	53.8	2.1	35	9/19	+1	2500
FFR-398	52.2	1.6	33	9/20	+2	3000
FLYER	52.0	1.7	33	9/19	+1	2900
WILLIAMS 82	50.6	2.1	38	9/18	0	2500
CALLAHAN 7390	50.0	2.0	35	9/17	-1	3500
DEKALB CX366	49.9	1.9	34	9/17	-1	3000
FAYETTE[d]	49.4	2.4	39	9/17	-1	2500
COKER 393	48.3	2.1	34	9/19	+1	3000
S-42-50	47.5	2.1	35	9/22	+4	3000
PELLA 86	44.7	1.5	31	9/11	-6	3000
GROUP III AVERAGE	50.7	2.0	35	9/18		
MID-SEASON (GROUP IV)						
PIONEER®BRAND 9461	58.8	2.0	33	9/23	+5	3600
DEKALB CX458	57.5	1.7	35	9/27	+9	3650
PIONEER®BRAND 9442	56.1	1.7	34	9/21	+3	3400
A4393	54.8	1.9	37	9/23	+5	2900
SS-431	54.7	1.9	38	9/22	+4	2900
PENNYRILE	54.6	1.9	42	9/30	+12	2800
SPENCER	54.1	1.8	36	9/24	+6	2700
A4595	54.0	2.4	37	9/23	+5	2900
JACQUES J-442	53.9	2.3	36	9/24	+6	2800
JACQUES J-499	53.8	2.0	37	10/6	+18	2700
CALLAHAN 9480	53.8	2.4	35	9/25	+7	3000
S-42-40	53.8	1.7	35	9/22	+4	2800
SS-487	53.6	1.7	37	10/1	+13	2800
JACOB	53.4	2.4	38	9/23	+5	3000
DOUGLAS	53.3	2.0	36	9/26	+8	2600
DEKALB CX 415	52.8	1.8	39	9/21	+3	2600
SS-443	52.7	2.2	36	9/20	-2	2900
JADER 467	52.7	2.9	45	9/30	+12	3000
CALLAHAN 8464	52.2	2.1	37	9/23	+5	2600
SCOTT BRAND 8047	52.0	2.9	44	9/28	+10	3500
AGRIPRO AP4321	51.7	1.9	33	9/20	+2	2400
PERSHING	51.3	1.8	30	10/7	+19	3800
KE 416	50.3	1.9	39	9/20	+2	2800
RIPLEY	50.0	1.2	19	9/23	+5	3450
RA-452	50.0	2.0	43	10/11	+23	3200
GA 8490	49.9	2.9	44	9/29	+11	2500
LAWRENCE	49.8	1.6	36	9/17	-1	2600
ISAAC	49.7	1.6	33	9/20	+2	3450
AVERY[d]	49.6	2.8	50	10/6	+18	3100
HYPERFORMER BRAND 401	49.6	2.9	44	9/30	+12	2800
SCOTT 8045 BRAND (CM 455)	49.3	2.2	42	9/24	+6	2800
UNION	49.0	2.3	39	9/18	0	2600
TN 4-86[d]	48.9	2.3	43	10/1	+13	3800
BARLOW 412	48.7	2.5	42	10/2	+14	2700
STAFFORD	47.6	2.4	31	10/6	+18	3300
PYRAMID[d]	46.7	2.8	41	9/26	+8	3300
BARLOW 405	45.6	2.4	40	10/1	+13	3000
GROUP IV AVERAGE	51.9	2.1	38	9/26		
LATE (GROUPS V AND VI)						
PIONEER®BRAND 9501	55.4	2.3	42	10/7	+19	3200
HUTCHESON	54.1	2.4	35	10/13	+25	3000
COKER 425	53.8	2.0	31	10/10	+22	3000
ESSEX	52.8	2.0	31	10/10	+22	3400
PIONEER®BRAND 9531[d]	52.5	2.7	38	10/8	+20	3200
SS-516[c]	50.6	1.6	36	10/8	+20	3000
COKER 6925[c]	50.6	2.3	33	10/9	+21	3000
CALLAHAN 7510N[b]	50.5	2.0	34	10/9	+21	2900
A5403[c]	50.5	1.9	37	10/13	+25	2900
FFR-544	50.1	1.9	38	10/13	+25	3400
FFR-561	49.9	2.0	38	10/15	+27	3400
FFR-499	48.5	2.3	41	10/6	+18	3000
KE 518[c]	48.3	1.3	33	10/11	+23	2800
FFR-565[d]	47.8	2.3	40	10/14	+26	3400
HARTZ 5164[d]	47.6	2.9	43	10/11	+23	2800
TN 5-85[c]	46.9	2.8	39	10/13	+25	3300
JADER 586[b]	45.7	2.9	39	10/7	+19	3200
HARTZ BRAND H5240[b]	44.4	3.5	39	10/13	+25	3200
FORREST[c]	44.4	2.8	38	10/13	+25	3500
VANCE	43.1	1.8	29	10/12	+24	4500
HSC 579	41.1	2.2	39	10/16	+28	3300
SHENANDOAH	41.0	2.2	41	10/16	+28	3200
GROUPS V AND VI AVG	48.6	2.3	37	10/11		
GRAND AVERAGE	50.7	2.1	37	9/29		
LSD (.10)	4.5	0.4	2			

[a] Days earlier (-) or later (+) than Williams 82.

[b] Data based on observations at Lexington, Princeton and Hickman.

[c] Resistant to the soybean cyst nematode (Race 3).

[d] Resistant to the soybean cyst nematode (Race 3 and Race 4).

[e] Plant height.

[f] No 1988 data reported for Glasgow double crop or Princeton double crop due to drought damage. No 1989 data reported for Glasgow due to water damage.

Year 2[a]

VARIETY	YIELD BU/AC 88-89	LODG -ING 88-89	HT.[f] (IN) 88-89	POD HT. 88-89
EARLY (GROUPS II AND III)				
A3935	48.4	1.5	35	6
SS-391	47.4	1.9	36	6
PIONEER®BRAND 9391	47.2	2.1	38	6
FLYER	45.9	1.7	33	6
FFR-398	45.9	1.5	34	7
DEKALB CX366	44.1	1.8	35	6
WILLIAMS 82	44.1	2.0	38	6
COKER 393	43.2	1.8	34	7
FAYETTE	43.0	2.2	39	7
PELLA 86	40.4	1.4	32	6
GROUP III AVERAGE	45.0	1.8	36	6
MID-SEASON (GROUP IV)				
DEKALB CX458	50.2	1.5	37	8
PIONEER®BRAND 9442	49.2	1.7	35	7
SS-487	48.0	1.6	37	8
A4393	47.8	1.8	37	7
SPENCER	47.7	1.5	36	7
S-42-40	47.7	1.6	36	7
JACQUES J-442	47.6	2.2	37	7
PERSHING	47.2	1.8	30	8
PENNYRILE	47.1	1.7	42	10
JACOB	47.1	2.2	39	7
A4595	46.6	2.1	39	8
DOUGLAS	46.5	1.9	38	7
RA-452	46.5	1.9	44	11
STAFFORD	46.3	2.1	33	9
DEKALB CX 415	45.5	1.8	39	6
SS-443	45.5	2.1	36	7
AGRIPRO AP4321	45.2	1.7	35	6
TN 4-86[c]	45.1	2.3	46	8
AVERY[c]	45.0	2.6	51	10
HYPERFORMER BRAND 401	44.8	2.6	44	8
RIPLEY	43.9	1.2	22	5
LAWRENCE	43.7	1.4	37	7
UNION	42.5	2.5	41	7
PYRAMID[c]	42.5	2.6	43	9
BARLOW 412	42.4	2.1	44	9
BARLOW 405	40.5	2.1	42	9
GROUP IV AVERAGE	45.8	1.9	38	8
LATE (GROUPS V AND VI)				
COKER 425	50.8	2.0	32	9
PIONEER®BRAND 9531[c]	48.5	2.6	39	10
ESSEX	48.2	1.9	31	10
HUTCHESON	47.9	2.2	35	10
COKER 6925[b]	47.8	2.1	36	10
FFR-561	46.8	1.9	38	10
TN 5-85[b]	45.5	2.9	42	9
FFR-544	45.3	2.1	41	9
FFR-499	44.5	2.0	41	11
FORREST[b]	43.6	2.9	41	10
HARTZ 5164[c]	42.9	3.1	43	9
FFR-565[c]	42.6	2.8	42	11
VANCE	42.1	1.8	30	7
SHENANDOAH	39.1	2.3	42	10
GROUPS V AND VI AVG	45.4	2.3	38	10
GRAND AVERAGE	45.5	2.0	38	8
LSD (.10)	3.1	0.3	2	2

[a] No data from 1988 Princeton double crop or Glasgow double crop location.
1988 data from Wickliffe and Nebo affected by soybean cyst nematode.

[b] Resistant to the soybean cyst nematode (Race 3).

[c] Resistant to the soybean cyst nematode (Race 3 and Race 4).

[d] Plant height.

Year 3[a]

VARIETY	YIELD BU/AC 87-89	LODG -ING 87-89	HT.[f] (IN) 87-89	POD HT. 87-89
EARLY (GROUPS II AND III)				
A3935	47.6	1.5	36	6
SS-391	46.4	1.8	36	6
FFR-398	45.4	1.5	35	7
WILLIAMS 82	43.6	2.0	38	6
DEKALB CX366	43.5	1.8	36	6
COKER 393	43.0	1.9	35	6
FAYETTE[c]	42.1	2.1	40	6
PELLA 86	41.8	1.4	33	6
GROUP III AVERAGE	44.2	1.8	36	6
MID-SEASON (GROUP IV)				
PIONEER®BRAND 9442	47.0	1.6	35	7
S-42-40	46.5	1.6	36	7
A4393	46.1	1.8	38	7
SPENCER	45.8	1.5	37	7
A4595	45.8	2.2	40	7
AGRIPRO AP4321	44.8	1.6	35	6
PENNYRILE	44.8	1.6	42	9
SS-487	44.6	1.6	38	8
STAFFORD	44.5	2.1	34	9
DOUGLAS	44.4	1.9	38	7
PERSHING	44.1	1.5	31	8
DEKALB CX 415	44.1	1.9	39	6
RIPLEY	44.0	1.2	22	5
LAWRENCE	43.8	1.4	37	7
SS-443	43.7	2.2	36	7
RA-452	43.6	2.0	44	11
HYPERFORMER BRAND 401	42.5	2.7	45	7
AVERY[c]	42.0	2.5	49	10
UNION	41.2	2.7	42	7
PYRAMID[c]	40.9	2.6	43	8
GROUP IV AVERAGE	44.2	1.9	38	8
LATE (GROUPS V AND VI)				
COKER 425	47.2	2.0	32	9
ESSEX	45.9	1.9	32	9
PIONEER®BRAND 9531[c]	44.8	2.4	39	10
FFR-561	44.0	1.9	39	10
TN 5-85[b]	42.5	2.9	43	10
FFR-499	41.3	2.0	41	10
FFR-565[c]	41.1	2.7	41	10
FORREST[b]	40.5	2.7	40	9
VANCE	39.8	1.7	30	7
HARTZ 5164[c]	39.7	3.2	42	10
SHENANDOAH	37.7	2.2	41	10
GROUPS V AND VI AVG	42.2	2.3	38	10
GRAND AVERAGE	43.6	2.0	38	8
LSD (.10)	2.5	0.2	1	1

[a] No data from 1988 Princeton double crop or Glasgow double crop location.
1988 data from Nebo and Wickliffe affected by soybean cyst nematode.

[b] Resistant to the soybean cyst nematode (Race 3).

[c] Resistant to the soybean cyst nematode (Race 3 and Race 4).

[d] Plant height.

4. Morganfield — Year 1

VARIETY	YIELD BU/AC 1989	LODG -ING 1989	HT[a] (IN) 1989	POD HT. 1989
EARLY (GROUPS II AND III)				
A3935	63.6	3.0	41	8
SS-391	62.9	3.7	43	6
FFR-398	61.7	3.2	43	8
WILLIAMS 82	57.0	3.8	46	7
COKER 393	56.0	4.2	43	8
PIONEER® BRAND 9391	56.0	4.3	43	6
FLYER	54.8	3.5	40	6
FAYETTE[c]	53.6	3.8	44	6
DEKALB CX366	53.3	3.5	42	6
CALLAHAN 7390	49.3	4.2	41	7
S-42-50	47.6	4.0	44	8
PELLA 86	42.7	2.8	36	6
GROUP III AVERAGE	54.9	3.7	42	7
MID-SEASON (GROUP IV)				
PIONEER® BRAND 9461	64.2	4.7	41	8
S-42-40	62.0	3.0	43	9
PIONEER® BRAND 9442	61.8	3.0	44	9
AGRIPRO AP4321	61.1	3.8	42	7
A4393	61.0	3.5	45	7
CALLAHAN 9460	60.1	4.5	41	7
DEKALB CX458	59.9	2.5	43	10
SPENCER	58.3	4.0	43	8
JACOB	57.9	4.2	45	7
CALLAHAN 8464	57.7	4.0	44	8
DEKALB CX 415	57.4	3.2	45	8
SS-443	57.4	4.2	42	7
A4595	57.1	3.7	43	9
LAWRENCE	56.8	3.0	47	9
DOUGLAS	56.7	3.7	43	8
SS-487	56.6	3.0	45	9
TN 4-86[c]	56.6	4.0	50	10
RA-452	55.7	3.5	52	12
RIPLEY	55.6	1.5	22	5
PERSHING	55.4	3.0	38	7
KE 416	55.3	3.7	48	9
JADER 467	53.6	4.9	50	11
SCOTT BRAND 8047	53.6	4.7	49	7
JACQUES J-442	53.1	3.8	41	7
SS-431	52.7	3.0	45	9
JACQUES J-499	52.6	3.5	47	9
SCOTT 8045 BRAND (CM 455)	52.4	4.0	49	9
PYRAMID[c]	52.2	4.5	50	11
UNION	51.7	4.3	48	8
PENNYRILE	51.6	3.2	49	12
HYPERFORMER BRAND 401	50.9	4.2	50	10
ISAAC	50.8	2.5	38	9
AVERY[c]	50.2	4.3	57	10
GA 8490	47.7	4.7	49	9
BARLOW 405	46.3	4.2	44	9
BARLOW 412	45.8	4.3	51	10
STAFFORD	44.8	4.0	37	10
GROUP IV AVERAGE	55.0	3.7	45	9
LATE (GROUPS V AND VI)				
CALLAHAN 75108[b]	60.5	2.8	38	10
SS-514[c]	60.1	3.2	45	9
ESSEX	59.5	3.2	39	10
FORREST[b]	58.1	4.2	43	9
COKER 6925[b]	57.9	3.3	38	11
FFR-544	57.7	3.0	45	10
PIONEER® BRAND 9531[c]	56.8	4.3	47	11
FFR-499	56.0	3.8	49	11
HARTZ 5164[c]	55.9	4.2	47	11
HUTCHESON	55.7	3.3	40	9
FFR-565[c]	53.1	3.8	43	12
COKER 425	53.0	3.2	38	8
KE 518[c]	52.4	2.2	41	11
FFR-561	50.2	3.0	38	9
TN 5-85[b]	49.7	3.8	41	11
PIONEER® BRAND 9501	49.6	3.8	49	12
HARTZ BRAND H5240[b]	49.4	4.7	41	9
JADER 586[b]	48.7	4.2	40	10
A5403[c]	47.1	2.8	42	11
HSC 579	45.5	3.8	46	12
VANCE	44.6	3.3	37	9
SHENANDOAH	43.0	3.2	42	11
GROUPS V AND VI AVG	52.9	3.5	42	10
GRAND AVERAGE	54.3	3.6	44	9
LSD (.10)	3.5	0.5	3	2

[a] Plant height.

[b] Resistant to the soybean cyst nematode (Race 3).

[c] Resistant to the soybean cyst nematode (Race 3 and Race 4).

Morganfield — Year 2

VARIETY	YIELD BU/AC 88-89	LODG -ING 88-89	HT.[a] (IN) 88-89	POD HT. 88-89
EARLY (GROUPS II AND III)				
A3935	60.9	2.6	44	8
FFR-398	59.1	2.5	45	9
SS-391	58.1	3.4	46	8
PIONEER® BRAND 9391	56.7	3.9	47	8
WILLIAMS 82	55.3	3.7	49	7
COKER 393	54.4	3.2	45	8
FLYER	54.2	3.2	42	8
DEKALB CX366	53.8	3.1	44	7
FAYETTE [c]	51.4	3.3	47	8
PELLA 86	46.2	2.2	39	7
GROUP III AVERAGE	55.0	3.1	45	8
MID-SEASON (GROUP IV)				
S-42-40	59.4	3.0	46	8
A4393	58.7	3.1	48	9
PIONEER® BRAND 9442	58.5	2.7	45	8
SPENCER	58.3	2.9	47	9
A4595	57.9	3.4	48	9
AGRIPRO AP4321	57.7	3.0	46	8
DEKALB CX458	57.7	2.2	44	11
JACOB	57.1	3.9	49	8
SS-487	56.4	2.5	47	9
LAWRENCE	55.4	2.3	49	9
DEKALB CX 415	55.0	3.2	47	7
DOUGLAS	54.6	3.4	48	8
PERSHING	54.4	2.7	38	8
RIPLEY	54.4	1.7	26	6
JACQUES J-442	54.3	3.7	46	8
RA-452	53.3	3.1	54	12
UNION	53.2	4.3	51	9
HYPERFORMER BRAND 401	52.6	4.3	53	10
SS-443	51.6	4.2	43	8
TN 4-86[c]	51.0	3.8	55	11
PYRAMID[c]	50.8	4.5	51	11
PENNYRILE	49.7	2.9	52	12
STAFFORD	49.2	3.9	40	10
AVERY[c]	47.9	4.2	59	10
BARLOW 405	44.4	4.1	50	9
BARLOW 412	44.1	3.9	53	9
GROUP IV AVERAGE	53.7	3.3	48	9
LATE (GROUPS V AND VI)				
ESSEX	57.6	3.3	40	11
COKER 6925 [b]	56.7	3.2	39	11
HUTCHESON	56.2	3.4	42	10
FORREST [b]	55.5	4.2	44	10
FFR-544	54.5	3.4	48	11
COKER 425	54.4	3.2	40	9
PIONEER® BRAND 9531[c]	54.4	4.3	47	11
FFR-561	54.0	3.0	41	9
HARTZ 5164[c]	53.4	4.6	49	11
TN 5-85[b]	52.4	4.2	46	11
FFR-499	51.9	3.5	52	12
FFR-565[c]	50.2	4.2	45	12
VANCE	48.2	3.2	36	8
SHENANDOAH	47.8	3.1	45	11
GROUPS V AND VI AVG	53.4	3.6	44	11
GRAND AVERAGE	53.9	3.4	46	9
LSD (.10)	4.5	0.6	3	2

[a] Plant height.

[b] Resistant to the soybean cyst nematode (Race 3).

[c] Resistant to the soybean cyst nematode (Race 3 and Race 4).

Morganfield/Owensboro — Year 3

VARIETY	YIELD BU/AC 87-89	LODG -ING 87-89	HT[a] (IN) 87-89	POD HT. 87-89
EARLY (GROUPS II AND III)				
A3935	63.1	2.4	42	7
FFR-398	60.3	2.3	42	8
SS-391	59.4	3.1	44	7
COKER 393	57.2	2.9	43	8
DEKALB CX366	57.0	2.8	43	7
WILLIAMS 82	57.0	3.4	46	7
FAYETTE [c]	54.3	2.9	45	7
PELLA 86	51.6	2.1	38	6
GROUP III AVERAGE	57.5	2.7	43	7
MID-SEASON (GROUP IV)				
S-42-40	61.3	2.7	43	8
PIONEER® BRAND 9442	60.9	2.5	43	8
AGRIPRO AP4321	60.7	2.8	43	7
A4393	59.8	3.1	46	8
A4595	59.7	3.4	46	8
SPENCER	59.4	2.6	45	8
LAWRENCE	58.1	2.3	47	9
SS-487	57.8	2.2	46	9
DOUGLAS	57.5	3.1	44	8
DEKALB CX 415	56.9	3.0	46	7
PERSHING	56.0	2.4	36	8
PENNYRILE	54.8	2.5	50	11
HYPERFORMER BRAND 401	54.5	4.3	53	9
RIPLEY	53.9	1.6	25	6
RA-452	53.9	3.1	53	12
UNION	53.7	4.5	49	9
STAFFORD	52.8	3.3	38	10
PYRAMID [c]	52.7	4.3	51	10
SS-443	52.6	3.9	43	8
AVERY [c]	47.3	3.3	55	10
GROUP IV AVERAGE	56.2	3.0	45	9
LATE (GROUPS V AND VI)				
ESSEX	59.1	3.0	38	10
COKER 425	56.8	2.8	37	8
FORREST [b]	56.6	3.8	42	9
FFR-561	55.4	2.7	41	9
PIONEER® BRAND 9531[c]	54.6	3.8	44	10
HARTZ 5164[c]	54.3	4.6	45	11
TN 5-85 [b]	54.1	3.8	46	10
FFR-565 [c]	52.5	3.9	43	11
FFR-499	51.8	3.2	51	12
VANCE	50.9	2.6	35	8
SHENANDOAH	49.8	2.9	42	11
GROUPS V AND VI AVG	54.2	3.4	42	10
GRAND AVERAGE	55.9	3.1	44	9
LSD (.10)	3.6	0.5	2	2

[a] Plant height.

[b] Resistant to the soybean cyst nematode (Race 3).

[c] Resistant to the soybean cyst nematode (Race 3 and Race 4).

5. Nebo — Year 1

VARIETY	YIELD BU/AC 1989	LODG -ING 1989	HT.[a] (IN) 1989	POD HT. 1989
EARLY (GROUPS II AND III)				
COKER 393	60.3	2.2	41	6
SS-391	56.0	2.8	38	6
PIONEER® BRAND 9391	55.7	2.8	40	7
A3935	55.3	1.5	42	6
CALLAHAN 7390	55.2	2.3	45	6
FFR-398	53.5	1.5	37	6
DEKALB CX366	53.1	1.5	39	7
FLYER	51.2	1.5	36	6
FAYETTE[c]	49.4	2.8	47	7
PELLA 86	46.8	1.2	35	5
WILLIAMS 82	45.2	1.7	35	6
S-42-50	43.9	2.3	40	7
GROUP III AVERAGE	52.1	2.0	40	6
MID-SEASON (GROUP IV)				
PIONEER® BRAND 9461	63.2	1.8	37	6
DEKALB CX458	63.1	2.3	43	10
SPENCER	63.1	1.5	40	7
S-42-40	62.1	1.5	39	5
RIPLEY	61.6	1.5	25	6
SS-431	61.5	2.2	42	7
UNION	57.9	3.0	42	5
SS-443	57.7	2.5	40	8
LAWRENCE	57.2	1.5	44	5
ISAAC	57.2	2.0	41	6
AGRIPRO AP4321	56.7	2.2	41	6
JACQUES J-499	56.0	2.7	43	10
JACOB	56.0	3.0	44	6
A4393	55.8	2.3	41	8
JACQUES J-442	55.3	2.7	40	7
PENNYRILE	55.1	2.0	45	9
PIONEER® BRAND 9442	54.9	1.7	37	8
A4595	53.8	3.7	42	7
CALLAHAN 9480	53.7	3.5	43	6
DOUGLAS	52.8	2.8	40	7
SS-487	51.0	2.0	42	11
GA 8490	50.6	4.5	50	8
JADER 667	50.2	4.2	47	7
KE 416	49.6	1.8	40	7
PERSHING	49.3	2.2	32	9
AVERY[c]	48.9	4.0	53	11
DEKALB CX 415	48.9	1.8	42	6
STAFFORD	48.5	3.0	35	9
PYRAMID[c]	48.1	4.0	46	8
TN 4-86[c]	47.5	2.8	50	9
RA-452	46.9	2.3	47	13
SCOTT BRAND 8047	46.6	4.8	52	10
BARLOW 412	46.0	3.8	47	9
SCOTT 8045 BRAND (CM 455)	44.6	2.8	44	7
CALLAHAN 8464	43.5	1.8	37	7
HYPERFORMER BRAND 401	42.4	4.7	53	9
BARLOW 405	40.4	3.3	49	11
GROUP IV AVERAGE	52.9	2.7	43	8
LATE (GROUPS V AND VI)				
KE 518[c]	52.3	1.0	39	9
PIONEER® BRAND 9531[c]	49.9	3.7	40	10
COKER 6925[b]	49.2	3.7	35	10
FFR-565[c]	49.0	3.0	46	12
A5403[c]	48.9	2.3	39	11
HUTCHESON	48.1	3.8	37	10
FFR-561	48.0	2.5	42	12
FFR-499	46.8	3.5	44	12
SS-514[c]	46.8	2.0	39	11
PIONEER® BRAND 9501	46.5	3.2	44	10
TN 5-85[b]	46.4	4.0	49	11
COKER 425	46.1	3.0	32	10
CALLAHAN 7510N[b]	46.0	3.0	40	10
FORREST[b]	45.2	4.0	41	10
ESSEX	44.4	2.8	33	10
FFR-544	42.2	1.7	40	9
HARTZ BRAND H5240[b]	41.3	4.5	43	11
VANCE	40.5	2.0	32	9
HARTZ 5164[c]	39.6	4.3	47	10
JADER 586[b]	38.8	3.7	44	10
SHENANDOAH	37.7	2.5	44	11
NSC 579	35.6	2.5	44	10
GROUPS V AND VI AVG	45.0	3.0	41	10
GRAND AVERAGE	50.3	2.7	41	8
LSD (.10)	5.4	0.7	4	2

[a]Plant height.

[b]Resistant to the soybean cyst nematode (Race 3).

[c]Resistant to the soybean cyst nematode (Race 3 and Race 4).

Nebo[d] — Year 2

VARIETY	YIELD BU/AC 88-89	LODG -ING 88-89	HT.[a] (IN) 88-89	POD HT. 88-89
EARLY (GROUPS II AND III)				
SS-391	46.7	2.3	36	7
COKER 393	46.2	1.7	37	7
FLYER	43.4	1.5	34	7
FAYETTE[c]	42.9	2.7	41	8
FFR-398	42.4	1.4	34	8
DEKALB CX366	40.6	1.7	35	7
A3935	40.2	1.5	36	7
PIONEER® BRAND 9391	39.7	2.4	36	8
PELLA 86	38.9	1.2	32	7
WILLIAMS 82	36.1	1.7	34	7
GROUP III AVERAGE	41.7	1.8	36	8
MID-SEASON (GROUP IV)				
DEKALB CX458	49.5	1.9	39	10
RIPLEY	46.5	1.4	24	6
SPENCER	46.4	1.3	35	8
S-42-40	45.2	1.4	35	8
SS-487	45.1	1.7	38	11
JACOB	44.5	2.6	41	8
SS-443	44.2	2.1	35	10
TN 4-86[c]	44.0	2.6	48	9
A4393	43.8	2.0	36	9
STAFFORD	43.6	2.4	35	10
AVERY[c]	43.6	3.3	52	11
JACQUES J-442	43.1	2.4	38	9
PYRAMID[c]	42.7	3.7	45	10
UNION	42.6	2.7	39	8
AGRIPRO AP4321	41.9	1.8	34	7
PENNYRILE	41.6	1.6	40	11
PIONEER® BRAND 9442	40.8	1.6	34	10
PERSHING	40.8	1.8	31	10
DOUGLAS	39.5	2.2	37	9
RA-452	39.2	1.9	44	13
LAWRENCE	39.0	1.2	37	7
BARLOW 412	38.0	2.7	44	10
A4595	37.9	2.7	38	9
HYPERFORMER BRAND 401	37.7	3.5	47	9
DEKALB CX 415	37.0	2.1	38	8
BARLOW 405	36.5	2.7	44	11
GROUP IV AVERAGE	42.1	2.2	39	9
LATE (GROUPS V AND VI)				
COKER 6925[b]	47.5	2.9	36	10
PIONEER® BRAND 9531[c]	46.4	3.2	39	11
COKER 425	45.5	2.4	32	12
FORREST[b]	44.3	3.6	43	10
TN 5-85[b]	44.1	3.7	47	11
FFR-561	44.0	2.3	40	12
HUTCHESON	43.5	2.9	37	12
FFR-565[c]	43.4	3.4	46	11
FFR-544	41.7	1.7	43	9
ESSEX	41.2	2.3	33	12
VANCE	38.7	2.0	32	9
HARTZ 5164[c]	38.4	3.6	45	9
FFR-499	36.4	2.5	39	12
SHENANDOAH	35.1	2.7	44	12
GROUPS V AND VI AVG	42.1	2.8	40	11
GRAND AVERAGE	42.0	2.3	38	9
LSD (.10)	6.6	0.6	4	3

[a]Plant height.

[b]Resistant to the soybean cyst nematode (Race 3).

[c]Resistant to the soybean cyst nematode (Race 3 and Race 4).

[d]1988 Nebo yields affected by soybean cyst nematode.

Nebo[d] — Year 3

VARIETY	YIELD BU/AC 87-89	LODG -ING 87-89	HT.[a] (IN) 87-89	POD HT. 87-89
EARLY (GROUPS II AND III)				
SS-391	45.7	2.2	38	7
COKER 393	43.1	1.9	38	8
FAYETTE[c]	42.8	2.6	43	8
FFR-398	42.6	1.4	36	8
PELLA 86	40.9	1.4	34	7
A3935	39.5	1.5	36	7
DEKALB CX366	39.2	1.8	36	7
WILLIAMS 82	38.8	1.9	36	7
GROUP III AVERAGE	41.6	1.8	37	7
MID-SEASON (GROUP IV)				
RIPLEY	46.6	1.3	24	6
SS-443	44.6	2.4	35	9
SPENCER	43.8	1.3	37	8
STAFFORD	43.7	2.3	36	10
PYRAMID[c]	43.0	3.4	46	10
AGRIPRO AP4321	42.7	1.7	36	7
AVERY[c]	42.6	3.1	52	12
A4595	42.1	2.6	40	9
S-42-40	41.6	1.4	36	8
RA-452	41.1	1.9	45	13
PENNYRILE	40.9	1.7	43	12
UNION	40.2	2.8	41	7
LAWRENCE	40.1	1.2	37	8
A4393	40.1	2.1	38	9
PIONEER® BRAND 9442	39.0	1.6	35	9
DOUGLAS	38.4	2.0	38	9
PERSHING	38.3	1.6	31	10
SS-487	38.2	1.4	38	11
DEKALB CX 415	37.6	2.3	39	7
HYPERFORMER BRAND 401	35.2	3.2	48	9
GROUP IV AVERAGE	41.0	2.1	39	9
LATE (GROUPS V AND VI)				
COKER 425	46.6	2.2	32	11
TN 5-85[b]	45.7	3.4	48	12
PIONEER® BRAND 9531[c]	45.1	2.6	39	11
ESSEX	43.5	2.1	34	11
FFR-565[c]	43.5	2.9	45	12
FORREST[b]	42.5	3.3	44	10
FFR-561	42.5	2.2	41	12
HARTZ 5164[c]	40.8	3.3	44	10
VANCE	38.2	1.8	32	9
FFR-499	35.9	2.2	40	12
SHENANDOAH	34.7	2.4	42	12
GROUPS V AND VI AVG	41.7	2.6	40	11
GRAND AVERAGE	41.3	2.2	39	9
LSD (.10)	6.8	0.5	7	2

[a]Plant height.

[b]Resistant to the soybean cyst nematode (Race 3).

[c]Resistant to the soybean cyst nematode (Race 3 and Race 4).

[d]1988 Nebo yields affected by soybean cyst nematode.

6. Princeton — Year 1

VARIETY	YIELD BU/AC 1989	LODG -ING 1989	HT[a] (IN) 1989	MAT. DATE 1989	POD HT. 1989
EARLY (GROUPS II AND III)					
PIONEER® BRAND 9391	57.9	1.0	36	9/23	4
A3935	56.3	1.0	31	9/28	4
SS-391	54.8	1.0	31	9/25	4
FLYER	53.4	1.0	31	9/30	3
S-42-50	50.8	1.0	35	10/2	4
DEKALB CX366	50.0	1.0	30	9/29	4
FFR-398	50.0	1.0	29	9/27	5
WILLIAMS 82	48.9	1.0	34	9/24	4
COKER 393	46.7	1.0	30	9/25	3
FAYETTE[c]	44.4	1.7	36	9/24	4
CALLAHAN 7390	44.1	1.0	29	9/27	3
PELLA 86	43.8	1.0	30	9/25	4
GROUP III AVERAGE	50.1	1.1	32	9/27	4
MID-SEASON (GROUP IV)					
PIONEER® BRAND 9442	58.3	1.0	31	9/28	4
DEKALB CX458	58.1	1.0	30	10/10	4
SS-487	58.0	1.0	33	10/7	4
CALLAHAN 8464	57.8	1.0	35	9/29	4
CALLAHAN 9480	57.4	1.0	32	10/3	4
A4393	57.1	1.0	36	9/28	4
PENNYRILE	56.8	1.0	37	10/5	6
SCOTT BRAND 8047	56.3	1.3	38	10/3	5
JADER 467	56.1	1.3	41	10/9	4
JACQUES J-499	55.5	1.0	33	10/11	4
HYPERFORMER BRAND 401	54.6	1.3	39	10/6	4
GA 8490	54.3	1.7	42	10/4	4
AVERY[c]	54.3	1.7	46	10/6	6
PIONEER® BRAND 9461	54.0	1.0	28	9/28	3
A4595	53.5	1.0	35	10/1	4
RA-452	53.0	1.0	38	10/5	5
PERSHING	53.0	1.0	28	10/3	6
DEKALB CX 415	52.0	1.0	35	9/26	3
JACOB	52.0	1.3	37	9/29	4
STAFFORD	51.7	1.0	30	10/11	6
DOUGLAS	51.6	1.0	32	10/4	4
JACQUES J-442	51.3	1.0	32	10/2	4
RIPLEY	51.1	1.0	16	10/5	3
SCOTT 8045 BRAND (CM 455)	50.8	1.0	39	9/30	4
BARLOW 412	50.6	1.0	37	10/7	5
KE 416	50.4	1.0	37	9/27	4
S-42-40	49.9	1.0	30	10/1	4
ISAAC	49.5	1.0	31	9/30	5
SS-443	49.4	1.0	35	9/26	4
SPENCER	49.3	1.0	31	10/4	4
UNION	49.2	1.0	37	9/25	4
AGRIPRO AP4321	49.0	1.0	29	9/27	3
SS-431	48.2	1.0	36	9/25	5
TN 4-86[c]	48.0	1.0	39	10/1	5
PYRAMID[c]	46.5	1.3	38	9/30	5
BARLOW 405	46.4	1.0	36	10/6	5
LAWRENCE	45.8	1.0	28	9/24	4
GROUP IV AVERAGE	52.5	1.1	34	10/2	4
LATE (GROUPS V AND VI)					
PIONEER® BRAND 9501	58.5	1.0	36	10/9	5
COKER 425	58.2	1.0	28	10/13	7
FFR-561	57.8	1.0	37	10/20	6
ESSEX	55.8	1.0	27	10/17	6
HUTCHESON	55.8	1.3	32	10/17	5
COKER 6925[b]	55.3	1.0	33	10/10	6
JADER 586[b]	55.1	2.0	35	10/12	5
TN 5-85[b]	54.3	2.3	39	10/19	6
HARTZ 5164[c]	54.2	2.3	39	10/18	5
KE 518[c]	53.6	1.0	34	10/16	7
A5403[c]	53.2	1.0	32	10/14	7
PIONEER® BRAND 9531[c]	53.2	1.3	32	10/9	5
CALLAHAN 7510N[b]	52.4	1.0	30	10/13	6
FFR-544	50.5	1.3	35	10/17	5
SS-516[c]	50.4	1.0	31	10/11	6
FORREST[b]	49.9	1.3	36	10/17	5
FFR-565[c]	48.3	1.3	36	10/20	7
VANCE	48.0	1.0	28	10/15	5
FFR-499	46.6	1.0	35	10/8	6
SHENANDOAH	46.1	1.3	40	10/20	6
HARTZ BRAND H5240[b]	43.8	3.0	36	10/17	7
HSC 579	42.5	1.0	36	10/19	6
GROUPS V AND VI AVG	52.0	1.3	34	10/15	6
GRAND AVERAGE	51.9	1.2	34	10/3	5
LSD (.10)	5.3	0.4	3		1

[a]Plant height.

[b]Resistant to the soybean cyst nematode (Race 3).

[c]Resistant to the soybean cyst nematode (Race 3 and Race 4).

Year 2

VARIETY	YIELD BU/AC 88-89	LODG -ING 88-89	HT[a] (IN) 88-89	POD HT. 88-89
EARLY (GROUPS II AND III)				
A3935	57.9	1.0	37	4
PIONEER® BRAND 9391	54.6	1.2	38	4
SS-391	53.8	1.0	36	4
FLYER	52.6	1.0	33	3
DEKALB CX366	50.4	1.2	34	4
FFR-398	48.7	1.0	34	6
COKER 393	48.3	1.0	34	4
WILLIAMS 82	47.3	1.0	39	4
PELLA 86	44.5	1.0	33	5
FAYETTE[c]	41.8	1.5	39	4
GROUP III AVERAGE	50.0	1.1	36	4
MID-SEASON (GROUP IV)				
PIONEER® BRAND 9442	60.0	1.5	35	5
A4393	55.7	1.2	39	4
DEKALB CX458	55.1	1.0	36	5
PENNYRILE	54.1	1.0	42	7
PERSHING	53.7	1.0	30	5
DEKALB CX 415	53.3	1.2	40	4
SPENCER	53.2	1.0	36	5
S-42-40	52.3	1.0	36	6
STAFFORD	52.2	1.0	32	6
SS-487	52.1	1.0	36	5
RA-452	51.9	1.3	43	6
SS-443	51.5	1.5	38	5
JACQUES J-442	51.1	1.2	36	4
A4595	50.9	1.2	40	5
DOUGLAS	50.9	1.2	38	5
AGRIPRO AP4321	50.4	1.0	35	4
JACOB	49.9	1.2	38	4
HYPERFORMER BRAND 401	49.8	1.7	44	4
LAWRENCE	48.5	1.0	37	5
RIPLEY	47.5	1.0	18	3
TN 4-86[c]	47.3	1.7	45	5
UNION	46.8	1.8	42	4
BARLOW 412	46.7	1.0	41	6
AVERY[c]	45.9	1.5	48	7
PYRAMID[c]	44.8	1.5	41	6
BARLOW 405	40.0	1.0	41	6
GROUP IV AVERAGE	50.6	1.2	38	5
LATE (GROUPS V AND VI)				
COKER 425	55.8	1.7	31	7
ESSEX	52.4	1.0	30	6
TN 5-85[b]	52.2	2.3	43	6
PIONEER® BRAND 9531[c]	52.1	1.5	37	6
FFR-561	51.5	1.2	38	6
HUTCHESON	51.4	1.3	34	6
COKER 6925[b]	50.6	1.2	35	6
FFR-544	49.7	1.8	38	6
HARTZ 5164[c]	49.6	3.0	42	6
FORREST[b]	49.3	2.2	42	6
VANCE	48.7	1.0	30	5
FFR-499	46.2	1.2	41	7
SHENANDOAH	43.7	1.7	42	7
FFR-565[c]	43.1	2.3	42	9
GROUPS V AND VI AVG	49.7	1.7	37	6
GRAND AVERAGE	50.2	1.3	37	5
LSD (.10)	4.9	0.5	3	1

[a]Plant height.

[b]Resistant to the soybean cyst nematode (Race 3).

[c]Resistant to the soybean cyst nematode (Race 3 and Race 4).

Year 3

VARIETY	YIELD BU/AC 87-89	LODG -ING 87-89	HT[a] (IN) 87-89	POD HT. 87-89
EARLY (GROUPS II AND III)				
A3935	59.0	1.1	38	4
SS-391	55.6	1.3	38	5
DEKALB CX366	52.5	1.6	36	4
FFR-398	50.1	1.1	36	6
COKER 393	49.4	1.6	36	4
WILLIAMS 82	49.3	1.3	39	5
PELLA 86	47.7	1.3	35	5
FAYETTE[c]	43.9	1.9	40	5
GROUP III AVERAGE	50.9	1.4	37	5
MID-SEASON (GROUP IV)				
PIONEER® BRAND 9442	58.0	1.3	35	5
A4393	55.5	1.3	40	5
S-42-40	54.5	1.6	38	6
STAFFORD	54.2	1.6	33	6
SS-487	53.5	1.4	39	6
DOUGLAS	52.7	1.8	39	6
DEKALB CX 415	52.6	1.7	41	5
A4595	52.6	1.8	41	5
SPENCER	52.4	1.1	38	6
PERSHING	51.5	1.0	31	5
AGRIPRO AP4321	51.3	1.1	37	4
RIPLEY	51.3	1.0	19	4
PENNYRILE	51.0	1.1	42	7
LAWRENCE	51.0	1.3	39	5
HYPERFORMER BRAND 401	50.9	2.4	44	5
SS-443	50.6	2.0	38	5
RA-452	50.2	1.9	44	6
UNION	48.5	2.4	44	5
AVERY[c]	46.6	2.4	47	7
PYRAMID[c]	43.8	1.6	42	6
GROUP IV AVERAGE	51.6	1.6	39	5
LATE (GROUPS V AND VI)				
COKER 425	54.0	2.0	31	7
FFR-561	51.9	1.6	38	6
PIONEER® BRAND 9531[c]	51.8	2.3	38	6
ESSEX	51.8	1.6	30	6
TN 5-85[b]	49.7	3.0	42	7
FFR-499	48.9	2.0	42	7
VANCE	48.6	1.3	31	5
FORREST[b]	47.9	2.6	40	6
HARTZ 5164[c]	46.6	3.6	40	7
FFR-565[c]	46.0	2.7	39	7
SHENANDOAH	44.1	2.1	41	6
GROUPS V AND VI AVG	49.2	2.2	37	6
GRAND AVERAGE	50.8	1.7	38	6
LSD (.10)	4.4	0.5	3	1

[a]Plant height.

[b]Resistant to the soybean cyst nematode (Race 3).

[c]Resistant to the soybean cyst nematode (Race 3 and Race 4).

7. Hickman — Year 1

VARIETY	YIELD BU/AC 1989	LODG -ING 1989	HT[1] (IN) 1989	MAT. DATE 1989
EARLY (GROUPS II AND III)				
PIONEER®BRAND 9391	50.5	1.0	31	9/8
WILLIAMS 82	49.4	1.0	35	9/12
A3935	48.7	1.0	29	9/10
FAYETTE[c]	47.8	1.0	31	9/9
DEKALB CX366	46.0	1.0	26	9/6
S-42-50	44.5	1.0	26	9/12
CALLAHAN 7390	44.3	1.0	26	9/7
FLYER	43.8	1.0	24	9/10
PELLA 86	43.6	1.0	25	9/2
FFR-398	41.6	1.0	26	9/13
SS-391	38.9	1.0	26	9/12
COKER 393	30.8	1.0	24	9/11
GROUP III AVERAGE	44.1	1.0	27	9/8
MID-SEASON (GROUP IV)				
SS-431	54.0	1.0	30	9/13
JADER 467	53.8	1.3	40	9/24
PENNYRILE	53.2	1.0	36	9/25
AVERY[c]	52.7	1.0	46	10/3
PIONEER®BRAND 9461	51.8	1.0	26	9/15
DOUGLAS	51.6	1.0	32	9/19
SS-443	50.7	1.0	31	9/14
RA-452	50.5	1.0	37	10/8
PERSHING	50.5	1.0	22	10/5
HYPERFORMER BRAND 401	50.1	1.0	36	9/25
SCOTT BRAND 8047	50.0	1.0	38	9/22
STAFFORD	49.7	1.0	20	10/2
SS-487	49.4	1.0	30	9/25
JACQUES J-442	49.3	1.0	27	9/14
PIONEER®BRAND 9442	49.1	1.0	25	9/15
BARLOW 412	49.0	1.0	31	9/24
DEKALB CX458	49.0	1.0	27	9/15
BARLOW 405	48.9	1.0	32	9/25
DEKALB CX 415	48.4	1.0	31	9/12
A4393	48.0	1.0	30	9/19
JACQUES J-499	47.5	1.0	25	17/2
A4595	47.2	1.0	31	9/13
CALLAHAN 9480	47.0	1.0	29	9/20
JACOB	46.9	1.0	27	9/15
TN 4-86[c]	46.6	1.0	35	9/27
CALLAHAN 8464	45.9	1.0	30	9/17
GA 8490	44.5	1.0	34	9/23
SCOTT 8045 BRAND (CM 455)	43.7	1.0	33	9/18
KE 416	41.1	1.0	31	9/12
PYRAMID[c]	41.1	1.0	26	9/19
SPENCER	40.3	1.0	28	9/13
UNION	39.4	1.0	34	9/11
LAWRENCE	36.6	1.0	27	9/8
AGRIPRO AP4321	36.4	1.0	20	9/12
ISAAC	35.9	1.0	21	9/8
S-42-40	35.9	1.0	24	9/11
RIPLEY	33.6	1.0	12	9/11
GROUP IV AVERAGE	46.5	1.0	30	9/19
LATE (GROUPS V AND VI)				
PIONEER®BRAND 9501	66.9	1.0	40	10/6
HUTCHESON	65.4	1.0	29	10/10
COKER 425	62.7	1.0	24	10/9
PIONEER®BRAND 9531[c]	62.2	1.0	33	10/6
HARTZ BRAND H5240[b]	57.2	1.0	32	10/9
ESSEX	56.0	1.0	23	10/7
A5403[c]	55.1	1.0	33	10/9
JADER 586[c]	52.8	1.0	34	10/5
FFR-544	52.6	1.0	33	10/10
COKER 6925[b]	50.7	1.0	25	10/8
HARTZ 5164[c]	50.7	1.0	34	10/5
SS-516[c]	50.7	1.0	28	10/6
CALLAHAN 7510N[b]	49.8	1.0	25	10/6
FFR-499	48.9	1.0	37	10/5
KE 518[c]	48.2	1.0	23	10/9
FFR-561	47.1	1.0	34	10/10
FFR-565[c]	46.3	1.0	34	10/9
HSC 579	46.2	1.0	32	10/13
TN 5-85[b]	45.3	1.0	29	10/9
FORREST[b]	41.2	1.0	29	10/9
VANCE	41.1	1.0	21	10/9
SHENANDOAH	37.2	1.0	33	10/12
GROUPS V AND VI AVG	51.6	1.0	30	10/8
GRAND AVERAGE	47.7	1.0	29	9/23
LSD (.10)	7.4	0.1	-	

[1]Plant height.

[b]Resistant to the soybean cyst nematode (Race 3).

[c]Resistant to the soybean cyst nematode (Race 3 and Race 4).

Hickman/Wickliffe[a] — Year 2

VARIETY	YIELD BU/AC 88-89	LODG -ING 88-89	HT[1] (IN) 88-89
EARLY (GROUPS II AND III)			
PIONEER®BRAND 9391	42.0	1.0	32
A3935	38.2	1.0	29
FAYETTE[c]	38.0	1.0	32
WILLIAMS 82	38.0	1.0	33
DEKALB CX366	35.4	1.0	27
PELLA 86	34.8	1.0	25
FFR-398	34.2	1.0	26
SS-391	34.2	1.0	28
FLYER	33.9	1.0	25
COKER 393	27.4	1.0	25
GROUP III AVERAGE	35.6	1.0	28
MID-SEASON (GROUP IV)			
AVERY[c]	48.2	1.0	47
RA-452	44.0	1.0	37
PENNYRILE	43.1	1.0	36
STAFFORD	42.7	1.0	24
TN 4-86[c]	42.3	1.0	38
PERSHING	42.1	1.0	23
DOUGLAS	41.5	1.0	32
DEKALB CX458	40.5	1.0	29
PIONEER®BRAND 9442	40.4	1.0	27
JACQUES J-442	40.2	1.0	30
BARLOW 405	39.5	1.0	36
SS-487	39.4	1.0	30
SS-443	39.0	1.0	31
HYPERFORMER BRAND 401	38.9	1.0	37
A4393	38.7	1.0	29
BARLOW 412	38.2	1.0	35
JACOB	37.8	1.0	29
A4595	37.7	1.0	32
DEKALB CX 415	37.4	1.0	31
SPENCER	34.6	1.0	27
S-42-40	33.8	1.0	26
PYRAMID[c]	33.4	1.0	31
LAWRENCE	32.7	1.0	28
AGRIPRO AP4321	31.1	1.0	24
RIPLEY	30.8	1.0	17
UNION	30.8	1.0	34
GROUP IV AVERAGE	38.4	1.0	31
LATE (GROUPS V AND VI)			
COKER 425	54.9	1.0	26
HUTCHESON	51.6	1.0	28
PIONEER®BRAND 9531[c]	51.0	1.0	35
COKER 6925[b]	46.4	1.0	30
HARTZ 5164[c]	45.3	1.0	37
TN 5-85[b]	43.9	1.0	34
ESSEX	43.8	1.0	24
FFR-561	43.5	1.0	33
FFR-544	43.2	1.0	36
FORREST[b]	43.2	1.0	32
FFR-499	42.0	1.0	34
FFR-565[c]	41.0	1.0	37
VANCE	38.7	1.0	24
SHENANDOAH	36.1	1.0	36
GROUPS V AND VI AVG	44.6	1.0	32
GRAND AVERAGE	39.6	1.0	31
LSD (.10)	6.3	0	3

[a]1988 data from Wickliffe affected by soybean cyst nematode.

[b]Resistant to the soybean cyst nematode (Race 3).

[c]Resistant to the soybean cyst nematode (Race 3 and Race 4).

[d]Plant height.

Hickman/Wickliffe[a] — Year 3

VARIETY	YIELD BU/AC 87-89	LODG -ING 87-89	HT[1] (IN) 87-89
EARLY (GROUPS II AND III)			
A3935	37.1	1.0	31
FAYETTE[c]	34.7	1.0	35
PELLA 86	34.3	1.1	29
FFR-398	34.2	1.0	29
WILLIAMS 82	34.1	1.0	34
SS-391	33.1	1.0	30
DEKALB CX366	32.6	1.0	29
COKER 393	30.3	1.0	28
GROUP III AVERAGE	33.8	1.0	31
MID-SEASON (GROUP IV)			
AVERY[c]	41.8	1.0	47
PERSHING	38.9	1.0	26
A4393	38.1	1.0	32
RA-452	37.9	1.0	39
PENNYRILE	37.5	1.0	38
PIONEER®BRAND 9442	37.2	1.0	28
STAFFORD	37.1	1.1	28
SS-487	35.7	1.0	33
DOUGLAS	35.5	1.0	34
SS-443	34.9	1.0	32
HYPERFORMER BRAND 401	34.6	1.1	39
DEKALB CX 415	34.2	1.0	33
S-42-40	34.1	1.0	30
A4595	33.8	1.1	35
SPENCER	33.7	1.0	30
LAWRENCE	33.2	1.0	31
RIPLEY	32.1	1.0	18
AGRIPRO AP4321	31.2	1.0	29
PYRAMID[c]	30.7	1.2	35
UNION	29.3	1.6	37
GROUP IV AVERAGE	35.1	1.1	33
LATE (GROUPS V AND VI)			
COKER 425	44.7	1.0	29
PIONEER®BRAND 9531[c]	43.8	1.0	37
FFR-561	39.8	1.0	36
ESSEX	38.5	1.1	27
FFR-565[c]	37.6	1.3	38
TN 5-85[b]	36.9	1.2	37
HARTZ 5164[c]	36.7	1.6	36
FORREST[b]	36.1	1.1	34
FFR-499	35.5	1.0	37
VANCE	34.0	1.0	27
SHENANDOAH	33.4	1.0	38
GROUPS V AND VI AVG	37.9	1.1	34
GRAND AVERAGE	35.6	1.1	33
LSD (.10)	6.5	0.3	3

[a]1988 Wickliffe data affected by soybean cyst nematode.

[b]Resistant to the soybean cyst nematode (Race 3).

[c]Resistant to the soybean cyst nematode (Race 3 and Race 4).

[d]Plant height.