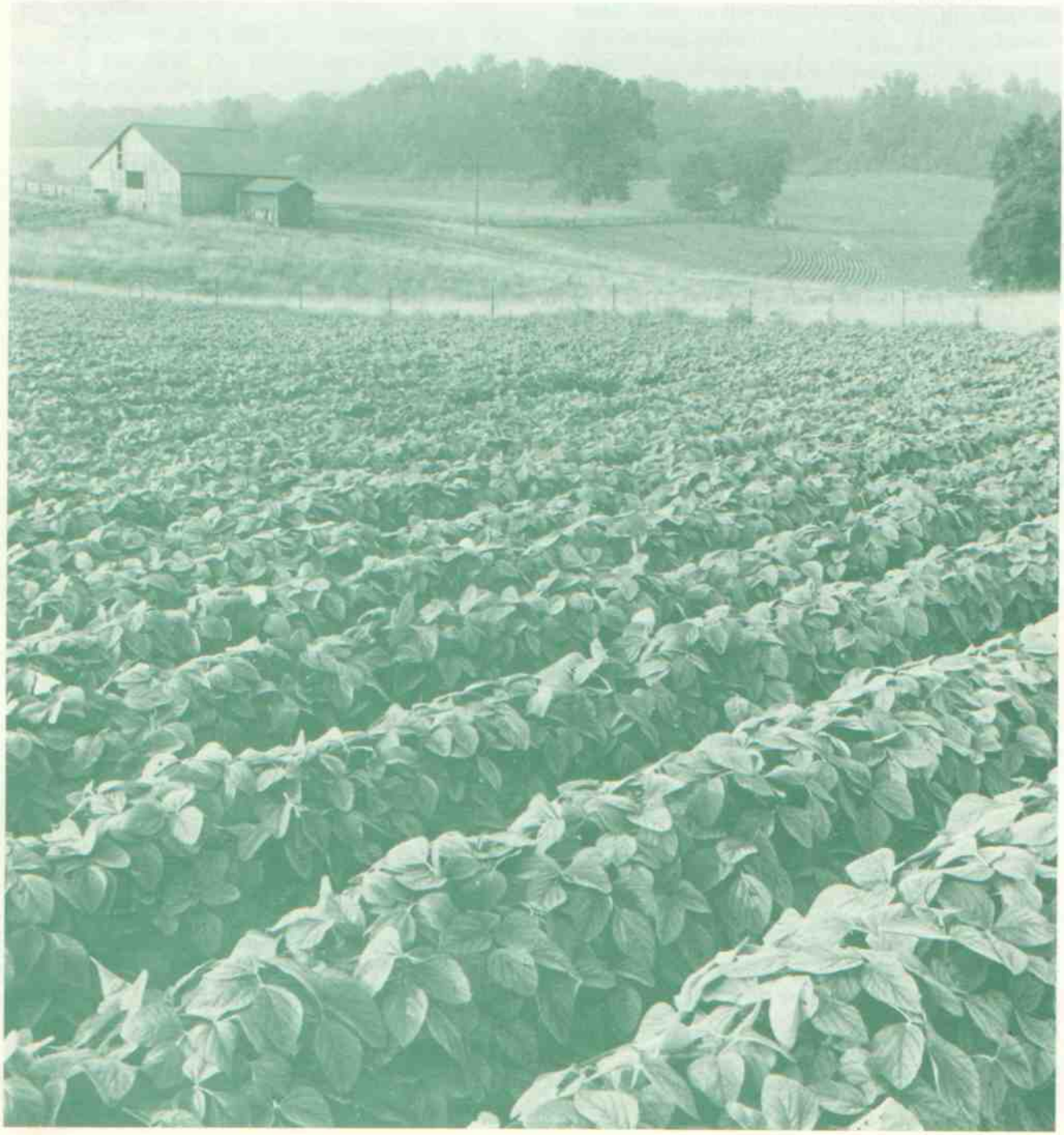
Progress Report 301

Kentucky Soybean Performance Tests–1986

J. M. Wood, Charles Tutt, and Todd Pfeiffer

UNIVERSITY OF KENTUCKY • COLLEGE OF AGRICULTURE
Agricultural Experiment Station • Department of Agronomy • Lexington



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ACKNOWLEDGEMENTS

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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 1986 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, Wickliffe 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.

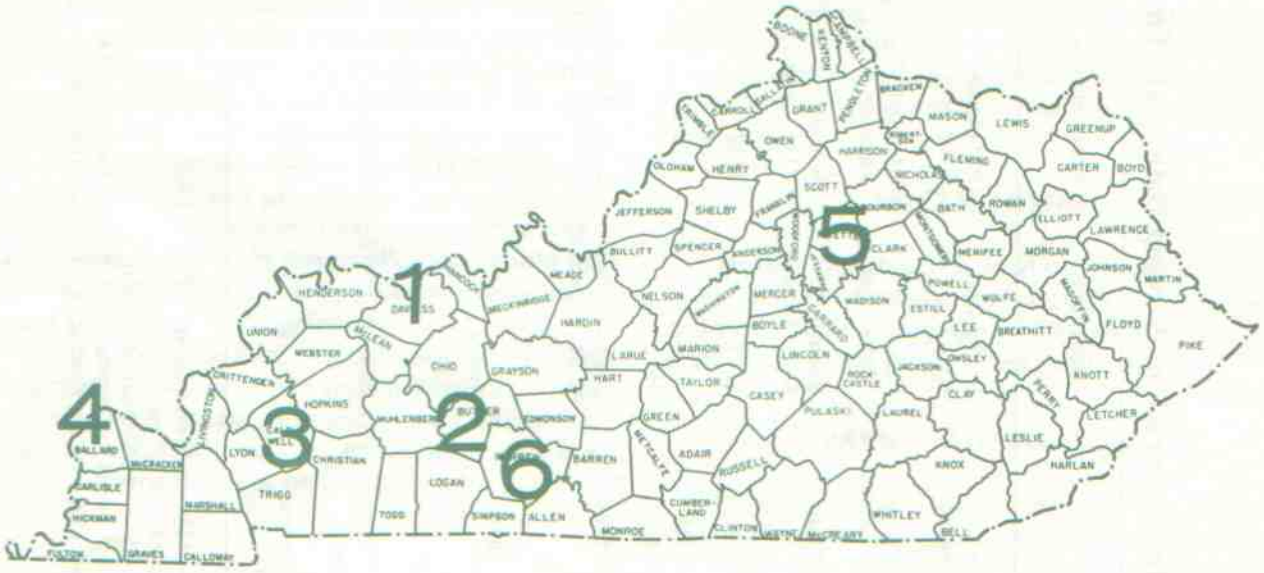
METHODS

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.

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



Location of the 1986 Kentucky Soybean Performance Tests

Table 1.—Location, Planting Date, and Climatic Data for the 1986 Soybean Performance Tests.

	1 Owensboro	2 Morgantown	3 Princeton	4 Princeton[1] Double Crop	5 Wickliffe	6 Lexington	7 Bowling Green[1] Double-Crop
Farmer Cooperator	Billy Joe Miles	Maitland Rice	Exp. Sta.	Exp. Sta.	Allen Ross	Exp. Sta.	James & Mike Reynolds
Extension Agent	Tom Curtsinger	Michael Jackson			Jim Edwards		Kelcy Driskill
Soil Type	Waverly Silt Loam	Newark Silt Loam	Crider Silt Loam	Crider Silt Loam	Grenada Silt Loam	Maury Silt Loam	Pembroke Silt Loam
Date of Planting	5/22	6/17	5/22	6/23	6/3	5/20	6/25
Row Width (inches)	30	30	30	15	30	30	15
Herbicides[2*]	3 pt. Prowl 1 pt. Scepter	2 pt. Treflan 1/2 lb. Canopy	2 pt. Treflan 6 pt. Lasso	4 pt. Lasso 1 1/2 pt. Lorox 2 pt. Bronco	2 pt. Treflan 2 pt. Blazer 1 pt. Poast	8 pt. Lasso	6 pt. Lasso 1 pt. Lorox 4L 2 pt. Paraquat
Soil Test							
P	200 +	50	101	101	22	200 +	181
K	538	258	417	417	107	264	600 +
pH	6.8	6.8	6.7	6.2	6.2	6.4	6.7
Fertilizer Applied	300 lb. 3-23-30	None	None	None	300 lb. 18-46-0 200 lb. 0-0-60	40 lb/A K_2O	None
50% Chance of Killing Frost[3]	10/21	10/13	10/19	10/19	10/24	10/26	10/23

1 No-till double-cropped after wheat
2 Amount per acre
3 Based on a 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.

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). Maturity dates were recorded at the Lexington 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.

GROWING CONDITIONS FOR THE 1986 TESTS

Soybean growing conditions varied considerably in Kentucky in 1986. Droughty summer weather at Lexington reduced yields, particularly for the earlier varieties. Plentiful rainfall late in the season raised yields of the later varieties. Princeton and Wickliffe yields were also reduced by insufficient rainfall.

The Bowling Green double crop location benefited from the late August and September rains to produce quite good yields. Heavy rainfall during the latter part of the harvest season delayed harvest at all locations.

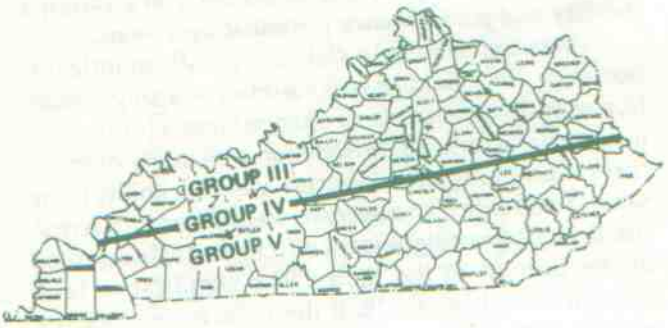
SPECIAL NOTES

No data were taken at Bowling Green in 1984 due to extreme drought damage. Data from 1983, 1985, and 1986 are presented. Only 1986 data are presented at Wickliffe as this is a new test location.

VARIETY ADAPTATION

Early-maturing varieties (Group III), such as Cumberland and Williams, 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 Franklin, can be successfully grown in most areas in Kentucky.



Approximate areas of adaptation of the maturity groups commonly grown 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/A per day for each day planting is delayed after mid-June and 1 bu/A 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. **Reseach 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.**

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 use the lower rate. Adjustments also need to be made for differences in seed lot germination. The seeding

Table 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

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).

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 1986.

AVERAGE STATEWIDE PERFORMANCE

The performance data of varieties that have been in the Kentucky variety tests for at least 2 years are averaged over years and across locations in maturity zones and are shown in Table 4. **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 4 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 conjunction with a recommended crop rotation in your production system (see Kentucky Cooperative Extension publication PPA-3, "Soybean Cyst Nematode," available at your county Extension office.)

SOURCE OF SEED

The seed planted in 1986 Soybean Performance Tests was acquired from the following sources:

Entry	Source
AgriPro AP350, AgriPro GT1380, AgriPro AP 4321	AgriPro Seeds, RR2, Hwy. 30 East Ames, IA 50010
Agri-Chem Brand ATLAS 442	Agri-Chem Inc., P.O. Box 31, Hopkinsville, KY 42240
A3803, A3966, A4271, A4595, A5149, A5474	Asgrow Seed Company, 7000 Portage Road, Kalamazoo, MI 49001
Bailey 468, Bailey 469	Barlow Farm Center, Inc., P.O. Box 155, Glendale, KY 42740
Dekalb CX415	DeKalb-Pfizer Genetics, 3100 Sycamore, Dekalb, IL 60115
Stevens, Shenandoah, Shiloh	HyPerformer Seed Company, 5100 Poplar, Suite 3200, Memphis, TN 38137
Hartz 5370, Hartz 5252	Jacob Hartz Seed Co., Inc., P.O. Box 946, Stuttgart, AR 72160
J-130, J-471, J-541, J-431	Jacques Seed Company, Box 370, Lincoln, IL 62656
JMS 4982, JMS 5484, JMS 4383	J.M. Schultz Seed Company, 105 N. Pine Street, Dieterich, IL 62424
GL 4200	Madison Seed Company, Inc., 13455 St. Rt. 38 S.E., London, OH 43140
Stutts	Miles Farm Supply, Inc., 2760 Keller Road, Owensboro, KY 42301
Pioneer®9531, Pioneer®9541, Pioneer®9581, Pioneer®9471	Pioneer Hi-Bred Int. Inc., 1000 W. Jefferson Street, Tipton, IN 46072
Coker 393, Coker 425, Coker 355, RA-404, RA-452, Mitchell 450	Rohm & Haas Seed, Inc., P.O. Box 507, Lebanon, IN 46052
Scott Brand 8047	Scott Seed Company, Box 849, New Albany, IN 47150
FFR-561, FFR-441, SS-391, SS-443	Southern States Cooperative Inc., P.O. Box 26234, Richmond, VA 23230
Wes	Plano Farms, 1481 Plano-Rich Pond Road, Bowling Green, KY 42101
Bay, Douglas, Egyptian, Essex, Fayette, Forest, Franklin, Harper, Lawrence, Nathan, Pella, Pella 86, Pershing, Pixie, Pyramid, Ripley, Sherman, Stafford, Union, Williams 82, Zane	Kentucky Foundation Seed Project, P.O. Box 11950, Lexington, KY 40579

TABLE 3.—AVERAGE PERFORMANCE ACROSS YEARS AND LOCATIONS

Variety/Brand	Lexington, Morgantown, and Owensboro		Wickliffe[a] and Princeton		Princeton and Bowling Green Double Crop			
	Yield Bu/Ac 85-86	Lodging 85-86	Yield Bu/Ac 85-86	Lodging 85-86	Yield Bu/Ac 85-86	Lodging 85-86	Approx. Seed/Lb.	Approx.[b,c] Maturity
Early (Group II & III)								
A3803	44.6	1.5	39.2	1.0	36.6	1.2	2100	+ 1
A3966	45.3	2.1	44.7	1.3	34.7	1.2	2600	+ 1
Bailey 468	44.4	2.4	42.0	1.3	38.3	1.4	2550	+ 3
Coker 393	43.0	1.9	45.0	1.1	36.4	1.1	3000	- 1
Fayette[e]	41.8	2.5	44.2	1.0	32.7	1.1	2500	- 1
Harper	41.5	1.4	40.1	1.0	32.2	1.0	2100	- 1
Pella	42.3	1.6	39.2	1.0	35.0	1.0	2100	- 3
Sherman	42.5	1.8	37.8	1.0	32.7	1.0	2930	- 2
SS-391	45.0	1.9	46.1	1.2	31.3	1.0	2500	+ 1
Williams 82	43.2	2.3	41.1	1.0	35.3	1.0	2600	0
Zane	44.4	1.5	42.4	1.0	36.4	1.2	2350	- 2
Mid-Season (Group IV)								
AgriPro AP350	43.1	2.4	41.8	1.4	37.3	1.4	2600	+ 5
A4271	46.8	1.9	43.6	1.0	36.5	1.0	2900	+ 1
A4595	44.0	2.1	49.0	1.0	38.0	1.2	2900	+ 3
Bailey 469	43.9	2.5	44.4	1.2	38.3	1.3	3000	+ 7
CX415	47.1	2.2	44.1	1.1	34.7	1.1	3000	+ 2
Douglas	41.7	2.1	45.7	1.0	37.3	1.1	2600	+ 5
Egyptian[e]	40.2	2.8	39.8	1.1	35.8	1.7	4000	+ 8
FFR-441	40.4	2.5	42.3	1.2	36.0	1.3	2400	+ 4
Franklin[d]	38.1	3.3	39.3	1.3	31.0	1.4	2600	+ 2
J-130	45.9	2.8	45.1	2.0	38.9	1.4	2900	+ 8
JMS4982	45.1	2.6	44.3	2.0	37.4	1.4	3200	+ 7
Lawrence	40.2	1.4	43.3	1.0	34.0	1.0	2600	+ 1
Mitchell 450	43.7	2.3	37.9	1.1	37.6	1.3	2600	+14
Pershing	44.6	1.9	43.1	1.0	38.0	1.4	3800	+12
Pioneer® 9471	45.3	2.3	44.7	1.1	37.6	1.3	3200	+ 5
Pixie	43.1	1.4	36.9	1.0	33.6	1.0	2600	- 1
Pyramid[e]	39.9	2.7	42.3	1.3	32.8	1.4	3300	+ 2
RA-404	46.1	1.9	45.1	1.0	37.4	1.2	2400	+ 5
RA-452	46.1	2.1	42.4	1.0	36.3	1.2	3200	+12
Ripley	41.6	1.4	44.9	1.0	39.7	1.1	3450	+ 2
Scott Brand 8047	45.1	2.7	43.6	1.9	38.4	1.5	2975	+ 8
SS-443	44.0	2.1	42.6	1.3	36.3	1.0	2900	+ 1
Stevens	40.6	2.7	42.8	1.2	35.7	1.4	2800	+ 7
Union	43.6	2.7	39.9	1.4	36.9	1.7	2600	0
Late (Groups V & VI)								
A5149	43.9	1.8	45.2	1.0	43.5	1.2	2400	+16
Bay	42.1	3.1	44.9	1.6	38.9	2.0	2800	+26
Coker 355[e]	38.3	2.9	39.1	2.0	31.5	2.8	3300	+27
Coker 425	44.9	2.4	48.6	1.0	37.1	1.6	3000	+15
Essex	42.3	2.2	44.4	1.5	38.3	1.7	3500	+16
FFR 561	44.7	2.1	44.0	1.1	39.1	1.6	3400	+29
Forrest[d]	38.7	3.3	41.0	1.7	37.5	3.0	3500	+26
JMS 5484	42.0	3.5	39.9	2.1	37.8	2.1	3000	+23
Nathan[e]	35.1	3.7	35.8	2.3	33.4	2.5	3500	+16
Pioneer® 9531[e]	40.8	3.2	41.8	1.7	34.2	1.9	3200	+16
Pioneer® 9541	40.9	2.2	44.5	1.1	38.0	1.5	3200	+16
Shenandoah	36.0	2.6	36.3	1.3	34.0	2.1	3200	+34
Shiloh[e]	37.5	3.1	38.8	2.0	31.7	2.0	2800	+41
Stutts	38.9	2.5	41.4	1.5	32.2	2.0	3500	+27
Average	42.5	2.3	42.4	1.3	36.0	1.5		
LSD (.10)	3.9	0.3	8.0	0.3	3.7	0.4		

[a] 1986 data only for Wickliffe.
[b] Days earlier (-) or later (+) than Williams 82.
[c] Data based on 1986 observations at Princeton and Wickliffe.
[d] Resistant to the soybean cyst nematode (Race 3).
[e] Resistant to the soybean cyst nematode (Race 3 and Race 4).

TABLE 4.—SOYBEAN VARIETY TESTS—OWENSBORO

VARIETY /BRAND	YIELD BU/AC 85-86	YIELD BU/AC 1986	LODG -ING 85-86	LODG -ING 1986	HT[a] (IN) 1986	POD HT 1986
EARLY (GROUPS II AND III)						
A3803	48.1	53.4	1.2	1.5	28	3.3
A3966	51.4	59.2	1.6	1.3	36	5.0
BAILEY 468	51.7	64.7	2.2	2.0	37	4.7
COKER 393	48.2	47.5	1.4	1.3	32	4.3
FAYETTE[c]	47.7	49.8	2.1	1.5	35	4.3
GL 4200	-	51.1	-	1.5	33	4.3
HARPER	44.2	50.3	1.4	1.5	28	4.3
PELLA	44.1	49.7	1.2	1.2	30	4.7
PELLA 86	-	51.2	-	1.3	28	4.7
SHERMAN	45.8	46.1	1.5	1.5	28	4.3
SS-391	51.4	57.5	1.5	1.3	31	4.7
WILLIAMS 82	50.1	56.3	1.7	1.5	37	5.3
ZANE	46.0	53.9	1.2	1.5	30	5.0
MID-SEASON (GROUP IV)						
AGRIPRO AP350	48.8	57.9	2.1	1.5	34*	5.3
AGRIPRO AP4321	-	38.9	-	1.2	24	4.0
AGRIPRO GT 1380	-	57.9	-	1.5	33	5.3
ATLAS 442	-	68.7	-	2.0	41	5.3
A4271	54.3	59.1	1.7	1.3	37	7.0
A4595	47.0	52.7	1.6	1.5	32	4.7
BAILEY 469	47.4	52.4	2.3	1.8	42*	5.7
CX 415	53.5	61.2	1.8	1.7	35	4.7
DOUGLAS	45.8	57.5	1.4	1.7	33	6.0
EGYPTIAN[c]	48.0	57.4	2.6	1.5	27*	5.3
FFR 441	45.0	49.7	1.7	1.7	37	4.3
FRANKLIN[b]	46.6	51.0	3.1	2.2	38	5.7
J-130	52.8	62.3	2.4	2.2	47*	5.7
J-431	-	47.1	-	1.5	28	4.7
J-471	-	63.8	-	2.0	45*	8.3
JMS 4384	-	58.4	-	1.7	38	5.7
JMS 4982	53.3	64.7	2.2	2.0	42*	5.3
LAWRENCE	41.1	44.3	1.3	1.5	32	4.3
MITCHELL 450	51.9	59.2	2.1	1.7	40*	8.3
PERSHING	50.2	62.2	1.7	1.5	24*	5.3
PIONEER®9471	52.7	61.9	1.7	1.5	35*	5.7
PIXIE	47.6	58.2	1.4	1.5	18	4.0
PYRAMID[c]	48.6	56.6	2.5	1.8	36	6.7
RA-404	54.4	62.9	1.8	1.5	35	5.3
RA-452	-	59.7	-	1.8	40*	5.7
RIPLEY	43.8	50.1	1.3	1.2	17	3.0
SCOTT BRAND 8047	50.3	59.0	2.6	2.0	41*	5.7
SS-443	53.7	57.6	1.7	1.5	32	4.7
STAFFORD	-	58.9	-	1.7	26*	6.0
STEVENS	47.6	59.8	2.2	1.7	43*	6.7
UNION	48.5	55.4	1.9	1.5	39	5.3
LATE (GROUPS V AND VI)						
A5149[c]	48.6	56.5	1.5	1.3	30	5.3
A5474[c]	-	56.9	-	1.5	30	6.7
BAY	50.6	63.2	2.3	1.8	33	7.7
COKER 355[c]	43.6	49.8	2.7	1.7	30	7.7
COKER 425	50.4	59.4	1.9	1.3	23	4.3
ESSEX	47.2	56.7	1.7	1.5	26	6.3
FFR 561	52.4	65.8	1.7	1.5	28	7.0
FORREST[b]	48.1	54.3	3.0	1.8	32	7.7
HARTZ 5252[b]	-	55.8	-	1.8	35	8.3
HARTZ 5370[b]	-	55.2	-	2.0	40	11.3
J-541	-	56.3	-	1.5	30	6.0
JMS 5484	54.3	69.2	3.2	2.0	33	8.0
NATHAN[c]	42.6	43.2	3.2	2.7	41	8.7
PIONEER®9531[c]	48.2	54.7	2.5	1.5	30	7.0
PIONEER®9541	45.5	54.4	1.8	1.5	24	6.0
PIONEER®9581[c]	-	56.9	-	2.2	35	11.0
SHENANDOAH	40.8	48.1	1.8	1.7	34	7.7
SHILOH[c]	42.5	47.0	2.8	1.5	35	8.3
STUTTS	42.2	46.8	2.4	1.5	31	7.7
WES	-	53.5	-	2.0	36	7.7
GRAND AVERAGE	48.3	55.6	2.0	1.6	33	5.9
LSD (.10)	5.9	8.7	0.7	0.3	3	1.0

[a] Plant height.

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

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

TABLE 5.—SOYBEAN VARIETY TESTS—MORGANTOWN

VARIETY/BRAND	YIELD BU/AC 84-86	YIELD BU/AC 85-86	YIELD BU/AC 1986	LODG -ING 84-86	LODG -ING 85-86	LODG -ING 1986	HT[a] (IN) 1986	POD HT 1986
EARLY (GROUPS II AND III)								
A3803	-	43.8	41.0	-	1.7	1.5	32	6.0
A3966	48.4	46.3	45.7	2.3	2.6	2.3	42	7.7
BAILEY 468	46.2	45.2	45.3	2.4	2.4	1.8	39	6.0
COKER 393	44.2	42.8	41.7	2.1	2.2	1.7	37	6.7
FAYETTE[c]	44.2	41.6	41.9	2.5	2.7	1.7	44	7.0
GL 4200	-	-	43.1	-	-	2.8	40	8.3
HARPER	43.7	42.5	42.4	1.3	1.3	1.3	33	6.7
PELLA	45.0	42.2	39.6	1.6	1.7	1.3	36	6.0
PELLA 86	-	-	40.7	-	-	1.2	34	6.7
SHERMAN	-	42.3	41.8	-	2.2	1.3	30	6.3
SS-391	-	45.2	42.1	-	2.2	1.5	33	5.7
WILLIAMS 82	45.2	43.2	45.7	2.3	2.6	1.7	38	8.7
ZANE	-	45.9	45.2	-	1.5	1.2	35	5.7
MID-SEASON (GROUP IV)								
AGRIPRO AP350	45.7	43.9	46.5	2.4	2.3	1.7	41	8.7
AGRIPRO AP4321	-	-	47.9	-	-	1.7	37	7.3
AGRIPRO GT 1380	-	-	43.9	-	-	2.2	42	9.3
ATLAS 442	-	-	48.6	-	-	2.2	44	9.0
A4271	47.0	45.6	45.8	1.9	2.2	1.7	39	7.7
A4595	-	46.5	46.9	-	2.1	1.7	38	7.0
BAILEY 469	47.9	46.9	47.2	3.2	2.7	2.3	46	7.7
CX 415	-	44.3	38.3	-	2.8	2.3	39	7.7
DOUGLAS	47.2	44.5	43.1	2.5	2.3	2.2	39	8.0
EGYPTIAN[c]	-	44.2	45.2	-	2.6	2.5	36	10.3
FFR 441	-	43.7	45.2	-	2.9	2.8	46	9.3
FRANKLIN[b]	40.7	40.4	39.7	2.9	3.2	3.2	45	8.3
J-130	49.3	48.1	51.5	3.6	3.5	3.7	48	8.3
J-431	-	-	40.7	-	-	2.2	38	7.7
J-471	-	-	44.9	-	-	2.3	42	11.3
JMS 4384	-	-	41.8	-	-	2.2	38	7.3
JMS 4982	49.1	48.7	49.6	3.1	2.7	2.3	46	8.0
LAWRENCE	45.7	43.2	42.8	1.2	1.2	1.3	36	7.7
MITCHELL 450	48.9	47.5	53.0	2.8	2.7	2.3	42	10.0
PERSHING	46.3	45.1	47.8	2.2	2.2	2.2	31	9.0
PIONEER®9471	45.5	44.9	46.7	2.7	2.8	2.3	44	8.3
PIXIE	46.3	46.1	46.2	1.2	1.2	1.5	23	5.0
PYRAMID[c]	-	44.0	46.1	-	2.7	2.7	42	9.7
RA-404	49.7	46.7	47.3	2.3	2.0	1.8	40	7.7
RA-452	-	47.5	54.1	-	2.0	2.0	44	9.0
RIPLEY	-	44.8	44.9	-	1.3	1.5	24	6.0
SCOTT BRAND 8047	49.9	49.1	51.2	3.2	2.8	2.0	46	10.7
SS-443	46.4	44.6	43.7	2.2	2.6	2.7	37	8.0
STAFFORD	-	-	49.1	-	-	2.2	34	9.3
STEVENS	42.6	41.7	43.0	2.7	2.9	2.7	45	7.3
UNION	43.3	43.0	42.6	3.0	3.2	2.5	45	7.7
LATE (GROUPS V AND VI)								
A5149[c]	-	47.9	50.6	-	2.0	2.2	38	11.0
A5474[c]	-	-	49.6	-	-	2.3	38	14.7
BAY	43.1	41.2	48.2	3.1	2.8	3.2	39	10.7
COKER 355[c]	39.8	40.4	45.7	3.1	2.4	2.7	41	10.7
COKER 425	49.1	49.2	53.0	2.7	2.7	2.7	33	10.3
ESSEX	45.3	45.0	50.0	2.5	2.0	2.0	31	10.3
FFR 561	45.7	45.0	46.1	2.3	2.2	2.2	33	10.7
FORREST[b]	39.7	38.4	38.4	3.6	3.1	3.3	41	11.0
HARTZ 5252[b]	-	-	38.1	-	-	3.2	40	11.3
HARTZ 5370[b]	-	-	45.5	-	-	3.2	44	12.7
J-541	-	-	47.4	-	-	3.0	40	12.7
JMS 5484	-	43.2	45.8	-	3.5	4.0	38	12.7
NATHAN[c]	37.6	36.6	35.6	3.8	3.4	3.5	49	10.7
PIONEER®9531[c]	-	43.4	47.0	-	3.0	2.8	41	12.0
PIONEER®9541	-	43.2	46.7	-	2.4	2.5	31	11.0
PIONEER®9581[c]	-	-	47.1	-	-	3.5	42	13.3
SHENANDOAH	-	38.4	39.2	-	2.4	2.5	39	10.3
SHILOH[c]	-	40.9	45.5	-	3.1	3.7	43	12.3
STUTTS	39.7	39.5	42.5	2.4	2.0	2.3	38	11.3
WES	-	-	42.7	-	-	2.7	38	10.7
GRAND AVERAGE	45.3	44.0	45.1	2.5	2.4	2.3	39	9.0
LSD(.10)	2.9	4.5	5.0	0.7	0.7	0.5	3	1.6

[a] Plant height.

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

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