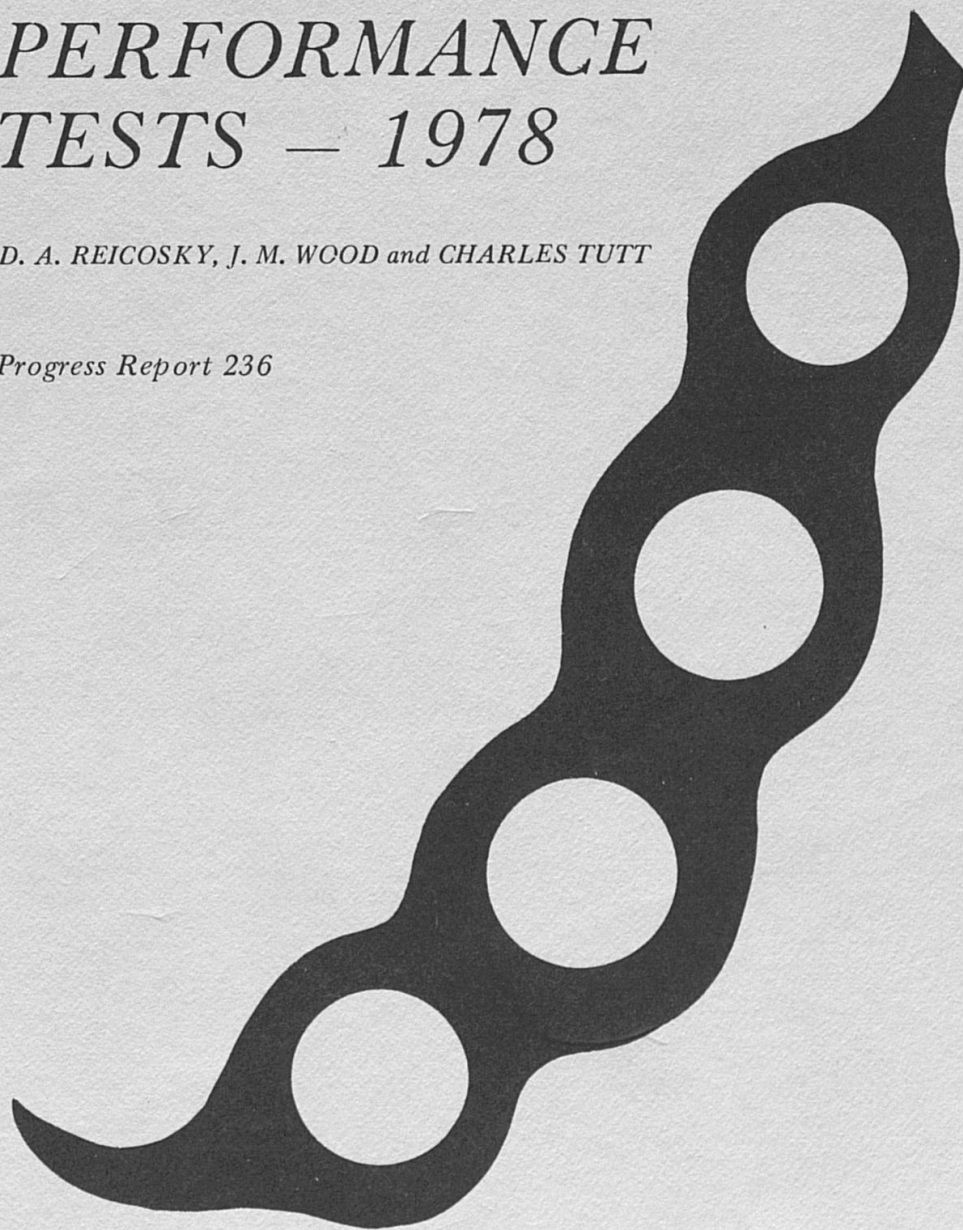


*KENTUCKY
SOYBEAN
PERFORMANCE
TESTS — 1978*

D. A. REICOSKY, J. M. WOOD and CHARLES TUTT

Progress Report 236



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

LOCATION OF THE 1978 SOYBEAN PERFORMANCE TESTS

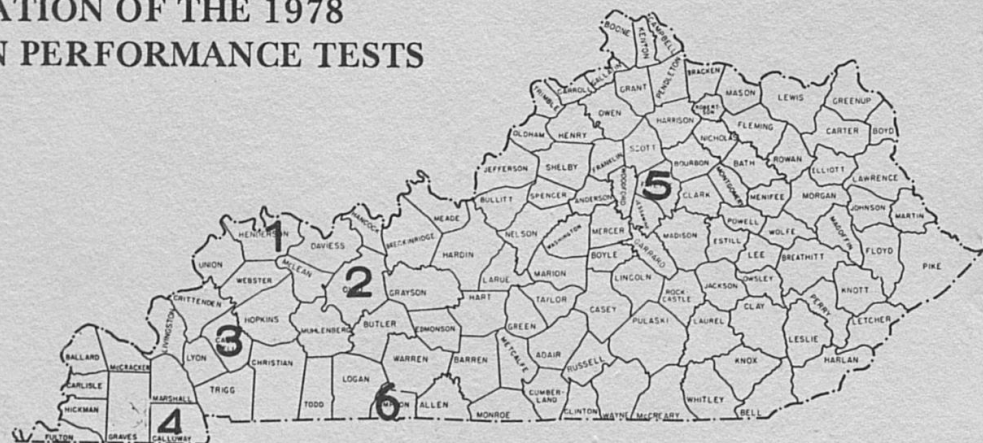


Table 1.—Location, Planting Date and Climatic Data for the 1978 Soybean Performance Tests.*

	1 Henderson	2 Hartford	3 Princeton	3 Princeton Double Crop	4 Murray	5 Lexington	6 Franklin Double Crop
Farmer cooperator	James McConathy	Dane Milligan	Exp. Sta.	Exp. Sta.	Gus Robertson Jr.	Exp. Sta.	Joe & Ben Neely
Extension agent	William Hendrick	John Kavanaugh	-	-	Ted Howard	-	Don Kessler
Soil type	Grenada silt loam	Melvin silt loam	Crider silt loam	Crider silt loam	Grenada silt loam	Maury silt loam	Pembroke silt loam
Date of planting	6/1	5/31	5/25	6/30 ^a	5/31	5/30	6/27
Row width (inches)	30	30	30	15	30	30	30
Herbicides ^b	2 pt Tre- flan 3/4 lb Sencor	2 pt Tre- flan 2 pt Basagran	1 1/2 pt Treflan	1 lb Lorox 4 pt Lasso 2 pt Para- quat	1 lb Lorox 4 pt Lasso	3/4 lb Lorox 6 pt Lasso 2 pt Basagran	1 1/4 lb Lorox 6 pt Lasso 2 pt Blazer
Soil Test							
P	92	75	37	37	109	300 ⁺	135
K	278	170	300	300	388	267	422
pH	7.1	6.7	5.6	5.6	6.8	6.4	6.4
Fertilizer applied	None	81 lb P ₂ O ₅ 105 lb K ₂ O	92 lb P ₂ O ₅ 60 lb K ₂ O	None	None	None	None
Date soil temp. reaches 65° F in the spring ^c	5/2	4/25	4/18	4/18	4/22	5/12	5/6
50% chance spring killing frost ^d	4/11	4/22	4/10	4/10	4/13	4/22	4/13
50% chance fall killing frost ^d	10/26	10/13	10/19	10/19	10/24	10/26	10/24

See footnotes at bottom of opposite page.

Kentucky Soybean Performance Tests—1978

By D. A. Reicosky, J. M. Wood and Charles Tutt

The objective of the Kentucky Soybean Performance tests is to provide an estimate of the relative performance of soybean varieties in Kentucky. This information may be used by growers and seedsmen in selecting the variety that will give the highest total production for a specific situation. Experimental strains of soybeans provided by the U.S. Regional Soybean Laboratory are also tested at several locations in Kentucky.

Soybean tests in 1978 were conducted at six locations in the state. The testing locations, soil types, planting date, row width, and other information are shown on the opposite page.

The information on the dates that soil temperatures reach 65°F and the date of a 50% chance of a *spring* killing frost is provided for various areas of the state as guidelines for planting of soybeans (Table 1.) *To obtain good germination and stand establishment it is recommended that soybean planting be delayed until after there is a low probability of a killing frost and until the soil temperature at the 2-inch depth reaches 65°F.*

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 and Lexington locations in Tables 7 and 9. Particular

(These footnotes concern Table 1 and material on page 2.)

^aNo-till double-cropped after wheat.

^bAmount per acre.

^cTemperature at 2-inch depth of bare soil for years 1967-72 (weekly average).

^dBased on a 30-year average.

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

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, and the date for each factor may vary from year to year. For the date of a 1 year out of 10 chance of a spring killing frost, add 13-16 days to the dates in Table 1 and 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

Each variety was planted in three plots (replications) at all locations, with individual plots being 20 feet long and 4 rows wide. The seeding rate was approximately 8-10 viable seeds per foot of row.

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

This is the date when the pods are dry, have reached their normal mature color, and most of the leaves have dropped. Stems are also dry, under most conditions. Maturity may also be expressed as days earlier (—) or later (+) than that of a standard variety (Williams). Maturity dates were recorded at the Princeton and Lexington 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.

Shattering

Shattering was scored 3 weeks after maturity and was based on estimates of the percent of open pods on a scale of 1 to 5; 1 = No shattering; 2 = 1-10% shattered; 3 = 10-25% shattered; 4 = 25-30% shattered; and 5 = over 50% shattered. Shattering scores were taken at the Princeton location.

INTERPRETATION

An important step of profitable soybean production is to select good 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.

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 to get 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. 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.

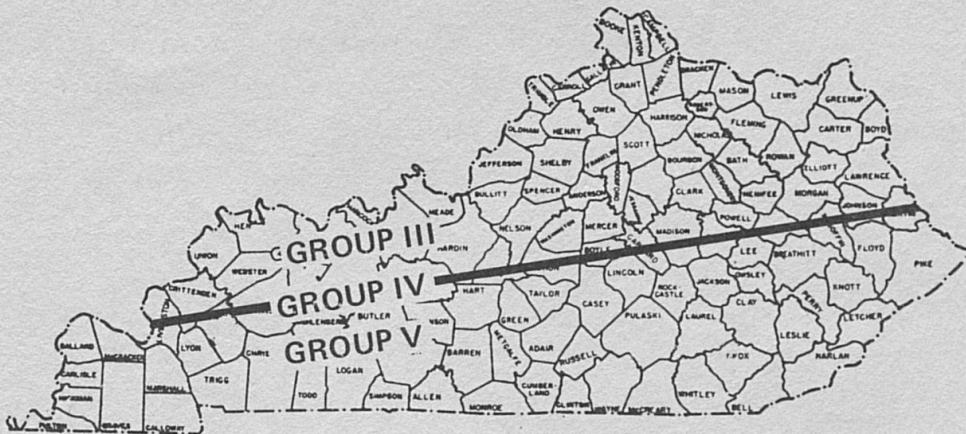
Special Note

Drought conditions at planting prevented adequate stand establishment for yield comparison of the Princeton double-crop test. Therefore only data for 1976 and 1977 are presented for the Princeton double-crop test.

Variety Adaptation

Early-maturing varieties (Group III), such as Woodworth 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 (Groups V and VI), such as Essex, York and Forrest are best adapted in areas south of the indicated line. Mid-season varieties (Group IV), such as Cutler 71, Custer and Kent, can be successfully grown in most areas in Kentucky.*

*Varieties for other groups not named are not adapted for growing 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 (10-20"), 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.*

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 Ky. Coop. Ext. 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 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. If field conditions or seed quality is marginal use the higher 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 slightly higher seedling mortality.*

Certified Seed

Always plant high quality seed of the variety you select. Certified soybean seed is a reliable source of good seed.

Table 2.—Pounds of Seed per Acre for the Given Row Width and Seed Size at the Recommended Seeding Rate.

Row spacing (inches)	10	20	30	40
Seeding Rate (seeds per foot)	3-4	6-8	8-10	10-12
Seeds per pound				
2600	60-80	60-80	54-67	50-60
2800	56-75	56-75	50-62	47-56
3000	52-70	52-70	46-58	44-52
3200	49-65	49-65	44-54	41-49
3400	46-61	46-61	41-51	38-46
3600	44-58	44-58	39-48	36-44

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 extension agent or the Kentucky Seed Improvement Association (P.O. Box 12008, Lexington, Ky. 40511).

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. Table 3 lists the soybean blends tested in 1978 and the components of the mixture.

Table 3.—Percentage Composition of Each Variety in the Soybean Blends Tested in 1978.

Name	Variety 1	Variety 2	Variety 3
CB 347	33.3% Wayne	33.3% Williams	33.3% Cutler 71
CB 470	50% Cutler 71	50% Pomona	
Multivar 91	33.3% Calland	33.3% Williams	33.3% Cutler 71
Multivar 100	33.3% Dare	33.3% Essex	33.3% Mack
RA 31	50% SB 27	50% Williams	
RA 41	90% Columbus	10% SB12	
VB 350	50% Agripro 35	50% Williams	

Average Statewide Performance

The performance data of varieties that have been in the Kentucky variety test 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 Ky. Coop. Ext. PPA-3, "Soybean Cyst Nematode," available at your county extension office.)

Table 4.—Average Performance Across Years and Location.

Variety	Hartford, Henderson and Lexington ^a		Murray and Princeton		Franklin and Princeton ^c double-crop		Approx. seed/lb	Approx. ^d maturity
	Yield Bu/Ac 77-78	Lodg ^b -ing 77-78	Yield Bu/Ac 77-78	Lodg ^b -ing 77-78	Yield Bu/Ac 77-78	Lodg ^b -ing 77-78		
<u>Early (Group III)</u>								
Agripro 35	53.1	2.3	39.1	1.4	44.4	2.4	- ^e	+2
Asgrow 3585	52.7	2.0	45.4	1.4	42.7	2.3	- ^e	-1
Elf	55.0	1.1	44.6	1.2	43.6	1.3	2600	0
RA 31 ^h	55.5	2.4	38.6	1.6	48.4	2.4	2600	+2
Williams	52.1	2.0	37.7	1.2	46.5	1.8	2600	0
Woodworth	53.7	2.4	40.6	1.2	43.9	3.1	2600	-4
VB 350 ^h	51.3	2.2	43.5	1.6	48.6	2.3	2400	0
<u>Mid-Season (Group IV)</u>								
Custer ^r	48.7	2.9	35.6	2.0	44.1	3.1	2600	+11
Cutler 71	50.1	2.3	42.3	1.7	45.9	3.0	2600	+4
Franklin ^f	50.8	2.3	42.2	1.5	45.9	2.3	2600	+11
Kent	48.7	2.2	43.0	1.7	40.5	2.3	2600	+13
Mitchell	54.7	2.5	47.2	2.0	49.1	2.8	2900	+9
Multivar 91 ^h	51.4	2.1	41.5	1.6	45.6	1.9	2600	+4
SRF 425	50.9	3.1	41.5	2.5	47.2	2.6	3200	+5
SRF 450	47.9	2.5	43.5	1.7	38.7	2.5	2700	+13
SSF 402	48.9	2.4	42.3	1.3	40.1	2.4	2600	-1
Union	54.6	2.9	44.9	2.0	46.5	2.3	2600	+3
VS 465	53.2	2.3	45.5	1.6	49.9	2.6	2600	+6
Wilstar 430	54.0	2.5	44.7	2.2	49.0	2.8	2800	+6
<u>Late (Groups V and VI)</u>								
Bedford ^g	40.6	3.8	37.2	3.2	25.6	2.7	3500	+39
Dare	47.4	3.0	39.5	2.2	40.8	3.9	3500	+33
Essex	54.3	2.0	44.7	1.5	42.9	2.9	3500	+27
Forrest ^f	52.7	3.1	39.8	2.4	32.8	3.0	3500	+33
Hood 75	-	-	38.8	3.0	-	-	3400	+35
McNair 500	46.6	2.8	39.3	1.9	32.4	2.9	3000	+35
Multivar 100 ^h	50.3	2.9	40.5	2.2	43.7	2.7	2600	+36
York	51.0	2.6	41.8	2.0	40.4	2.7	2600	+28
<u>Grand Average</u>	<u>51.1</u>	<u>2.5</u>	<u>41.6</u>	<u>1.9</u>	<u>42.8</u>	<u>2.6</u>		
LSD (.05)	5.3	.6	5.3	.7	7.4	1.0		

^a1978 data only for Henderson.

^bLodging score, 1 (all plants erect) to 5 (all plants over badly).

^c1977 data only for Princeton.

^dDays earlier (-) or later (+) than Williams.

^eData not available.

^fResistant to the soybean cyst nematode (Race 3).

^gResistant to the soybean cyst nematode (Race 4).

^hBlend, see Table 3.

SOURCES OF SEED

The seed planted in the 1978 Soybean Performance Tests was acquired from the following sources:

<u>Entry</u>	<u>Source</u>
A3585	Asgrow Seed Co., 634 E. Lincoln Way, Ames, Iowa 50010
J 120	Jacques Seed Company, Prescott, Wisconsin 54021
McNair 500	McNair Seed Company, P. O. Box 706, Laurinburg, N.C. 28352
AGRIPRO 35, 40	North American Plant Breeders, Route 2, Ames, Iowa 50010
Multivar 91, 100	Northrup, King & Co., P. O. Box 49, Wash- ington, Iowa 52353
CX 350 CB 347, 470	Pfizer Genetics, Inc., Rural Route 1, Box 99, Beaman, Iowa 50609
RA 31, 41, 501A Mitchell	Ring Around Products Inc., P. O. Box 1629, Plainview, Texas 79072
SSF 402, 503, 500-N	Smith Seed Farms, Route 2, Box 59B, Goodlettsville, Tenn. 37072
SRF 350, 425, 450	Soybean Research Foundation Inc., Mason City, Ill. 62664
VS 457, 465 VB 350	Voris Seeds, Inc., Box 457, Windfall, Ind. 46076
Wilstar 430	Wilstar Seeds, Hopkinsville, Ky. 42240
Williams, York, Woodworth, Dare, Kent, Custer, Essex, Cutler 71, Forrest, Franklin, Bedford, Hood 75, Elf, Union, Williams 78, Cumberland, Shore Amsoy 71	Kentucky Foundation Seed Project, P. O. Box 11950, Lexington, Ky. 40511

Table 5.—Kentucky Soybean Variety Tests—Henderson.

VARIETY	YIELD ^a	YIELD	LODG ^{ab}	LODG ^b	HT. ^c	POD
	BU/AC 76-78	BU/AC 1978	-ING 76-78	-ING 1978	(IN) 1978	HT. 1978
<u>EARLY (GROUP III)</u>						
AGRIPRO 35	-	53.9	-	1.8	42	4.0
AMSOY 71	-	44.1	-	3.2	39	3.0
ASGROW 3585	-	49.7	-	1.5	39	4.7
CB 347 ^f	-	51.9	-	2.7	42	4.0
CUMBERLAND	-	50.7	-	1.7	34	3.0
CX 350	-	49.2	-	2.0	41	4.7
ELF	-	46.2	-	1.0	18	1.0
J 120	-	51.3	-	1.5	42	3.7
RA 31 ^f	52.3	48.0	3.2	2.8	46	3.7
SRF 350	-	51.5	-	3.3	43	4.7
VB 350 ^f	-	52.1	-	1.8	40	3.3
WILLIAMS	53.8	50.2	1.8	1.7	41	4.0
WILLIAMS 78	-	51.4	-	2.3	37	3.0
WOODWORTH	57.3	50.7	2.5	2.0	40	4.0
<u>MID-SEASON (GROUP IV)</u>						
AGRIPRO 40	-	48.4	-	3.0	45	4.0
CB 470 ^f	-	44.5	-	2.7	45	4.3
CUSTER ^d	52.9	48.0	4.1	4.2	51	5.0
CUTLER 71	50.7	49.9	2.7	2.5	46	5.7
FRANKLIN ^d	51.6	52.2	3.3	2.3	44	3.3
KENT	52.2	47.7	2.9	2.2	45	5.3
MITCHELL	59.3	56.6	3.5	2.8	43	4.3
MULTIVAR 91 ^f	-	47.9	-	2.2	41	4.7
RA 401	-	52.4	-	2.3	43	5.3
RA 41 ^f	-	47.2	-	2.8	46	5.0
SRF 425	52.3	49.6	3.5	3.7	46	6.0
SRF 450	49.7	50.7	3.5	2.5	42	5.0
SSF 402	48.1	47.3	2.7	2.2	42	5.3
UNION	-	47.8	-	2.8	43	4.3
VS 457	-	51.8	-	2.8	45	4.7
VS 465	-	52.5	-	2.7	45	4.0
WILSTAR 430	56.2	53.7	3.0	2.8	47	6.0
<u>LATE (GROUPS V AND VI)</u>						
BEDFORD ^e	-	38.9	-	3.3	49	10.7
DARE	45.5	41.9	4.0	3.0	39	8.0
ESSEX	53.2	60.4	3.7	2.3	33	7.0
FORREST ^d	50.6	57.3	3.7	2.4	41	6.0
MCNAIR 500	35.7	43.3	3.8	2.7	33	4.3
MULTIVAR 100 ^f	47.8	52.1	4.1	3.2	40	6.7
RA 501A	-	50.4	-	3.3	48	6.3
SHORE	-	44.8	-	3.0	37	5.7
SSF 500-N	-	46.5	-	2.7	38	10.0
YORK	50.3	53.8	3.7	2.7	43	6.3
GRAND AVERAGE	51.1	49.7	3.3	2.5	42	5.0
LSD (0.5)	N.S. ^g	5.1	N.S. ^g	1.0	4	2.3

^aData from 1977 not reported owing to infestation by the Mexican Bean Beetle.

^bLodging score, 1 (all plants erect) to 5 (all plants over badly).

^cPlant height.

^dResistant to the soybean cyst nematode (Race 3).

^eResistant to the soybean cyst nematode (Race 4).

^fBlend, see Table 3.

^gNo statistically significant differences were indicated.

Table 6.—Kentucky Soybean Variety Tests—Hartford.

VARIETY	YIELD	YIELD	YIELD	LODG ^a	LODG ^a	LODG ^a	HT. ^b	POD
	BU/AC	BU/AC	BU/AC	-ING	-ING	-ING	(IN)	HT.
	76-78	77-78	1978	76-78	77-78	1978	1978	1978
<u>EARLY (GROUP III)</u>								
AGRIPRO 35	-	54.4	54.8	-	2.2	2.3	44	5.0
AMSOY 71	-	-	46.8	-	-	3.0	47	4.3
ASGROW 3585	-	53.2	49.3	-	2.4	2.0	43	5.3
CB 347 ^c	-	-	57.5	-	-	3.8	43	4.0
CUMBERLAND	-	-	56.3	-	-	2.0	42	5.0
CX 350	-	-	49.3	-	-	3.3	44	4.3
ELF	-	57.9	53.8	-	1.0	1.0	20	1.7
J 120	-	-	47.1	-	-	1.8	47	5.0
RA 31 ^c	57.1	60.3	55.2	2.0	2.0	1.5	44	4.0
SRF 350	-	-	49.6	-	-	2.8	44	4.3
VB 350 ^c	-	52.5	51.6	-	2.3	2.5	44	5.7
WILLIAMS	52.0	54.9	50.1	1.6	1.7	1.5	42	5.3
WILLIAMS 78	-	-	53.0	-	-	1.3	43	4.7
WOODWORTH	51.4	56.8	53.0	2.4	2.6	2.2	41	6.3
<u>MID-SEASON (GROUP IV)</u>								
AGRIPRO 40	-	-	56.7	-	-	4.2	48	5.7
CB 470 ^c	-	-	47.0	-	-	2.3	46	5.0
CUSTER ^c	49.1	52.8	53.9	2.7	2.3	2.5	49	5.3
CUTLER 71	52.4	53.1	51.0	2.0	1.7	1.7	48	5.7
FRANKLIN ^c	52.0	54.0	51.3	2.2	2.2	2.2	46	5.0
KENT	47.7	50.1	51.5	2.2	2.4	1.8	48	5.3
MITCHELL	53.2	54.1	55.6	2.4	2.2	2.0	46	5.3
MULTIVAR 791 ^c	-	55.6	50.8	-	2.2	2.2	44	5.0
RA 401	-	-	56.2	-	-	1.8	47	5.0
RA 41 ^c	-	-	51.3	-	-	2.0	47	4.7
SRF 425	50.8	54.0	52.3	2.7	2.7	2.7	49	5.7
SRF 450	45.8	48.0	51.7	2.0	2.2	2.0	45	5.0
SSF 402	49.2	49.2	48.7	2.2	2.4	1.8	45	5.0
UNION	-	59.0	53.8	-	2.7	3.0	48	5.0
VS 457	-	-	52.2	-	-	1.7	49	4.7
VS 465	-	55.6	52.7	-	2.5	3.2	46	3.7
WILSTAR 430	53.9	56.8	49.0	2.4	2.4	2.2	49	4.7
<u>LATE (GROUPS V AND VI)</u>								
BEDFORD ^d	-	47.4	49.6	-	3.5	3.5	47	11.3
DARE	51.7	55.2	53.9	3.2	3.2	3.0	42	6.0
ESSEX	53.9	57.4	59.3	1.8	1.7	1.8	37	7.7
FORREST ^c	52.4	60.2	56.1	2.9	2.8	3.5	40	10.7
MCNAIR 500	44.8	52.5	50.7	3.0	3.0	3.0	43	6.7
MULTIVAR 100 ^c	50.6	54.3	52.8	3.0	2.9	2.5	41	8.3
RA 501A	-	-	51.2	-	-	2.0	51	5.0
SHORE	-	-	47.2	-	-	2.5	39	4.3
SSF 500-N	-	-	58.9	-	-	3.5	45	8.7
YORK	51.4	55.6	52.1	2.3	2.3	2.3	38	6.7
GRAND AVERAGE	51.1	54.4	52.3	2.4	2.4	2.4	44	5.5
LSD (.05)	N.S. ^f	N.S. ^f	N.S. ^f	0.7	0.9	1.0	5	2.1

^aLodging score, 1 (all plants erect) to 5 (all plants over badly).^bPlant height.^cResistant to the soybean cyst nematode (Race 3).^dResistant to the soybean cyst nematode (Race 4).^eBlend, see Table 3.^fNo statistically significant differences were indicated.

Table 7.—Kentucky Soybean Variety Tests—Princeton.

VARIETY	YIELD BU/AC	YIELD BU/AC	YIELD BU/AC	LODG ^a -ING	LODG ^a -ING	LODG ^a -ING	HT. ^b (IN)	SHATT ^c SCORE	MAT. DATE	POD HT.
	76-78	77-78	1978	76-78	77-78	1978	1978	1978	1978	1978
EARLY (GROUP III)										
AGRIPRO 35	-	43.1	42.2	-	1.0	1.0	37	3.0	9/16	5.3
AMSOY 71	-	-	42.8	-	-	2.3	38	2.7	9/8	4.3
ASGROW 3585	-	47.3	47.4	-	1.0	1.0	36	2.7	9/15	5.3
CB 347 ^f	-	-	38.9	-	-	1.0	33	2.7	9/14	5.7
CUMBERLAND	-	-	45.3	-	-	1.0	32	2.0	9/13	4.7
CX 350	-	-	42.7	-	-	1.0	38	3.0	9/13	6.3
ELF	-	47.9	47.5	-	1.0	1.0	22	1.3	9/22	3.0
J 120	-	-	44.0	-	-	1.0	39	3.0	9/9	5.7
RA 31 ^f	41.9	38.7	38.2	1.3	1.2	1.0	33	2.7	9/17	5.3
SRF 350	-	-	48.5	-	-	3.0	40	2.3	9/12	5.7
VB 350 ^f	-	48.4	51.0	-	1.2	1.3	39	2.3	9/17	5.7
WILLIAMS	39.4	38.5	39.9	1.0	1.0	1.0	33	1.7	9/13	5.0
WILLIAMS 78	-	-	41.9	-	-	1.0	37	2.7	9/11	4.3
WOODWORTH	44.5	42.3	40.8	1.3	1.0	1.0	33	3.0	9/10	6.0
MID-SEASON (GROUP IV)										
AGRIPRO 40	-	-	45.9	-	-	2.0	44	2.3	9/24	4.0
CB 470 ^f	-	-	43.3	-	-	1.0	37	2.7	9/20	7.0
CUSTER ^d	40.3	38.8	36.3	2.3	2.3	1.7	45	2.7	9/20	7.7
CUTLER 71	43.7	44.4	44.8	1.7	1.2	1.3	40	2.7	9/18	7.7
FRANKLIN ^d	46.2	47.5	45.4	1.2	1.3	1.0	39	3.0	9/19	6.0
KENT	45.5	46.9	45.5	1.2	1.2	1.3	42	2.3	9/25	6.3
MITCHELL	51.6	50.4	49.1	1.6	1.7	2.3	41	2.3	9/22	4.7
MULTIVAR 91 ^f	-	43.1	43.0	-	1.2	1.0	38	2.7	9/14	6.0
RA 40 ^j	-	-	44.1	-	-	1.0	49	2.0	9/30	8.7
RA 41 ^f	-	-	44.4	-	-	2.3	46	1.0	9/26	6.7
SRF 425	45.9	44.8	48.7	2.9	2.3	3.7	43	2.0	9/19	7.7
SRF 450	46.4	45.0	44.3	1.7	1.5	2.0	39	2.3	9/26	7.0
SSF 402	43.4	43.9	45.7	1.2	1.0	1.0	37	3.0	9/18	5.3
UNION	-	47.7	44.3	-	2.0	2.3	43	1.7	9/16	6.0
VS 457	-	-	46.3	-	-	1.3	43	2.7	9/20	4.3
VS 465	-	48.2	45.9	-	1.5	1.7	41	1.7	9/22	4.7
WILSTAR 430	49.2	50.8	44.4	2.2	2.2	2.3	44	1.7	9/26	6.3
LATE (GROUPS V AND VI)										
BEJFORD ^c	-	37.4	35.5	-	3.0	3.7	54	1.0	10/8	10.7
DARE	39.2	40.2	38.9	2.3	2.0	2.7	40	1.0	10/6	6.3
ESSEX	48.5	48.8	52.3	1.4	1.0	1.0	35	1.0	10/6	7.3
FORREST ^d	34.7	37.0	36.2	2.1	2.0	2.0	46	1.0	10/7	10.0
MCNATK 500	35.7	37.2	40.4	1.6	1.3	1.7	44	1.0	- ^g	8.0
MULTIVAR 100 ^f	40.5	42.2	41.0	2.2	1.7	2.3	44	1.0	10/7	7.7
RA 501A	-	-	42.6	-	-	2.0	52	1.3	10/7	6.7
SHORE	-	-	33.5	-	-	1.3	40	1.0	- ^g	7.7
SSF 500-N	-	-	44.0	-	-	2.0	45	1.0	10/8	7.3
YORK	42.7	41.0	39.7	1.9	1.7	1.3	41	1.0	10/6	6.7
GRAND AVERAGE	45.2	43.9	43.3	1.7	1.5	1.6	40	2.0	9/22	6.3
LSD (.05)	6.2	6.8	9.8	1.0	N.S. ^h	1.1	6	0.6	-	1.9

^aLodging score, 1 (all plants erect) to 5 (all plants over badly).^bPlant height.^cShattering score, 1 (no shattering) to 5 (over 50% shattered).^dResistant to the soybean cyst nematode (Race 3).^eResistant to the soybean cyst nematode (Race 4).^fBlend, see Table 3.^gNot mature when frost occurred on 10/08.^hNo statistically significant differences were indicated.

Table 8.—Kentucky Soybean Variety Tests—Murray.

VARIETY	YIELD	YIELD	LODG ^a	LODG ^a	HT. ^b
	BU/AC 77-78	BU/AC 1978	-ING 77-78	-ING 1978	(IN) 1978
EARLY (GROUP III)					
AGRIPRO 35	35.0	22.3	1.8	1.0	21
ASGROW 3585	43.5	32.3	1.8	1.0	21
CB 347 ^c	-	22.4	-	1.0	21
CUMBERLAND	-	27.2	-	1.0	19
CX 350	-	29.9	-	1.0	24
ELF	41.3	31.1	1.5	1.0	16
J 120	-	32.0	-	1.0	23
RA 31 ^c	38.5	27.4	2.0	1.0	21
SRF 350	-	23.1	-	1.0	22
VB 350 ^c	38.7	27.7	2.0	1.0	20
WILLIAMS	36.9	27.0	1.5	1.0	20
WILLIAMS 78	-	28.4	-	1.0	21
WOODWORTH	38.9	29.6	1.5	1.0	20
MID-SEASON (GROUP IV)					
AGRIPRO 40	-	22.9	-	1.0	23
CB 470 ^e	-	31.4	-	1.0	24
CUSTER ^c	32.4	24.7	1.7	1.0	26
CUTLER 71	40.3	26.3	2.2	1.0	22
FRANKLIN ^c	36.8	22.2	1.7	1.0	21
KENT	39.2	25.7	2.2	1.0	23
MITCHELL	44.0	31.8	2.3	1.0	23
MULTIVAR 91 ^c	40.0	30.4	2.0	1.0	23
RA 401	-	28.3	-	1.0	25 ⁺
RA 41 ^c	-	24.0	-	1.0	21
SRF 425	38.2	28.6	2.7	1.0	25
SRF 450	42.1	28.5	2.0	1.0	23
SSF 402	40.7	29.4	1.7	1.0	22
UNION	42.1	26.5	2.0	1.0	22
VS 457	-	27.3	-	1.0	26
VS 465	42.8	28.0	1.7	1.0	19
WILSTAR 430	38.6	26.1	2.2	1.0	24
LATE (GROUPS V AND VI)					
BEDFORD ^d	37.1	27.8	3.3	3.3	33
DARE	38.8	26.3	2.5	2.0	26
ESSEX	40.6	25.7	2.0	1.0	24
FORREST ^c	42.6	27.7	2.8	2.0	31
HOOD 75	38.8	26.5	3.0	1.7	29
MCNAIR 500	41.3	30.4	2.5	2.0	29
MULTIVAR 100 ^c	38.8	28.0	2.8	1.0	29
RA 501A	-	31.3	-	1.0	28
SHORE	-	24.3	-	2.7	31
SSF 500-N	-	30.9	-	2.7	31
YORK	42.5	29.5	2.3	2.7	31
GRAND AVERAGE	39.6	27.6	2.1	1.3	24
L.S.D. (.05)	N.S. ^f	N.S. ^f	N.S. ^f	N.S. ^f	1

^aLodging score, 1 (all plants erect) to 5 (all plants over badly).^bPlant height.^cResistant to the soybean cyst nematode (Race 3).^dResistant to the soybean cyst nematode (Race 4).^eBlend, see Table 3.^fNo statistically significant differences were indicated.

Table 9.—Kentucky Soybean Variety Tests—Lexington.

VARIETY	YIELD	YIELD	YIELD	LODG ^a	LODG ^a	LODG ^a	HT. ^b	MAT.	POD
	BU/AC	BU/AC	BU/AC	-ING	-ING	-ING	(IN)	DATE	HT.
	76-78	77-78	1978	76-78	77-78	1978	1978	1978	1978
EARLY (GROUP III)									
AGRIPRO 35	-	51.4	46.1	-	2.7	3.0	37	9/28	4.7
AMSOY 71	-	-	42.8	-	-	4.3	36	9/18	4.7
ASGROW 3585	-	53.8	50.3	-	1.9	1.8	37	9/29	6.3
CB 347 ^c	-	-	46.4	-	-	2.7	36	9/28	5.7
CUMBERLAND	-	-	50.5	-	-	2.5	32	9/25	4.0
CX 350	-	-	42.5	-	-	2.8	36	9/28	5.3
ELF	-	56.4	51.5	-	1.2	1.5	23	9/30	4.3
J 120	-	-	47.4	-	-	2.7	39	9/26	6.0
RA 31 ^c	49.4	54.5	51.2	2.4	2.5	2.3	39	10/2	5.7
SRF 350	-	-	47.3	-	-	4.3	39	9/26	5.7
VB 350 ^c	-	49.8	47.4	-	2.3	2.5	36	9/29	5.0
WILLIAMS	48.3	50.2	46.0	2.3	2.6	2.7	35	9/29	6.0
WILLIAMS 78	-	-	49.3	-	-	2.3	37	9/28	5.7
WOODWORTH	49.4	52.0	48.9	2.1	2.4	2.3	35	9/26	5.7
MID-SEASON (GROUP IV)									
AGRIPRO 40	-	-	47.5	-	-	4.0	44	-	f 5.0
CB 470 ^c	-	-	44.1	-	-	3.5	43	-	f 5.0
CUSTER ^c	-	44.9	41.6	-	2.8	3.0	50	-	f 5.7
CUTLER 71	44.5	47.1	41.9	2.6	2.7	3.2	40	10/4	6.0
FRANKLIN ^c	-	46.9	41.5	-	2.4	3.2	41	-	f 5.7
KENT	45.6	47.9	44.1	1.8	2.0	2.2	41	-	f 3.0
MITCHELL	51.8	54.4	46.6	2.4	2.5	2.5	37	10/9	4.3
MULTIVAR 91 ^c	-	49.0	42.7	-	2.0	2.3	41	10/2	5.7
RA 401	-	-	47.6	-	-	2.2	42	-	f 6.3
RA 41 ^c	-	-	37.0	-	-	2.3	45	-	f 5.0
SRF 425	43.8	48.4	47.1	3.1	3.3	3.7	41	-	f 6.0
SRF 450	44.6	46.2	38.4	2.2	2.7	3.0	39	-	f 5.0
SSF 402	44.3	49.3	43.5	2.6	2.5	2.2	40	-	f 5.0
UNION	-	53.5	50.6	-	3.0	3.3	41	9/2 ^c	6.3
VS 457	-	-	50.8	-	-	2.7	43	-	f 3.3
VS 465	-	51.1	45.7	-	1.9	2.2	41	10/7	5.7
WILSTAR 430	50.2	51.3	42.0	2.4	2.5	3.0	43	-	f 6.0
LATE (GROUPS V AND VI)									
BEDFORD ^d	-	34.6	31.3	-	4.4	4.2	53	-	f 16.7
DARE	38.6	42.5	37.6	3.1	2.7	2.8	40	-	f 7.7
ESSEX	46.9	48.2	42.7	2.1	2.2	1.8	36	-	f 8.3
FORREST ^c	37.2	42.9	33.8	4.0	3.6	3.3	49	-	f 14.3
MCNAIR 500	33.1	42.2	30.4	2.8	2.6	2.5	37	-	f 9.7
MULTIVAR 100 ^c	40.6	45.3	40.3	3.1	2.8	2.3	35	-	f 8.0
RA 501A	-	-	33.3	-	-	2.8	53	-	f 11.0
SHORE	-	-	31.2	-	-	2.8	39	-	f 9.0
SSF 500-N	-	-	35.7	-	-	3.3	45	-	f 11.7
YORK	42.5	45.1	38.9	3.0	2.7	2.7	46	-	f 13.7
GRAND AVERAGE	44.4	48.4	43.3	2.6	2.6	2.8	40	-	6.7
LSD (.05)	7.5	6.8	6.3	0.9	0.8	0.8	8	-	3.3

^aLodging score, 1 (all plants erect) to 5 (all plants over badly).

^bPlant height.

^cResistant to the soybean cyst nematode (Race 3).

^dResistant to the soybean cyst nematode (Race 4).

^eBlend, see Table 3.

^fNot mature when frost occurred on 10/08.

Table 10.—Kentucky Soybean Variety Tests—Franklin, Double-cropped.

VARIETY	YIELD	YIELD	YIELD	LODG ^a	LODG ^a	LODG ^a	HT. ^b	POD
	BU/AC	BU/AC	BU/AC	-ING	-ING	-ING	(IN)	HT.
	76-78	77-78	1978	76-78	77-78	1978	1978	1978
EARLY (GROUP III)								
AGRIPRO 35	-	38.9	34.3	-	2.6	2.5	31	4.0
AMSOY 71	-	43.1	37.0	-	3.6	3.1	32	4.0
ASGROW 3585	-	37.0	38.0	-	1.9	1.6	31	3.7
CB 347 ^c	-	-	43.5	-	-	2.5	33	4.0
CUMBERLAND	-	-	32.1	-	-	1.8	25	2.0
CX 350	-	-	45.1	-	-	2.5	35	5.0
ELF	-	39.1	34.8	-	1.1	1.2	16	1.0
J 120	-	-	37.1	-	-	1.7	31	4.0
RA 31 ^c	-	42.8	42.4	-	2.4	2.4	33	4.0
SRF 350	-	-	33.6	-	-	2.0	30	4.3
VB 350 ^c	-	43.2	42.7	-	2.7	2.8	32	4.0
WILLIAMS	44.3	44.4	42.3	1.4	1.7	1.5	32	5.0
WILLIAMS 78	-	-	30.5	-	-	0.9	25	3.3
WOODWORTH	41.0	39.6	43.5	2.9	3.1	1.9	30	3.0
MID-SEASON (GROUP IV)								
AGRIPRO 40	-	-	43.7	-	-	3.4	35	2.7
CB 470 ^c	-	-	24.9	-	-	1.0	27	3.0
CUSTER ^c	-	39.0	37.0	-	2.8	2.8	37	5.7
CUTLER 71	39.8	41.2	40.4	2.7	2.5	3.2	33	3.7
FRANKLIN ^c	-	40.7	37.9	-	2.3	2.2	33	4.3
KENT	35.0	35.7	35.4	2.0	2.2	2.0	33	5.7
MITCHELL	46.6	45.8	43.7	3.3	2.7	1.8	32	4.0
MULTIVAR 91 ^c	-	40.0	37.5	-	1.7	1.5	32	4.0
RA 401	-	-	38.1	-	-	1.8	31	7.0
RA 41 ^c	-	-	36.3	-	-	2.0	33	4.3
SRF 425	43.2	42.8	42.2	3.2	2.6	2.8	36	4.0
SRF 450	33.8	33.7	33.3	2.8	2.4	2.7	32	4.3
SSF 402	36.9	35.5	35.3	2.9	2.7	2.8	31	4.0
UNION	-	40.1	35.0	-	2.1	1.5	35	3.7
VS 457	-	-	36.6	-	-	2.2	33	4.0
VS 465	-	45.1	44.5	-	2.8	2.8	36	4.0
WILSTAR 430	43.5	44.3	41.1	2.9	2.6	2.3	34	5.0
LATE (GROUPS V AND VI)								
BEDFORD ^d	-	26.9	29.2	-	2.1	1.8	38	6.7
DARE	38.2	38.8	37.1	4.3	4.2	4.0	31	5.7
ESSEX	40.1	40.9	41.9	3.1	2.7	2.0	28	6.3
FORREST ^c	32.8	34.4	34.3	3.6	2.8	2.2	32	7.0
MCNAIR 500	29.4	32.4	33.4	3.4	2.7	2.2	35	6.0
MULTIVAR 100 ^c	37.7	39.7	42.5	3.4	2.5	2.6	37	7.0
RA 501A	-	-	41.0	-	-	3.0	37	5.3
SHORE	-	-	28.9	-	-	1.7	30	6.0
SSF 500-N	-	-	35.1	-	-	2.8	31	6.3
YORK	38.5	38.2	39.6	3.4	2.6	2.2	32	5.3
GRAND AVERAGE	38.7	39.4	37.6	3.0	2.5	2.2	32	4.5
LSD (.05)	4.8	7.0	7.2	N.S. ^f	1.2	1.3	6	2.1

^aLodging score, 1 (all plants erect) to 5 (all plants over badly).

^bPlant height.

^cResistant to the soybean cyst nematode (Race 3).

^dResistant to the soybean cyst nematode (Race 4).

^eBlend, see Table 3.

^fNo statistically significant differences were indicated.

Table 11.—Kentucky Soybean Variety Tests—Princeton, No-till, Double-cropped.

VARIETY	YIELD ^a		LODG ^b		HT. ^{ac}
	BU/AC 76-77	BU/AC 1977	-ING 76-77	-ING (IN) 1977	1977
<u>EARLY (GROUP III)</u>					
AGRIPRO 35	-	55.4	-	2.0	33
ASGROW 3585	-	54.0	-	3.0	33
ELF	-	52.6	-	1.7	21
RA 31 ^f	-	59.7	-	2.3	35
VB 350 ^f	-	59.3	-	1.7	35
WILLIAMS	32.6	50.8	1.5	2.0	35
WOODWORTH	33.7	52.6	2.0	3.0	31
<u>MID-SEASON (GROUP IV)</u>					
CUSTER ^d	-	54.4	-	3.7	39
CUTLER 71	39.2	55.1	2.5	4.0	38
FRANKLIN ^d	-	56.3	-	2.3	38
KENT	38.6	50.2	1.8	2.7	38
MITCHELL	32.8	55.5	2.0	3.0	37
MULTIVAR 91 ^f	-	56.7	-	2.3	38
SRF 425	38.8	56.1	1.8	2.7	36
SRF 450	-	48.8	-	2.7	37
SSF 402	37.4	49.2	1.3	1.7	37
UNION	-	59.3	-	2.7	39
VS 465	-	59.6	-	2.0	39
WILSTAR 430	41.2	58.3	2.2	3.3	37
<u>LATE (GROUPS V AND VI)</u>					
BEDFORD ^e	-	23.1	-	4.0	46
DARE	33.9	44.7	2.2	3.3	38
ESSEX	33.2	47.0	2.2	3.3	35
FORREST ^d	21.6	30.3	2.2	3.3	39
MCNAIR 500	24.0	32.5	2.2	3.3	39
MULTIVAR 100 ^f	35.0	51.7	2.0	3.0	37
YORK	34.2	44.7	2.0	3.0	35
GRAND AVERAGE	34.0	50.7	2.0	2.8	36
LSD (.05)	N.S. ^g	8.3	N.S. ^g	1.3	3

^aData for 1978 not reported owing to poor stand establishment due to drought conditions.

^bLodging score, 1 (all plants erect) to 5 (all plants over badly).

^cPlant height.

^dResistant to the soybean cyst nematode (Race 3).

^eResistant to the soybean cyst nematode (Race 4).

^fBlend, see Table 3.

^gNo statistically significant differences were indicated.

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