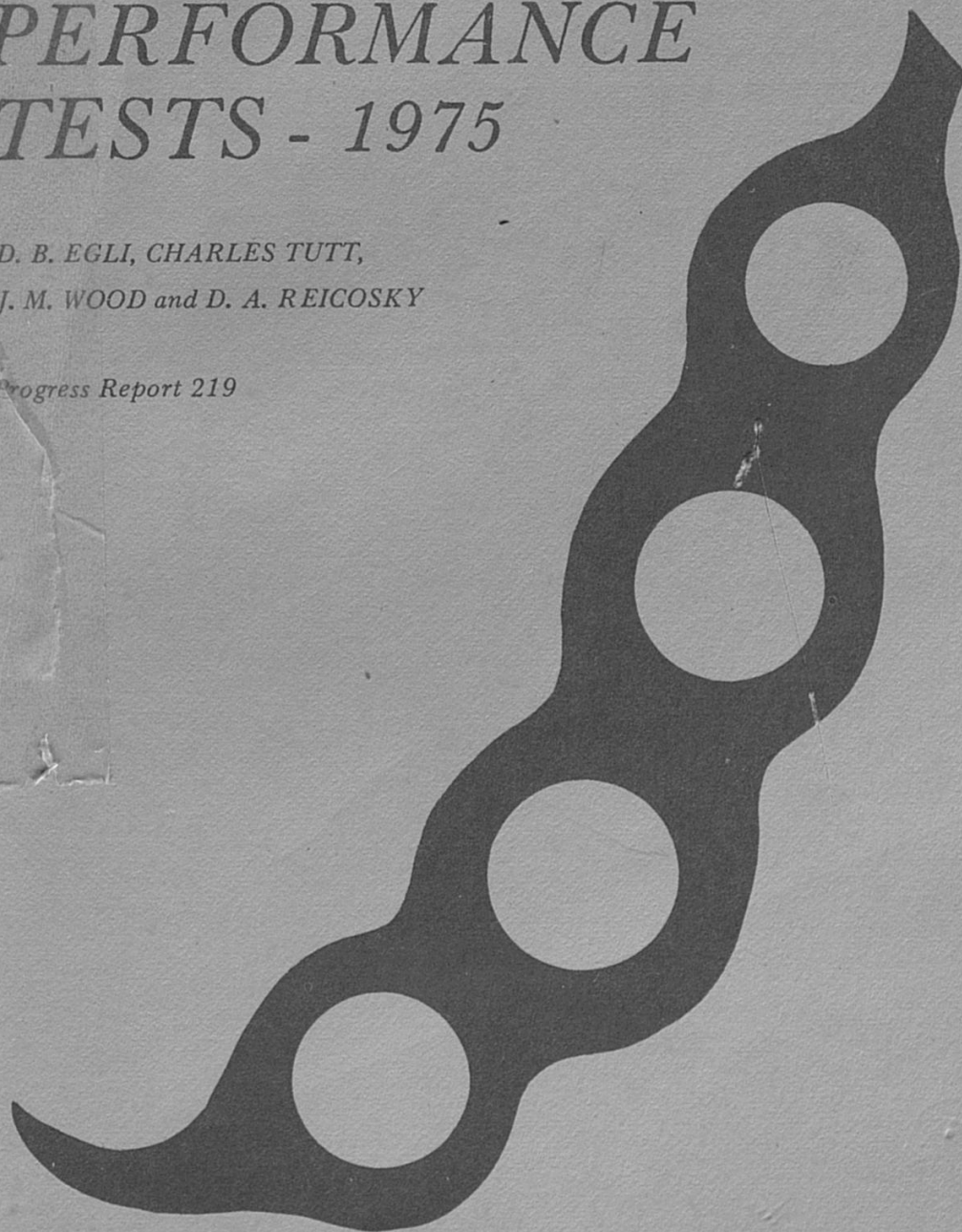


KENTUCKY SOYBEAN PERFORMANCE TESTS - 1975

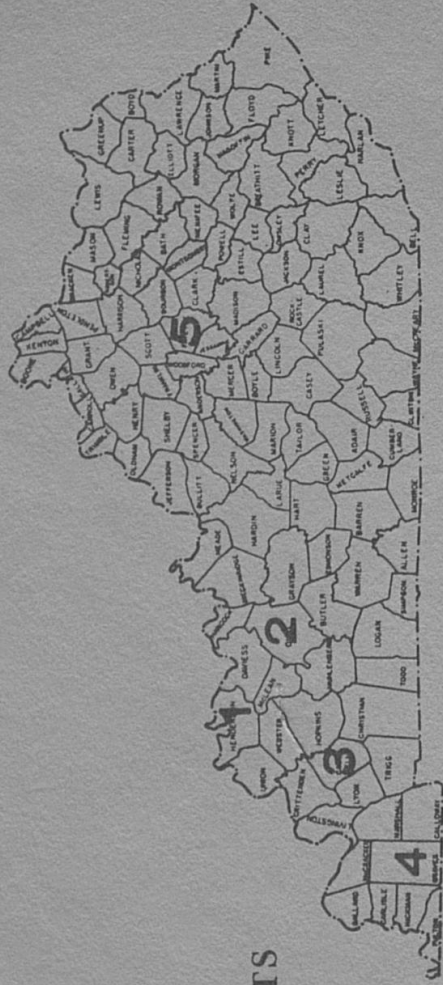
*D. B. EGLI, CHARLES TUTT,
J. M. WOOD and D. A. REICOSKY*

Progress Report 219



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

LOCATION OF THE 1975
SOYBEAN PERFORMANCE TESTS



<u>Location</u>	<u>Soil Type</u>	<u>Date Planted</u>	<u>Row Width</u>	<u>Farm Cooperators</u>
1. Henderson	Wakeland silt loam	May 20	26 inches	James McConathy
2. Hartford	Melvin silt loam	May 21	26 inches	Preston Vaught
3. Princeton	Crider silt loam	May 20	30 inches	
4. Mayfield	Loring silt loam	July 7*	20 inches	Berthel Johnson
5. Lexington	Maury silt loam	June 4	36 inches	
		May 27	26 inches	

(Extension Agents who cooperated in the tests included William Hendrick, John Kavanaugh, and William Green.)

*Double cropped after wheat.

Kentucky Soybean Performance Tests—1975

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

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 1974 were conducted at four locations in the major soybean-producing areas of the state and at Lexington. The testing locations, soil types, planting date and row width are shown on the opposite page. Each variety was planted in three plots (replications) at all locations, with individual plots being 20 feet long and 3 rows wide except for the double crop test which was 4 rows wide. The seeding rate was approximately 8-10 viable seed per foot of row. It should be noted that there were no soybean cyst nematodes at any of the test locations.

Yield

A 16-foot section from each of the center rows was harvested for yield. Plants were cut by hand and threshed with a small nursery thresher. All branches and lodged plants were harvested from each plot. The yield of the varieties is reported as bushels per acre at 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

This is the date when the pods are dry 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. Maturity dates were not recorded at all locations.

Height

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

INTERPRETATION

An important step to profitable soybean production is to select good seed of the best variety. 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 particular soybean grower's farm probably provide the best estimate of the potential of the soybean varieties in that area.

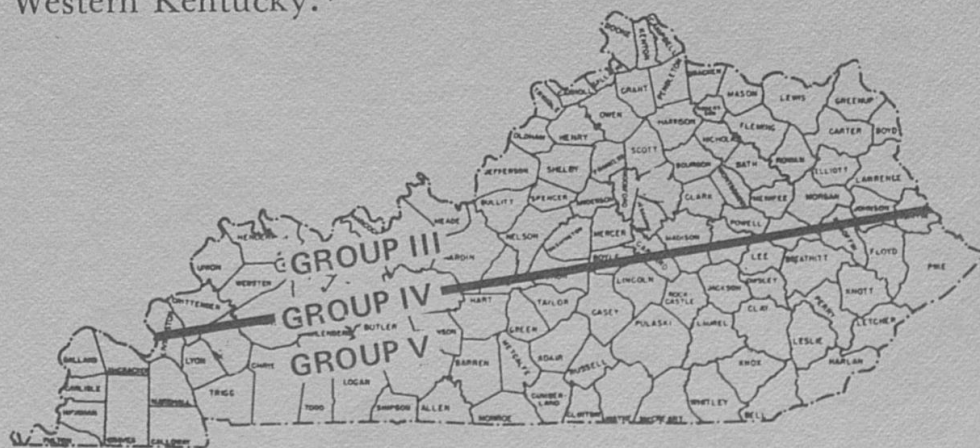
Performance of the varieties will vary from year to year. The average performance of a variety over a period of years provides a better estimate of its potential than its performance in a particular year.

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.

The performance of soybean varieties varies from year to year and location to location depending on adaptability, weather conditions and management. For this reason the performance of the varieties will vary from year to year.

Variety Adaptation

Early-maturing varieties (Group III), such as Calland and Williams are best adapted in areas of Western Kentucky north of the line indicated on the map shown below. The line is approximately the same as where the Western Kentucky Parkway is located. Late-maturing varieties (Groups V and VI), such as Dare, 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 Western Kentucky.*



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

*Varieties for other groups not named are not adapted for growing in Kentucky.

Certified Seed

Always plant high quality seed of recommended varieties. Certified soybean 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 freedom from noxious weed seed and other crop seed. The Experiment Station recommends that Kentucky certified seed be used whenever possible for growing a commercial crop of soybeans.

Average Statewide Performance

The performance data of varieties that have been in the Kentucky variety test for at least three years are averaged over years and across locations in maturity zones and shown in Table 1. Performance for 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 1 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 1.—Average Performance Across Years and Locations.

	Henderson, Hartford and Lexington 1973-75		Princeton and Mayfield, 1974-75		Approx. seed/pound	Approx. ^{2/} Maturity
	Yield (Bu/A)	Lodging ^{1/}	Yield (Bu/A)	Lodging ^{1/}		
<u>Early (Group III)</u>						
SRF 307P	47.6	2.8	--	--	2800	-3
Calland	45.1	2.3	--	--	2600	-1
SRF 350	45.8	2.5	--	--	3600	0
Williams	48.4	2.8	47.1	2.3	2600	0
<u>Mid-Season (Group IV)</u>						
SRF 400	42.6	2.5	--	--	3200	+1
FFR 444	--	-	43.2	3.2	3100	+4
Cutler 71	46.0	2.4	44.4	2.5	2600	+4
Bonus	49.6	2.0	46.5	2.5	2600	+2
SRF 450	41.3	2.6	44.6	2.3	2700	+13
Kent	43.8	2.2	45.8	1.3	2600	+13
<u>Late (Group V and VI)</u>						
FFR 555	--	--	33.0	2.5	2800	+30
Essex	48.6	2.2	42.4	1.9	3500	+27
York	--	-	40.9	2.4	2600	+31
Mack ^{3/}	--	-	40.4	3.0	3200	+32
Folrest ^{3/}	--	-	42.0	2.1	3500	+33
FFR 666	--	-	31.8	2.9	--	+35
Coker 136	--	-	41.0	2.0	--	+42
Hood	--	-	33.8	2.6	3000	+35
Average	45.9	2.4	41.2	2.4		

^{1/} See explanation in text.

^{2/} Days earlier (-) or later (+) than Williams.

^{3/} Resistant to the Soybean Cyst Nematode (Race 3).

Sources of Seed

<u>Entry</u>	<u>Source</u>
SM 3-E	Seedmakers, Inc., Sidney, Ill. 61877
SRF 307P,350, 400,425,450	Soybean Research Foundation, Inc. Mason City, Ill. 62664
FFR444,555, 556,666	Farmers Forage Research, Coop. 4112 E. State Road 225 Lafayette, Ind. 47906
AGRIPRO 35	AGRIPRO, Inc. Box 1668 Ames, Iowa 50010
Peterson 3125	Peterson Soybean Seed Division Pioneer Hi-Bred International, Inc. 3261 West Airline Highway Waterloo, Iowa 50701
A3300,A3440	Asgrow Seed Company 634 East Lincoln Way Ames, Iowa 50010
McNair 600	McNair Seed Company P. O. Box 706 Laurinburg, N. C. 28352
Multivar 80 Multivar 90	Northrup, King & Co. Washington, Iowa 52353
Coker 136	Coker's Pedigreed Seed Co. Hartsville, S. C. 29550

Table 2.—Kentucky Soybean Variety Tests—Henderson.

Variety	Yield(Bu/A)			Lodging ^{1/}			Ht. ^{2/} (In.)
	1973 -75	1974 -75	1975	1973 -75	1974 -75	1975	
<u>Early (Group III)</u>							
SRF 307P	52.2	49.9	50.4	3.7	4.6	4.2	40
Calland	50.6	46.7	48.9	3.4	4.1	3.2	39
A3300	---	---	47.6	-	-	3.0	36
A3440*	---	---	51.1	-	-	2.7	40
AGRIPRO 35	---	---	55.9	-	-	3.2	42
Woodworth	---	---	48.0	-	-	2.5	36
SM 3-E	---	---	47.8	-	-	5.0	51
Multivar 80*	---	---	53.4	-	-	2.7	40
SRF 350	53.4	54.3	54.0	3.3	4.2	3.3	42
Williams	57.5	55.1	50.6	2.9	3.7	2.5	41
<u>Mid-Season (Group IV)</u>							
SRF 400	48.8	46.8	50.9	3.1	3.5	3.2	40
FFR 444	---	51.7	49.6	-	4.0	3.5	43
Cutler 71	53.8	51.6	48.0	3.6	4.4	4.0	47
SRF 425	53.4	49.0	50.0	4.2	4.7	4.3	46
Mitchell	---	---	63.9	-	-	4.3	42
Multivar 90*	---	---	45.1	-	-	2.5	40
Peterson 3125*	---	---	53.1	-	-	1.8	41
Bonus	56.6	56.5	59.0	2.9	3.4	2.3	49
SRF 450	45.0	43.3	47.6	3.6	3.9	3.0	46
Kent	51.5	48.2	49.8	2.9	3.7	2.7	44
Pomona	---	50.3	50.2	-	3.5	2.5	45
<u>Late (Group V)</u>							
James	---	---	38.9	-	-	2.5	49
FFR 556	---	---	52.4	-	-	3.3	51
FFR 555	---	35.4	33.9	-	3.7	2.5	35
Essex	55.0	47.8	43.4	2.7	3.1	1.5	31
Dare	---	---	33.4	-	-	4.5	34
York _{3/}	48.0	42.5	41.4	3.9	4.7	4.3	38
Mack _{3/}	50.1	48.1	50.4	4.3	4.7	4.3	49
Forrest _{3/}	50.3	40.8	41.1	3.7	4.0	3.0	33
Average	51.9	48.1	48.6	3.4	4.0	3.2	42
LSD(.05)	11.4 Bu/A						

^{1/} See explanation in text.^{2/} 1975 data only.^{3/} Resistant to the Soybean Cyst Nematode (Race 3).

* Blend.

Table 3.—Kentucky Soybean Variety Tests--Hartford.

Variety	Yield(Bu/A)			Lodging ^{1/}			Ht. ^{2/} (in.)
	1973 -75	1974 -75	1975	1973 -75	1974 -75	1975	
<u>Early (Group III)</u>							
SRF 307P	40.7	41.6	39.0	1.5	1.6	1.3	30
Calland	38.1	38.0	43.8	1.6	1.8	1.8	35
A3300	--	--	42.5	-	-	1.8	32
A3440*	--	--	41.9	-	-	1.3	33
AGRIPRO 35	--	--	43.7	-	-	1.5	31
Woodworth	--	--	40.7	-	-	1.5	29
SM 3-E	--	--	44.7	-	-	2.3	35
Multivar 80*	--	--	38.9	-	-	1.5	32
SRF 350	34.6	32.2	39.4	1.3	1.4	1.2	29
Williams	39.5	38.4	43.7	1.5	1.6	1.8	36
<u>Mid-Season (Group IV)</u>							
SRF 400	37.5	35.7	43.0	1.5	1.5	1.8	35
FFR 444	--	40.2	46.4	-	2.0	1.8	36
Cutler 71	40.3	37.0	44.0	1.3	1.5	1.7	37
SRF 425	--	38.0	44.0	-	1.4	1.5	35
Mitchell	--	--	43.0	-	-	1.5	33
Multivar 90*	--	--	40.1	-	-	1.3	33
Peterson 3125*	--	--	46.7	-	-	1.3	36
Bonus	37.9	34.6	39.4	1.3	1.4	1.7	36
SRF 450	38.3	37.4	41.1	1.9	1.8	1.8	34
Kent	40.6	40.0	44.2	1.7	1.8	1.3	33
Pomona	--	35.4	36.9	-	1.6	1.3	32
<u>Late (Group V)</u>							
James	--	--	47.3	-	-	2.3	43
FFR 556	--	--	52.9	-	-	2.2	50
FFR 555	--	28.2	36.0	-	2.6	2.3	37
Essex	45.3	38.3	47.6	1.5	1.6	1.0	27
Dare	--	--	37.5	-	-	1.3	30
York ^{3/}	40.3	35.0	41.9	2.1	2.3	1.8	33
Mack ^{3/}	--	32.6	47.6	-	3.0	1.8	33
Forrest ^{3/}	--	34.6	47.6	-	2.6	1.8	33
Average	39.4	36.3	42.9	1.6	1.8	1.6	34
LSD (.05)	8.0 Bu/A.						

^{1/} See explanation in text.

^{2/} 1975 data only.

^{3/} Resistant to the Soybean Cyst Nematode (Race 3).

* Blend.

Table 4.—Kentucky Soybean Variety Tests—Princeton.

Variety	Yield(Bu/A)			Lodging ^{1/}			Maturity ^{2/}	Ht. ^{2/} (In.)
	1973	1974	1975	1973	1974	1975		
	-74	-75		-74	-75			
<u>Early (Group III)</u>								
SRF 307P	--	51.4	49.4	-	2.3	2.3	9/15	36
Calland	49.5	48.6	55.2	1.2	1.0	1.0	9/13	35
A3300	--	--	49.4	-	-	1.0	9/16	35
A3440*	--	--	54.2	-	-	1.0	9/15	35
AGRIPRO 35	--	--	49.7	-	-	1.0	9/17	35
Woodworth	--	--	50.4	-	-	1.0	9/13	34
SM 3-E	--	--	47.3	-	-	3.0	9/16	42
Multivar 80*	--	--	54.3	-	-	1.0	9/13	35
SRF 350	51.7	52.7	51.9	2.3	1.6	2.0	9/12	35
Williams	53.7	53.8	55.0	1.0	1.0	1.0	9/12	36
<u>Mid-Season (Group IV)</u>								
SRF 400	41.7	42.6	45.2	2.2	2.5	2.3	9/14	37
FFR 444	--	46.7	47.9	-	2.0	2.3	9/15	37
Cutler 71	48.8	48.1	55.7	1.6	1.5	1.7	9/17	38
SRF 425	53.3	54.6	55.8	1.9	1.8	1.7	9/18	41
Mitchell	--	--	63.5	-	-	3.0	9/20	40
Multivar 90*	--	--	51.0	-	-	1.0	9/15	35
Peterson 3125*	--	--	56.5	-	-	1.3	9/17	38
Bonus	50.6	50.6	53.3	1.9	1.8	1.3	9/16	41
SRF 450	--	51.4	55.4	-	1.4	1.7	9/26	39
Kent	47.2	48.8	54.8	1.1	1.0	1.0	9/22	40
Pomona	--	47.4	54.1	--	1.2	1.0	9/21	38
<u>Late (Group V and VI)</u>								
James	--	--	41.8	-	-	1.7	10/2	43
FFR 556	--	--	40.9	-	-	2.0	10/18	54
FFR 555	--	36.9	30.8	-	1.5	2.0	10/14	40
Essex	46.9	43.2	45.6	1.4	1.0	1.0	10/2	28
Dare	--	--	38.8	-	-	2.3	10/8	39
York ^{3/}	52.5	47.6	42.8	1.4	1.5	2.0	10/12	37
Mack ^{3/}	43.8	44.6	41.1	2.3	2.2	2.3	10/7	37
Forrest ^{3/}	46.6	46.4	41.5	1.4	1.0	1.0	10/12	39
FFR 666	--	36.7	34.6	-	2.0	2.3	10/15	36
Coker 136	--	46.7	41.7	-	2.0	1.7	10/17	43
Hood	40.9	40.0	36.1	2.0	1.6	2.3	10/16	40
Pickett 71 ^{3/}	--	--	31.6	-	-	3.3	10/24	38
McNair 600	--	--	37.8	-	-	2.3	10/17	42
Average	48.2	46.9	47.5	1.6	1.6	1.7		38
LSD(.05)	7.9 Bu/A							

^{1/} See explanation in text.

^{2/} 1975 data only.

^{3/} Resistant to the Soybean Cyst Nematode (Race 3).

* Blend

Table 5.—Kentucky Soybean Variety Tests—Princeton, Double-cropped, 1975.¹

Variety	Yield(Bu/A)	Lodging ^{2/}	Maturity	Ht (in.)
<u>Early</u> (Group III)				
Williams	31.4	1.0	10/13	19
<u>Mid-Season</u> (Group IV)				
Bonus	27.2	1.0	10/11	21
Kent	33.7	1.0	10/20	23
<u>Late</u> (Group V and VI)				
Essex	35.0	1.0	10/25	21
York	34.7	1.3	10/28	23
Forrest ^{3/}	35.3	1.3	10/29	28
Hood	40.7	1.7	11/3	28
Lee 74	36.3	3.3	11/4	28
Average	34.3	1.4		24

^{1/} No-till planted after wheat on July 7, 1975.

^{2/} See text for explanation.

^{3/} Resistant to the Soybean Cyst Nematode (Race 3).

Table 6.—Kentucky Soybean Variety Tests—Mayfield.

Variety	Yield(Bu/A)		Lodging ^{1/}		Ht ^{2/} (In.)
	1974 -75	1975	1974 -75	1975	
<u>Early (Group III)</u>					
Williams	40.4	42.9	3.6	3.0	41
<u>Full Season (Group IV)</u>					
FFR 444	39.8	39.4	4.5	4.7	43
Cutler 71	40.6	42.9	3.5	4.3	41
Mitchell	--	49.5	-	4.3	41
Multivar 90*	--	42.0	-	2.7	40
Bonus	42.4	45.2	3.2	3.0	45
SRF 450	37.8	40.1	3.2	3.3	41
Kent	42.8	42.2	1.6	1.3	43
Pomona	--	44.0	-	4.0	41
<u>Late (Group V and VI)</u>					
FFR 555	29.2	31.1	3.5	3.7	39
Essex	41.6	38.9	2.8	2.7	36
Dare	--	32.4	-	3.7	38
York ^{3/}	34.2	38.5	3.4	2.7	38
Mack ^{3/}	36.1	35.4	3.8	3.0	40
Forrest ^{3/}	37.5	44.2	3.2	3.0	38
FFR 666	26.8	28.1	3.8	3.3	36
Coker 136	35.3	35.2	2.0	2.0	44
Hood	27.7	30.6	3.6	4.0	41
Lee 74	--	32.8	-	3.0	40
Pickett 71 ^{3/}	26.4	30.5	3.8	3.3	36
Average	35.9	38.3	3.3	3.2	40
LSD (.05)	9.7 Bu/A				

^{1/} See explanation in text.

^{2/} 1975 data only.

^{3/} Resistant to the Soybean Cyst Nematode (Race 3).

* Blend.

Table 7.—Kentucky Soybean Variety Tests—Lexington.

Variety	Yield(Bu/A)			Lodging ^{1/}			Maturity ^{2/}	Ht ^{2/} (in.)
	1973 -75	1974 -75	1975	1973 -75	1974 -75	1975		
<u>Early (Group III)</u>								
SRF 307P	49.9	46.6	36.8	3.1	3.6	2.0	9/11	34
Calland	46.5	43.6	39.8	1.9	2.0	1.5	9/12	36
A3300	---	---	42.4	-	-	1.3	9/9	34
A3440*	---	---	42.3	-	-	1.5	9/12	36
AGRIPRO 35	---	---	45.9	-	-	2.2	9/20	34
Woodworth	---	---	43.8	-	-	1.2	9/9	33
SM 3-E	---	---	38.6	-	-	1.8	9/12	39
Multivar 80*	---	---	40.6	-	-	1.5	9/12	33
SRF 350	49.5	48.0	43.2	2.8	2.8	3.0	9/21	34
Williams	48.1	47.8	43.7	1.5	1.4	1.0	9/12	34
<u>Mid-Season (Group IV)</u>								
SRF 400	41.5	40.5	30.4	2.8	2.2	1.7	9/19	35
FFR 444	---	42.5	35.0	-	1.8	1.5	9/14	34
Cutler 71	43.8	38.4	34.7	2.2	1.8	1.8	9/21	39
SRF 425	41.2	45.0	33.6	3.0	2.6	2.8	9/27	39
Mitchell	---	---	40.4	-	-	3.0	9/28	37
Multivar 90*	---	---	41.4	-	-	1.7	9/21	34
Peterson 3125*	---	---	39.2	-	-	1.8	9/23	36
Bonus	54.2	54.8	49.2	1.8	1.6	1.3	9/23	40
SRF 450	40.6	39.2	34.9	2.4	2.5	2.2	10/3	39
Kent	39.4	39.0	34.7	1.9	1.5	1.5	10/2	36
Pomona	---	39.6	34.3	-	1.4	1.3	9/30	35
<u>Late (Group V)</u>								
James	---	---	28.2	-	-	1.3	10/4	41
FFR 556	---	---	33.9	-	-	2.0	10/27	48
FFR 555	---	31.2	32.9	-	2.6	2.3	10/29	40
Essex	45.6	43.4	43.7	2.3	2.2	1.7	10/6	32
Dare	---	---	39.6	-	-	3.0	10/14	36
York ^{3/}	---	42.6	50.6	-	3.0	2.7	10/22	36
Mack ^{3/}	---	32.8	37.4	-	3.8	3.0	10/14	32
Forrest ^{3/}	---	40.9	47.6	-	2.8	2.5	10/16	37
Average	45.5	42.1	39.3	2.3	2.3	1.9		36
LSD (.05)				8.4 Bu/A				

^{1/} See explanation in text.^{2/} 1975 data only.^{3/} Resistant to the Soybean Cyst Nematode (Race 3).

* Blend.

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