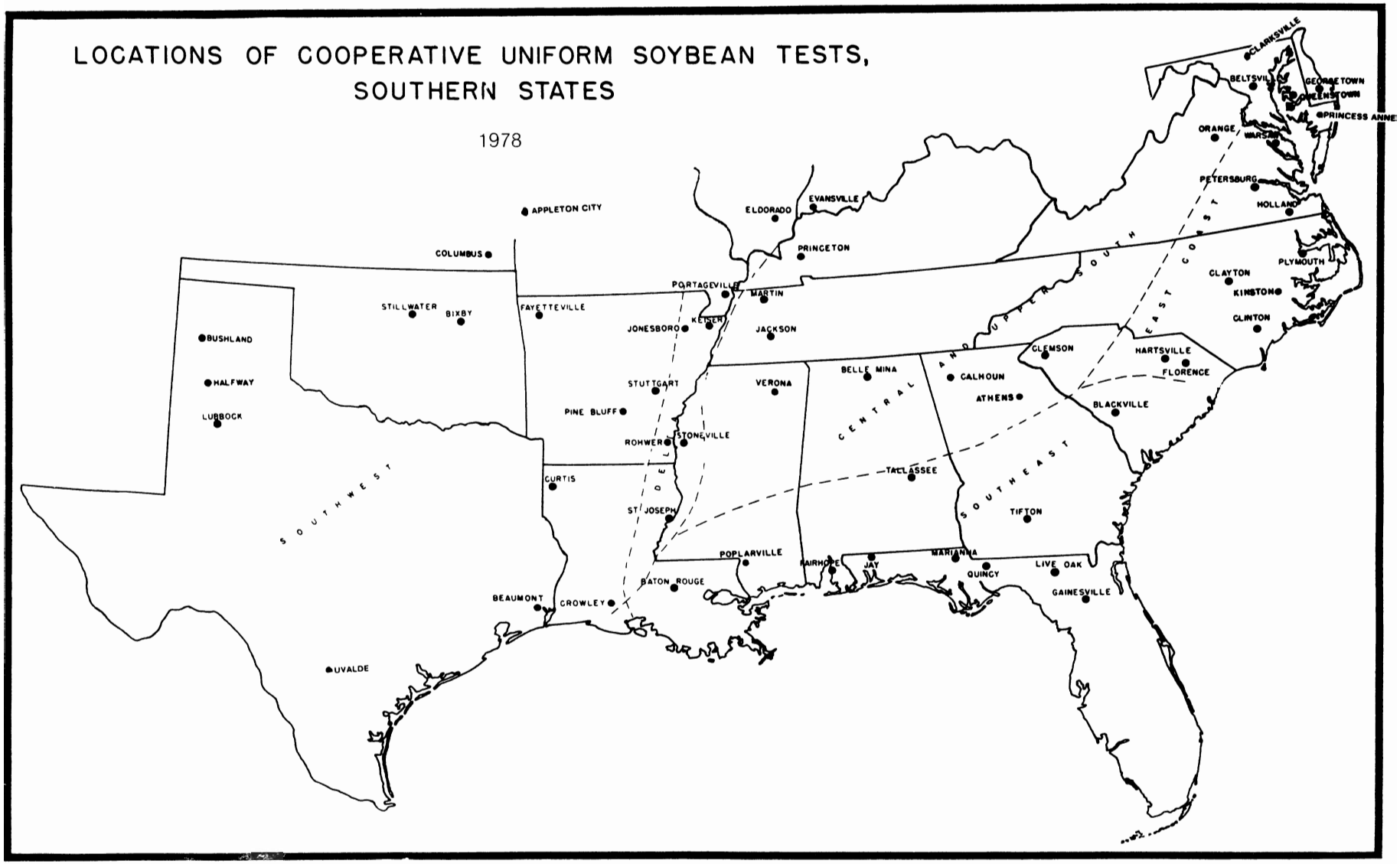
THE UNIFORM SOYBEAN TESTS
SOUTHERN STATES
1978

UNITED STATES DEPARTMENT OF AGRICULTURE
SCIENCE AND EDUCATION ADMINISTRATION
AGRICULTURAL RESEARCH
COOPERATING WITH
STATE AGRICULTURAL EXPERIMENT STATIONS
SOUTHERN REGION
STONEVILLE, MISSISSIPPI

LOCATIONS OF COOPERATIVE UNIFORM SOYBEAN TESTS, SOUTHERN STATES

1978



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1978

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INTRODUCTION

The Soybean Production Research Program has been directed toward the development of improved strains of soybeans and the obtaining of fundamental information necessary to the efficient breeding of strains to meet specific needs. In the Southern Region, fundamental studies and breeding programs are conducted at three locations: Stoneville, Mississippi; Raleigh, North Carolina; and Gainesville, Florida. After promising new strains are developed at these breeding centers, or by any other cooperating agency, they are advanced to the preliminary and uniform regional tests, conducted in cooperation with research workers in the southeastern states. This testing program enables the breeder to evaluate new strains under a wide variety of conditions, and permits new strains to be put into production in a minimum amount of time.

Ten uniform test groups have been established to evaluate the better strains developed in the breeding programs. The groups 00 through IV are adapted in the northern part of the United States, and the groups IV-S through VIII are grown in the southern part. Within their area of adaptation, there is a maturity range of 12 to 18 days within each maturity class. The best standard varieties available of each maturity class are used as check varieties with which to compare new strains as to seed yield, chemical composition, maturity, height, lodging, seed quality, and reaction to diseases. For the groups grown in the southern area, the major check varieties are: Columbus, Essex, Forrest, Tracy, Centennial, Bragg, Ransom, Hutton, and Cobb. At Stoneville, Mississippi, where all maturity classes will mature, the approximate maturity dates of these varieties, when planted during the first half of May, are: Columbus, September 14; Essex, September 25; Forrest, October 1; Tracy, October 13; Centennial, October 16; Bragg, October 22; Hutton, November 1; and Cobb, November 6.

A wide range of soil and climatic conditions exists in the regions. As an aid in recognizing regional adaptation, the region has been subdivided into five rather broad areas which still represent a wide range of soil types. These are: (1) the East Coast, consisting of the Coastal Plain and Tidewater areas of the eastern shore of Maryland, Virginia, North Carolina, and the upper half of South Carolina; (2) the Southeast, consisting primarily of the Coastal Plain soils of the Gulf Coast area, but also including similar soil from South Carolina, southward; (3) the Upper and Central South, including the Piedmont and loessal hill soils east of the Mississippi River; (4) the Delta area, composed of the alluvial soils along the Mississippi River from southern Missouri, southward; and (5) the Southwest, comprising Arkansas and Louisiana (outside the Delta), and Oklahoma and Texas. In the Southwest area, the potential soybean-growing areas would include the alluvial soils, the Gulf Coast of Louisiana and Texas, and the high plains of Texas. In this area, several of the tests receive supplemental irrigation. A map is included to illustrate the five production areas.

On nearly all of the soils, other than the alluvial soils along the Mississippi River, fertilization is essential for satisfactory soybean production. In the Western area, irrigation is necessary for successful production. A table showing soil types, soil test information, and rate of fertilization is included.

The soil test information is based upon analyses run by laboratories within the states. Different methods are used for extraction and reporting by the various laboratories. An attempt is being made to report phosphorus and potash on a high, medium, and low basis, since pounds per acre may have different meanings in accordance with the methods used. In most cases, soil samples were taken after the soybeans were mature.

STRAIN IDENTIFICATION

The strains designated by number carry a letter prefix. This letter identifies where each strain was selected:

- Co - Coker's Pedigreed Seed Company, Hartsville, South Carolina.
- D - Delta Branch Experiment Station and AR, USDA
- F - Florida Agricultural Experiment Station and AR, USDA
- Ga - Georgia Agricultural Experiment Station
- J - Delta Branch Experiment Station, West Tennessee Experiment Station and AR, USDA
- L - Illinois Agricultural Experiment Station and AR, USDA
- La - Louisiana Agricultural Experiment Station
- Md - Maryland Agricultural Experiment Station and AR, USDA
- N - North Carolina Agricultural Experiment Station and AR, USDA
- R - Arkansas Agricultural Experiment Station
- S - Missouri Agricultural Experiment Station and AR, USDA
- Ts - Texas Agricultural Experiment Station
- UD - Delaware Agricultural Experiment Station
- V - Virginia Agricultural Experiment Station

NOTE: A T in a Ga number indicates selection made at Tifton.

A second L in an L number indicates selection made in southern Illinois at Eldorado.

Location of soybean nurseries along with soil type, soil analysis, and fertilization

Location	IV	V	VI	VII	VIII	Soil type	P_2O_5	K_2O	pH	Fertilizer[1]	Yield-adapted variety[2]
East Coast											
Queenstown, Md.	1	1*				Mattapex silt loam	H	H	6.4	0-45-90	53.9 - B
Georgetown, Del.	1	1*				Norfolk loamy sand	H	M	6.5	0-0-120	40.6 - B
Warsaw, Va.	1	1*	1			Sassafras sandy loam	H-	M	6.0	0-40-80	51.8 - B
Petersburg, Va.		1	1*			Marlboro f.s. loam	H	M	6.5	0-0-0	53.4 - E
Holland, Va.		1	1			Dragston s. loam	VH	M+	6.5	0-0-0	58.4 - B
Plymouth, N.C.		1*	1*	1		Bladen f.s. loam	H	H	5.9	0-40-80	55.9 - F
Clayton, N.C.			1	1		Norfolk sandy loam				0-40-80	38.2 - F
Kinston, N.C.			1	1		Norfolk sandy loam				0-40-80	30.4 - H
Clinton, N.C.			1	1	1	Norfolk sandy loam				0-40-80	47.8 - E
Florence, S.C.			1	1	1	Faceville sandy loam				0-0-0	51.0 - G
Hartsville, S.C.			1	1	1	Norfolk sandy loam	VH	H	6.2	0-0-0	47.0 - G
Southeast											
Blackville, S.C.(A)			1	1*	1	Varina loamy sand	H	H	5.9	0-37-75	40.3 - F
Blackville, S.C.(B)					1*	Varina loamy sand	H+	M	5.9	0-37-75	22.3 - G
Tifton, Ga.			1	1*	1	Tifton sandy loam	M	H	6.2	0-50-100	48.3 - I
Tallassee, Ala.				1*	1	Cahaba l.f.s.	H	H	6.1		30.5 - I
Gainesville, Fla.				1	1*	Arredonda fine sand	H	L	5.6	0-45-90	40.7 - J
Marianna, Fla.				1	1	Orangburg f.s.l.	H	M	6.8	25-50-75	44.4 - G
Quincy, Fla.			1	1	1*	Norfolk l.f.s.	H	H	5.9	0-70-70	28.3 - G
Jay, Fla.		1	1	1*	1*	Red bay f.s.l.	H	H	5.8	0-150-75	38.3 - F
Fairhope, Ala.			1	1	1	Malbis f.s.l.	H	M	5.8	16-48-48	46.5 - F
Poplarville, Miss.				1	1	Sawyer f. sandy loam	H	H	5.9	0-48-48	39.4 - G
Baton Rouge, La.			1	1*	1	Olivier silt loam	M	M	6.2	0-60-60	51.0 - F
Upper & Central South											
Orange, Va.	1	1				Davidson sandy loam	H	L	6.3	10-10-78	57.4 - B
Calhoun, Ga.		1	1	1		Leadvale silt loam	L	M	6.2	0-80-80	18.1 - C
Eldorado, Ill.		1				Harco silt loam					41.4 - A
Knoxville, Tenn.	1	1				Sequatchi loam				0-0-60	60.9 - B
Princeton, Ky.	1	1*				Crider silt loam	M	H	6.8	0-92-120	50.7 - B
Martin, Tenn.	1	1				Falaya silt loam	H	H	6.3	0-0-0	46.3 - C
Jackson, Tenn.		1	1			Memphis s. loam	H	H	6.1	0-40-40	33.4 - C
Belle Mina, Ala.		1	1	1*		Decatur clay loam	H	H	7.0	0-0-0	29.7 - B
Verona, Miss.		1	1			Tuscumbia silty loam	H+	M	7.0	0-80-100	43.6 - F
Athens, Ga.		1	1	1	1	Cecil sandy loam	VH	H	5.9	0-50-100	43.7 - E
Clemson, S.C.			1	1	1	Cecil sandy loam	VH	M	6.3	0-0-60	30.4 - D

Location	IV	V	VI	VII	VIII	Soil type	P_2O_5	K_2O	pH	Fertilizer[1]	Yield-adapted variety[2]
Delta											
Portageville, Mo.(A)	1	1*	1*			Tiptonville silt loam	VH	M	6.0	0-30-60	38.5 - D
Portageville, Mo.(B)	1	1	1			Portageville clay	VH	VH	7.0	0-0-0	40.8 - D
Keiser, Ark.	1	1*	1*			Sharkey clay	M	H	6.4	0-0-0	48.4 - C
Jonesboro, Ark.		1	1			Calloway silt loam	L	H	5.5	0-40-40	36.1 - D
Stoneville, Miss.(A)	1	1	1*	1*		Bosket f.s.l.	VH	H	6.6	0-0-0	51.4 - C
Stoneville, Miss.(B)		1*	1*	1*	1	Sharkey clay	VH	H	6.3	0-0-0	31.9 - E
Rohwer, Ark.			1	1		Perry clay	H	H	6.7	0-0-0	
St. Joseph, La.		1	1	1		Commerce silt loam	H	L	6.0	0-0-0	46.4 - D
West											
Columbus, Kan.	1	1				Cherokee silt loam	L	M	6.5	12-50-50	30.6 - D
Clinton, Mo.	1	1				Parson silt loam	M	H		0-0-0	40.6 - C
Pine Bluff, Ark.		1	1	1		Calloway silt loam	M	M		0-45-60	42.9 - C
Stuttgart, Ark.		1	1	1		Crowley silt loam	L	L	6.5	0-40-40	51.9 - C
Bossier City, La.		1	1	1		Severn very f.s.l.	H	L	7.4	0-0-0	38.0 - H
Crowley, La.			1	1	1	Crowley s.l.	L	L	6.0	0-60-60	46.0 - E
Bixby, Okla.	1	1	1			Reinoch silt loam	H	H	6.5	0-0-0	21.8 - C
Bushland, Texas	1					Pullman s.c.l.				0-0-0	40.2 - A
Halfway, Texas	1	1				Pullman clay loam				0-0-0	55.8 - B
Lubbock, Texas	1	1	1			Amarillo loam	VH	M	8.1	0-0-0	60.2 - B
Beaumont, Texas		1	1	1*	1*	Morrey silt loam	VL	H	5.9	0-40-40	50.3 - E
Clovis, N.M.	1									200-0-0	42.0 - A
Uvalde, Texas				1	1	Uvalde s.c.l.	H	VH	7.2	0-0-0	42.1 - H

[1]Fertilizer applied converted to pounds N, P_2O_5, K_2O. For example: 400# of 2-12-12 equals 8-48-48.

[2]Varieties: A = Columbus; B = Essex; C = Forrest; D = Bedford; E = Tracy; F = Centennial; G = Bragg; H = Ransom; I = GaSoy 17; J = Hutton; K = Cobb.

*Preliminary nursery also grown.

METHODS

The uniform nurseries were planted in 4-row plots with 3 replications. All seed was packeted at Stoneville, Mississippi for planting 19-foot rows. In most cases a 16-foot section was harvested from each of the two center rows. Randomized block designs are used for groups. Row widths at the different locations vary from 30 to 40 inches. An attempt was made to follow the best cultural and management practices in conducting these strain comparisons.

The preliminary nurseries were planted in 4-row plots with 2 replications at each of 4 to 8 locations.

Planting rate - all strains were packeted for planting at the rate of 9 seeds per foot.

Yields are taken by harvesting a 16-foot length from the mid-section of each plot. Actual seed weights are recorded after the seed of strains have a uniform moisture content. A bushel weight of 60 pounds is used in determining bushels per acre.

Shattering notes, where taken, are on the border rows, 14 days after maturity. The estimates are recorded on a scale of 1 to 5 as follows:

1 - no shattering
2 - 1 to 3% shattered
3 - 4 to 8% shattered
4 - 9 to 19% shattered
5 - over 20% shattered

Chemical composition - oil percent and protein percent were determined from representative locations. Percentage composition of the seed is expressed on a moisture-free basis. All chemical analyses are made at Peoria, Illinois.

Seed size for each strain was determined from a composite sample from all replications at a location. Seed size is reported for the locations where seed was analyzed for chemical composition and is reported as weight in grams per 100 seeds.

Lodging notes are recorded on a scale of 1 to 5 according to the following criteria:

1 - almost all plants erect
2 - either all plants leaning slightly, or a few plants down
3 - either all plants leaning moderately, or 25 to 50% of the plants down
4 - either all plants leaning considerably, or 50 to 80% of plants down
5 - all plants down badly

Height is determined as the average length of plants in a plot from the ground to the top extremity at time of maturity.

Maturity is taken as the date when the pods are dry and most of the leaves have dropped. Under most conditions, the stems are also dry. Maturity in all summaries is expressed as days earlier (-) or later (+) than a standard or reference variety. Reference varieties used from the different uniform tests are as follows: Group IV, Columbus; Group V, Essex; Group VI, Tracy; Group VII, Bragg; and Group VIII, Hutton.

Seed quality is rated from 1 to 5 according to the following scale:

1 - very good; 2 - good; 3 - fair; 4 - poor; and 5 - very poor

The factors considered in estimating seed quality are development of seed, wrinkling damage, and brightness. While the seed quality score indicates relative appearance of seed for the several varieties at one location, considerable difference can exist among factors responsible for the poorer grades in different locations.

Disease ratings are given on a scale of 1 to 5 as follows:

A. Foliar:

1 - immune to highly resistant

2 - lesions small and few in number

3 - lesions moderate in number and size

4 - lesions numerous and necrosis surround lesions

5 - leaves covered with lesions and much necrosis

B. Root and Stem:

1 - no plants killed

2 - 1 to 3% of plants killed

3 - 4 to 8% of plants killed

4 - 9 to 19% of plants killed

5 - over 20% of plants killed

In addition to percentage of plants killed, apparent plant vigor is considered in giving ratings for phytophthora rot.

C. Root knot ratings are based upon degree of galling development on roots. Ratings for *M. incognita* were made from a special planting on a heavily infested field in western Florida at the Jay Station. Ratings for *M. arenaria* were made from a planting on a heavily infested field near Blackville, South Carolina. Field observations for cyst nematode race 3 were made at Ames Plantation in Tennessee.

D. Purple stain or seedcoat mottling is determined as actual percentages at locations where the problem develops.

Statistical analyses - yield data are analyzed by analysis of variance. Differences necessary to indicate difference among strains (odds 19:1) are reported for each location and each area. Yield data from tests with extremely low yields or an extremely high coefficient of variability are not included in calculating averages.

UNIFORM GROUP IV-S

1978

	Variety or strain	Parentage	Generation composited
1.	Columbus	C1069 X Clark	F_8
2.	Crawford	Williams X Columbus	F_4
3.	K1033	Williams X Calland	F_5
4.	K1035	Williams X Calland	F_5
5.	K1036	Williams X Calland	F_5
6.	S76-2194	D67-3297 X Essex	F_4
7.	S76-2392	Essex X Mitchell	F_4
8.	S76-2669	Forrest X S63-53285	F_4
9.	L74-4261	Williams X Beeson	F_6
10.	L74-4372	Williams X Beeson	F_6
11.	L74-8356	Williams X Beeson	F_6
12.	Ts72-824	Bethel X Clark	F_4

Background of breeding lines used as parents:

C1069 is a selection from Lincoln X Ogden closely related to Kent.

D67-3297 is a selection from Hill(2) X PI 171450 which was tested in Uniform IV-S.

S63-53285 is a selection from Lee X Scott which was included in Uniform IV-S in 1970.

Results of 19 Uniform Group IV-S nurseries are summarized in Tables 1 through 7. Table 1 gives a general summary of performance and characteristics of each of the strains. Nine of the strains were grown for the first year, so three-year data are given only for Columbus, Crawford and Ts72-824.

Differences among strains for seed yield were significant (odds 19:1 or greater) at 17 locations. A combined analysis of variance for seed yield by production regions showed differences among strains to be significant in three of the regions.

The three-year mean seed advantage for Crawford over Columbus by region is 0.2, 0.9, 1.7, and 0.9 bushels per acre for the East Coast, Upper and Central South, Delta, and West. Crawford has averaged 4 days earlier than Columbus. The three-year mean seed yield of Ts72-824 was lower than that for Crawford in all but the Delta region.

Seed quality remains a problem with strains of this maturity. Seed quality was generally good in 1978 but seven strains, K1033, K1035, K1036, L74-4261, L74-4372, L74-8356, and Ts72-824, averaged appreciably poorer in seed quality than Columbus or Crawford. Several of these strains were also weak in seed holding. Several of the strains showed yield advantages over the check varieties, but with the seed quality and shattering problems, there seems little reason for further testing on a regional basis.

Table 1 - General summary of performance for the strains in Uniform Group IV-S, 1978

	Columbus	Crawford	K1033	K1035	K1036	S76-2194
Seed Yield - 1978						
East Coast	37.6	38.9	45.7+	44.1	42.1	42.4
Upper & Central South	46.2	48.6	55.0+	52.9+	54.3+	48.8
Delta	33.4	37.5	41.2+	39.4+	43.6+	41.5+
West	34.0	34.3	37.4	36.4	36.4	37.4
- 1977-78						
East Coast	39.7	39.4				
Upper & Central South	42.3	42.7				
Delta	33.7	36.2				
West	38.9	42.8				
- 1976-78						
East Coast	38.1	38.3				
Upper & Central South	40.2	41.1				
Delta	35.3	37.0				
West	38.4	39.3				
Oil Content - 1978	20.9	21.2	21.3+	21.9+	21.1	21.1
- 1977-78	20.9	21.1				
- 1976-78	20.6	21.0				
Protein Content - 1978	43.7	43.3	43.0	41.2-	41.5-	41.9-
- 1977-78	42.7	42.4				
- 1976-78	42.2	41.9				
Seed size	16.3	16.6	19.3+	17.4+	17.4+	13.8-
Maturity index	10-2	-3	-3	-8	-2	+3
Seed quality	1.9	1.9	3.0	3.0	2.5	1.6
Height	40	41	35	35	38	34
Shatter resistance	1.0	1.0	2.7	4.0	1.7	1.0
Cyst nematode	S	S	S	S	S	S
M. incognita	4.5	4.5	4.0	4.0	3.5	4.5
M. arenaria	4.3	4.5	3.0	3.0	3.5	3.5
Phytophthora rot	3.0	2.0	2.5	2.0	2.5	2.5
Flower color	P	P	W	W	W	W
Pubescence color	T	T	T	T	G	T
Pod wall color	Br	Br	Br	Br	Br	T

Table 1 - (continued)

	S76-2392	S76-2669	L74-4261	L74-4372	L74-8356	Ts72-824
Seed Yield - 1978						
East Coast	40.4	39.1	42.3	41.2	40.7	39.6
Upper & Central South	46.1	47.2	49.3	50.1	52.5+	48.6
Delta	43.6+	40.3+	35.1	37.8	35.9	39.0
West	36.4	34.6	34.3	34.6	37.9	35.9
- 1977-78						
East Coast						38.9
Upper & Central South						42.7
Delta						38.0
West						40.5
- 1976-78						
East Coast						37.8
Upper & Central South						39.8
Delta						38.5
West						39.0
Oil Content - 1978	20.9	22.0+	21.2	21.6+	21.8+	22.1+
- 1977-78						22.1
- 1976-78						
Protein Content - 1978	40.9-	40.2-	41.8-	41.4-	41.2-	41.0-
- 1977-78						40.2
- 1976-78						
Seed size	13.5-	15.3	17.7+	15.9	16.6	16.9
Maturity index	+1	-4	-10	-7	-7	-1
Seed quality	1.8	2.1	2.8	2.6	2.4	2.3
Height	36	45	36	38	40	38
Shatter resistance	1.7	1.0	4.0	3.0	2.7	1.3
Cyst nematode	S	S	S	S	S	S
M. incognita	3.5	4.5	4.0	4.0	4.0	3.5
M. arenaria	4.0	3.5	3.0	4.0	3.7	4.0
Phytophthora rot	1.0	1.0	3.0	3.5	3.0	2.0
Flower color	W	P	W	W	W	S
Pubescence color	T	T	T	G	G	G
Pod wall color	T	T	T	T	Br	Br

Table 2 - Seed yield, in bushels per acre, for the strains in Uniform Group IV-S, 1978

Location	Columbus	Crawford	K1033	K1035	K1036	S76-2194	S76-2392
			East Coast				
Queenstown, Md.	37.6	41.4	51.2+	52.9+	45.0+	44.4+	44.6+
Georgetown, Del.	31.5	31.6	43.3+	39.3+	37.3	36.6	32.0
Warsaw, Va.	43.7	43.7	42.5	40.2	44.0	46.3	44.7
Mean	37.6	38.9	45.7+	44.1	42.1	42.4	40.4
			Upper and Central South				
Orange, Va.	56.0	53.5	58.3	56.0	61.8	46.5-	43.1-
Knoxville, Tenn.	46.7	51.0	60.6+	55.4+	53.3	54.3+	50.5
Eldorado, Ill.	41.4	46.0+	45.9+	46.9+	48.0+	50.3+	43.7
Princeton, Ky.	40.5	44.0	55.0+	53.1+	54.1+	44.2	46.9
Mean	46.2	48.6	55.0+	52.9+	54.3+	48.8	46.1
			Delta				
Portageville, Mo.(A)	40.8	44.4	57.3+	51.0+	54.8+	49.9+	46.1
Portageville, Mo.(B)	16.8	24.3+	30.3+	34.5+	24.1	24.2	39.4+
Martin, Tenn.	36.8	40.8	37.6	32.2	43.7	47.4+	41.1
Keiser, Ark.	30.1	30.8	39.0+	37.5+	49.2+	38.8+	43.6+
Stoneville, Miss.(A)	42.6	47.0	41.5	41.9	46.1	47.4	47.7
Mean	33.4	37.5	41.2+	39.4+	43.6+	41.5+	43.6+
			West				
Columbus, Kan.	16.9	21.5+	14.8	16.3	18.2	27.8+	27.8+
*Clinton, Mo.	43.3	45.4	41.5	35.9-	40.4	39.6	34.2-
Bixby, Okla.	22.1	15.7	18.5	21.7	17.3	26.1	22.5
**Bushland, Tex.	40.2	34.8	45.4	42.6	38.4	31.1-	37.0
Halfway, Tex.	46.8	49.6	57.4+	49.4	52.6+	45.1	41.2
Lubbock, Tex.	50.0	50.2	58.9+	58.2+	57.5+	50.4	53.9
*Clovis, N.M.	42.0	44.0	42.7	44.6	45.7	27.7	30.4
Mean	34.0	34.3	37.4	36.4	36.4	37.4	36.4

*Not included in mean.
**Received too late to be included in mean.
(+) - Strains yielding significantly more (odds 19:1 or greater) than Columbus.
(-) - Strains yielding significantly less (odds 19:1 or greater) than Columbus.

Table 2 - (continued)

Location	S76-2669	L74-4261	L74-4372	L74-8356	Ts72-824	L.S.D. (.05)	C.V. (%)
			East Coast				
Queenstown, Md.	43.7	48.8+	44.8+	48.2+	38.7	6.1	8
Georgetown, Del.	31.8	40.1+	39.3+	39.3+	34.6	5.9	11
Warsaw, Va.	41.7	37.9-	39.6-	34.6-	45.4	4.0	6
Mean	39.1	42.3	41.2	40.7	39.6	N.S.	
			Upper and Central South				
Orange, Va.	46.8-	55.0	59.9	62.6	52.6	7.6	8
Knoxville, Tenn.	51.0	52.6	51.1	52.1	48.6	6.7	8
Eldorado, Ill.	45.7+	42.6	44.5	43.6	46.0+	3.7	5
Princeton, Ky.	45.1	46.9	44.7	51.8+	47.1	7.0	9
Mean	47.2	49.3	50.1	52.5+	48.6	5.2	
			Delta				
Portageville, Mo.(A)	45.1	47.9+	47.1+	48.4+	44.0	5.9	7
Portageville, Mo.(B)	35.2+	22.5	22.5	19.0	32.1+	7.5	16
Martin, Tenn.	37.6	29.9	36.2	31.3	36.8	9.5	15
Keiser, Ark.	38.3+	34.2	40.0+	38.4+	40.8+	7.0	11
Stoneville, Miss.(A)	45.3	41.1	43.2	42.3	41.3	N.S.	7
Mean	40.3+	35.1	37.8	35.9	39.0	5.6	
			West				
Columbus, Kan.	24.8+	13.9	17.0	17.0	20.6	4.1	12
Clinton, Mo.	37.6-	36.1-	36.9-	38.5-	43.3	4.1	9
Bixby, Okla.	14.4-	22.7	24.6	26.2	26.8	6.5	18
Bushland, Tex.	35.9	36.6	39.3	39.8	35.6	6.3	10
Halfway, Tex.	52.3+	44.7	42.5	54.3+	45.2	2.8	3
Lubbock, Tex.	46.8	55.7	54.4	54.2	51.1	6.0	7
Clovis, N.M.	38.6	43.6	43.8	42.4	37.2		
Mean	34.6	34.3	34.6	37.9	35.9	N.S.	

Table 3 - Chemical composition and seed size for the strains in Uniform Group IV-S, 1978

Location	Columbus	Crawford	K1033	K1035	K1036	S76-2194	S76-2392
			Oil Percentage				
Queenstown, Md.	20.1	19.5	19.8	20.6	20.3	19.4	19.3
Warsaw, Va.	21.7	22.4	22.6	21.6	21.6	21.4	22.1
Orange, Va.	20.3	20.7	20.1	20.7	20.9	20.5	20.6
Knoxville, Tenn.	21.3	21.6	22.1	22.8	21.0	22.0	21.5
Eldorado, Ill.	20.2	20.5	20.8	21.5	20.9	20.0	20.1
Portageville, Mo.(A)	20.9	22.2	22.3	22.6	22.4	22.1	21.1
Stoneville, Miss.(A)	22.0	22.4	22.1	23.2	20.7	21.7	20.8
Columbus, Kan.	20.8	19.7	20.4	20.9	20.1	21.2	21.6
Lubbock, Tex.	20.5	21.5	21.9	22.8	21.8	21.2	20.6
Mean	20.9	21.2	21.3	21.9+	21.1	21.1	20.9
			Protein Percentage				
Queenstown, Md.	43.9	44.3	44.3	42.0	43.1	43.7	43.3
Warsaw, Va.	42.6	41.6	41.4	40.2	40.8	40.4	38.4
Orange, Va.	43.9	43.3	44.7	42.9	41.5	41.3	40.3
Knoxville, Tenn.	42.3	41.8	42.1	40.1	40.9	41.8	38.5
Eldorado, Ill.	44.6	44.7	43.9	40.8	42.5	42.2	41.5
Portageville, Mo.(A)	42.8	41.5	40.8	39.6	39.9	41.0	39.6
Stoneville, Miss.(A)	42.5	42.1	42.4	40.5	40.2	42.7	42.8
Columbus, Kan.	46.6	47.4	45.4	44.5	45.0	43.1	42.9
Lubbock, Tex.	43.9	42.6	42.4	40.0	39.6	40.6	40.5
Mean	43.7	43.3	43.0	41.2-	41.5-	41.9-	40.9-
			Grams per 100 Seeds				
Queenstown, Md.	14.3	14.2	17.8	16.2	16.1	14.1	13.3
Warsaw, Va.	19.0	18.4	20.4	17.9	18.7	15.0	15.2
Orange, Va.	19.4	19.9	24.7	22.5	23.1	14.9	15.0
Knoxville, Tenn.	16.1	17.0	19.3	18.1	16.0	15.4	13.6
Eldorado, Ill.	16.8	17.6	19.5	16.7	17.2	14.5	14.1
Portageville, Mo.(A)	13.9	14.8	17.8	16.0	15.0	12.1	12.0
Stoneville, Miss.(A)	13.4	13.9	16.7	15.7	14.8	11.4	11.4
Columbus, Kan.	16.3	16.2	16.2	14.0	16.2	11.4	11.8
Lubbock, Tex.	17.7	17.8	21.5	19.9	19.1	15.2	15.5
Mean	16.3	16.6	19.3+	17.4+	17.4+	13.8-	13.5-

Table 3 - (continued)

Location	S76-2669	L74-4261	L74-4372	L74-8356	Ts72-824	L.S.D. (.05)
			Oil Percentage			
Queenstown, Md.	20.8	19.6	19.8	20.3	20.2	
Warsaw, Va.	22.8	22.4	21.6	22.2	23.3	
Orange, Va.	21.1	20.4	21.3	20.9	21.7	
Knoxville, Tenn.	22.1	23.2	22.5	21.7	23.6	
Eldorado, Ill.	21.3	21.1	21.3	22.6	20.6	
Portageville, Mo.(A)	24.2	22.0	22.2	22.5	23.0	
Stoneville, Miss.(A)	22.6	21.4	22.6	23.3	23.0	
Columbus, Kan.	20.7	19.8	20.2	21.0	20.8	
Lubbock, Tex.	22.1	21.0	22.8	21.6	22.7	
Mean	22.0+	21.2	21.6+	21.8+	22.1+	0.5
			Protein Percentage			
Queenstown, Md.	41.6	42.8	42.5	42.3	43.4	
Warsaw, Va.	38.9	39.5	39.6	40.6	37.5	
Orange, Va.	40.2	42.5	42.2	41.7	40.8	
Knoxville, Tenn.	39.2	39.9	39.8	40.1	40.0	
Eldorado, Ill.	40.9	42.3	41.9	41.1	42.2	
Portageville, Mo.(A)	38.2	40.3	39.9	40.0	39.6	
Stoneville, Miss.(A)	40.2	42.4	41.6	40.6	40.5	
Columbus, Kan.	43.3	44.6	45.2	44.7	44.6	
Lubbock, Tex.	39.3	42.1	40.0	39.9	40.1	
Mean	40.2-	41.8-	41.4-	41.2-	41.0-	0.7
			Grams per 100 Seeds			
Queenstown, Md.	15.3	15.9	14.4	15.2	14.7	
Warsaw, Va.	16.6	17.4	16.2	16.3	19.7	
Orange, Va.	16.4	22.8	19.2	19.2	19.1	
Knoxville, Tenn.	16.2	18.7	16.2	18.0	16.6	
Eldorado, Ill.	15.5	16.9	15.5	16.2	18.9	
Portageville, Mo.(A)	14.0	15.6	14.8	15.8	14.9	
Stoneville, Miss.(A)	13.1	15.2	15.0	14.8	14.1	
Columbus, Kan.	14.8	15.5	14.0	14.7	15.9	
Lubbock, Tex.	16.1	21.2	17.9	19.1	18.4	
Mean	15.3	17.7+	15.9	16.6	16.9	1.0

Table 4 - Relative maturity data, days earlier (-) or later (+) than Columbus, for the strains in Uniform Group IV-S, 1978

Location	Date planted	Columbus matured	Crawford	K1033	K1035	K1036	S76-2194
			East Coast				
Queenstown, Md.	5-30	10-10	-1	-4	-4	-3	+1
Georgetown, Del.	6-1	10-7	-1	-3	-7	-4	0
Warsaw, Va.	5-30	10-8	-8	-6	-14	-4	-1
Mean		10-8	-3	-4	-8	-4	0
			Upper and Central South				
Orange, Va.	6-1	10-12	0	0	-3	0	0
Knoxville, Tenn.	5-19	10-2	-3	+3	-1	+2	+8
Eldorado, Ill.	5-24	10-11	-4	-9	-14	-1	+9
Princeton, Ky.	5-25	9-21	-6	-8	-10	-1	+4
Mean		10-4	-3	-4	-7	0	+5
			Delta				
Portageville, Mo.(A)	5-23	9-26	-2	-5	-11	-2	+1
Portageville, Mo.(B)	5-23	9-24	-1	0	-3	0	+2
Martin, Tenn.	5-31	9-28	-8	-1	-4	-4	-8
Keiser, Ark.	5-31	9-29	-4	-4	-4	-2	+3
Stoneville, Miss. (A)	5-15	9-21	-1	-8	-9	-3	-2
Mean		9-26	-3	-4	-6	-2	-1
			West				
Columbus, Kan.	6-9	10-8	-2	-5	-12	-2	0
Halfway, Tex.	5-31	9-30	0	0	-10	0	+10
Lubbock, Tex.	5-22	10-3	-13	-12	-14	-1	+7
Clovis, N.M.	5-11	9-27	+1	0	0	+2	+15
Mean		10-2	-4	-4	-9	0	+8

Table 4 - (continued)

Location	S76-2392	S76-2669	L74-4261	L74-4372	L74-8356	Ts72-824
			East Coast			
Queenstown, Md.	+1	-1	-4	-5	-5	+1
Georgetown, Del.	0	-1	-7	-8	-5	0
Warsaw, Va.	-3	-8	-16	-8	-9	-1
Mean	-1	-3	-9	-7	-6	0
			Upper and Central South			
Orange, Va.	0	0	-10	-3	-3	-3
Knoxville, Tenn.	+2	-3	-7	+5	+5	0
Eldorado, Ill.	+2	-6	-17	-11	-10	-1
Princeton, Ky.	+1	-7	-11	-10	-8	-2
Mean	+1	-4	-11	-5	-4	-2
			Delta			
Portageville, Mo.(A)	-1	-2	-13	-11	-11	-1
Portageville, Mo.(B)	+1	-1	-6	-6	-7	+2
Martin, Tenn.	-5	+3	-6	-4	-5	-2
Keiser, Ark.	-3	-4	-13	-5	-9	-2
Stoneville, Miss. (A)	-5	-1	-12	-10	-10	-2
Mean	-3	-1	-10	-7	-10	-1
			West			
Columbus, Kan.	-2	-2	-9	-9	-9	-2
Halfway, Tex.	+10	-10	-10	-5	+2	0
Lubbock, Tex.	+5	-9	-18	-13	-13	-1
Clovis, N.M.	+15	-1	-7	-4	-4	+4
Mean	+7	-6	-11	-8	-6	+1

Table 5 - Plant height for the strains in Uniform Group IV-S, 1978

Location	Columbus	Crawford	K1033	K1035	K1036	S76-2194
			East Coast			
Queenstown, Md.	51	51	42	47	47	38
Georgetown, Del.	39	40	39	38	40	41
Warsaw, Va.	41	41	29	33	34	36
Mean	44	44	37	39	40	38
			Upper and Central South			
Orange, Va.	42	42	50	40	41	38
Knoxville, Tenn.	48	48	39	40	43	38
Eldorado, Ill.	42	43	39	39	40	40
Princeton, Ky.	40	42	36	38	41	36
Mean	43	44	41	39	42	38
			Delta			
Portageville, Mo.(A)	47	46	35	40	41	36
Portageville, Mo.(B)	36	39	35	37	36	30
Martin, Tenn.	39	41	34	28	35	35
Keiser, Ark.	36	41	34	33	40	29
Stoneville, Miss. (A)	43	45	30	33	37	29
Mean	40	42	34	34	38	32
			West			
Columbus, Kan.	23	25	22	23	24	25
Clinton, Mo.	42	40	41	37	37	35
Bixby, Okla.	32	19	21	21	25	23
*Bushland, Tex.	31	31	30	29	31	27
Halfway, Tex.	35	38	26	28	37	33
Lubbock, Tex.	37	37	31	30	32	26
Clovis, N.M.	32	30	25	29	29	28
Mean	34	32	28	28	31	28

*Not included in mean

Table 5 - (continued)

Location	S76-2392	S76-2669	L74-4261	L74-4372	L74-8356	Ts72-824
		East Coast				
Queenstown, Md.	38	54	52	49	52	47
Georgetown, Del.	38	43	38	42	42	40
Warsaw, Va.	38	42	35	35	36	36
Mean	38	46	42	42	43	41
		Upper and Central South				
Orange, Va.	37	45	39	42	45	40
Knoxville, Tenn.	44	51	40	41	43	42
Eldorado, Ill.	40	55	41	41	45	41
Princeton, Ky.	39	47	37	38	44	41
Mean	40	50	39	41	44	41
		Delta				
Portageville, Mo.(A)	33	53	39	42	45	45
Portageville, Mo.(B)	35	47	35	36	38	37
Martin, Tenn.	38	42	33	38	38	36
Keiser, Ark.	36	46	35	40	42	43
Stoneville, Miss. (A)	30	47	35	33	40	42
Mean	34	47	35	38	41	41
		West				
Columbus, Kan.	27	31	23	26	25	24
Clinton, Mo.	38	45	39	41	42	39
Bixby, Okla.	25	28	23	26	29	24
Bushland, Tex.	24	32	29	31	31	30
Halfway, Tex.	33	34	30	32	35	31
Lubbock, Tex.	28	41	31	35	35	35
Clovis, N.M.	26	30	26	27	28	28
Mean	30	35	29	31	32	30

Table 6 - Lodging scores for the strains in Uniform Group IV-S, 1978

Location	Columbus	Crawford	K1033	K1035	K1036	S76-2194
			East Coast			
Queenstown, Md.	3.7	3.8	2.8	3.2	3.3	3.5
Georgetown, Del.	1.8	1.7	1.7	2.0	1.8	2.2
Warsaw, Va.	2.0	1.9	1.0	1.2	1.1	1.8
			Upper and Central South			
Orange, Va.	2.0	1.3	1.3	1.0	2.0	2.0
Knoxville, Tenn.	4.0	3.0	1.0	3.0	2.0	2.0
Eldorado, Ill.	1.6	2.1	1.2	1.3	1.1	1.6
Princeton, Ky.	1.3	1.0	1.0	1.0	1.0	1.0
			Delta			
Portageville, Mo.(A)	3.3	3.0	2.5	3.2	2.5	3.2
Portageville, Mo.(B)	1.7	2.0	1.7	2.0	1.8	1.7
Martin, Tenn.	2.0	1.0	1.0	1.0	1.0	1.0
Keiser, Ark.	1.0	1.0	1.0	2.0	1.0	1.0
Stoneville, Miss. (A)	3.0	3.0	2.0	2.3	2.3	2.0
			West			
Columbus, Kan.	1.0	1.0	1.0	1.0	1.0	1.0
Clinton, Mo.	2.4	2.9	2.3	2.0	2.3	2.2
Bixby, Okla.	1.0	1.0	1.0	1.0	1.0	1.0
Bushland, Tex.	2.0	2.0	1.5	2.2	2.0	4.0
Halfway, Tex.	3.0	3.0	3.0	2.0	2.0	4.0
Lubbock, Tex.	1.7	1.7	1.5	1.7	1.5	1.2
Clovis, N.M.	2.0	2.0	1.0	1.3	1.7	2.0

Table 6 - (continued)

Location	S76-2392	S76-2669	L74-4261	L74-4372	L74-8356	Ts72-824
			East Coast			
Queenstown, Md.	3.8	3.7	3.2	3.0	2.8	3.3
Georgetown, Del.	2.3	1.7	2.0	1.8	1.7	2.3
Warsaw, Va.	2.0	1.8	1.2	1.1	1.1	1.2
			Upper and Central South			
Orange, Va.	3.3	1.0	1.3	1.0	1.0	1.0
Knoxville, Tenn.	3.0	2.0	3.0	2.0	2.0	3.0
Eldorado, Ill.	2.3	1.6	1.8	1.1	1.2	1.1
Princeton, Ky.	1.3	1.0	1.0	1.0	1.0	1.0
			Delta			
Portageville, Mo.(A)	3.0	2.7	3.7	2.8	3.0	3.5
Portageville, Mo.(B)	2.5	2.3	1.8	1.5	1.7	1.8
Martin, Tenn.	2.0	1.0	1.0	1.0	1.0	1.0
Keiser, Ark.	2.0	1.0	2.0	1.0	1.0	1.0
Stoneville, Miss. (A)	2.0	3.3	2.7	2.7	2.7	3.0
			West			
Columbus, Kan.	1.0	1.0	1.0	1.0	1.0	1.0
Clinton, Mo.	3.4	2.9	2.8	2.5	2.3	2.3
Bixby, Okla.	1.0	1.0	1.0	1.0	1.0	1.0
Bushland, Tex.	5.0	3.0	2.2	1.7	2.5	1.5
Halfway, Tex.	4.0	3.0	2.0	2.0	3.0	2.0
Lubbock, Tex.	1.5	1.5	2.0	1.5	1.5	1.5
Clovis, N.M.	3.0	2.0	1.0	1.7	1.0	2.0

Table 7 - Seed quality scores for the strains in Uniform Group IV-S, 1978

Location	Columbus	Crawford	K1033	K1035	K1036	S76-2194
			East Coast			
Queenstown, Md.	2.0	2.0	3.0	3.0	2.3	1.5
Georgetown, Del.	1.7	2.0	2.7	3.0	2.5	2.0
Warsaw, Va.	1.2	1.4	2.5	2.1	2.4	1.3
			Upper and Central South			
Orange, Va.	1.0	1.0	3.3	3.0	2.3	1.0
Knoxville, Tenn.	3.0	2.0	4.0	4.0	2.0	1.0
Eldorado, Ill.	3.0	3.2	3.7	3.5	2.8	1.8
			Delta			
Portageville, Mo. (A)	2.0	1.7	2.5	2.8	2.8	1.5
Portageville, Mo. (B)	2.0	2.0	3.5	3.5	3.0	1.5
Martin, Tenn.	2.0	2.0	3.0	4.0	3.0	2.0
Keiser, Ark.	1.0	1.5	3.0	3.0	2.0	1.0
Stoneville, Miss. (A)	2.0	2.3	3.0	2.7	2.3	2.0
			West			
Columbus, Kan.	1.8	1.7	2.2	2.1	2.1	1.6
Clinton, Mo.	1.8	2.3	2.5	2.5	1.8	2.0
Bushland, Tex.	2.5	3.0	3.0	3.5	3.0	2.5
Lubbock, Tex.	2.0	2.0	3.0	3.0	2.5	1.2

Table 7 - (continued)

Location	S76-2392	S76-2669	L74-4261	L74-4372	L74-8356	Ts72-824
			East Coast			
Queenstown, Md.	2.0	2.0	2.3	2.0	2.0	2.5
Georgetown, Del.	2.0	2.0	3.0	2.2	1.8	2.0
Warsaw, Va.	1.0	1.5	1.8	2.3	1.7	1.6
			Upper and Central South			
Orange, Va.	1.0	1.0	1.3	1.3	1.0	1.7
Knoxville, Tenn.	1.0	2.0	3.0	4.0	3.0	2.0
Eldorado, Ill.	1.8	2.3	4.0	3.3	3.3	4.0
			Delta			
Portageville, Mo. (A)	1.5	1.7	2.5	2.5	2.5	2.0
Portageville, Mo. (B)	2.0	1.5	3.5	3.0	3.0	3.0
Martin, Tenn.	3.0	4.0	3.0	3.0	3.0	3.0
Keiser, Ark.	1.5	3.0	3.0	3.0	2.5	2.0
Stoneville, Miss. (A)	2.0	2.7	3.0	2.7	2.7	2.0
			West			
Columbus, Kan.	1.5	2.1	2.7	2.0	1.9	1.8
Clinton, Mo.	2.3	2.0	2.3	2.5	2.0	2.0
Bushland, Tex.	2.5	3.2	3.5	2.5	2.7	3.0
Lubbock, Tex.	2.0	2.0	2.7	2.5	2.5	2.2

UNIFORM GROUP V

1978

	Variety or strain	Parentage	Generation composited
1.	Essex	Lee X S5-7075	F_6
2.	Forrest	Dyer X Bragg	F_5
3.	Bedford	Forrest(2) X (D68-18 X PI 88788)	F_4
4.	Bay (V72-580)	York X R62-550	
5.	N73-40	N68-1783 X Lee 68	F_5
6.	D74-7633	Forrest X D70-3001	F_5
7.	D74-7824	Forrest X D70-3001	F_5
8.	J74-35	Forrest(2) X (D68-18 X PI 88788)	F_4
9.	R74-511	R66-873 X Mack	F_4
10.	D75-7685	Forrest X D69-4227	F_5
11.	D75-7778	Forrest X D69-4227	F_5
12.	D75-7987	Forrest X D69-6344	F_5

Background of breeding lines used as parents:

S5-7075 is a selection from N48-1248 X Perry which was grown in Uniform Group VI. N48-1248 has the same parentage as Hood.

D68-18 is a selection from Dyer X Bragg.

R62-550 is a selection from (R64-168 X Hill) X (Lee X Dortchsoy 110).

N66-1783 is a selection from N56-4202 X N57-6801. N46-4202 is from N46-1703 X D49-2525. N57-6801 is from Jackson X D49-2491.

D70-3001 is a selection from the same cross as Centennial.

R66-873 is a selection from Jackson X Semmes.

D69-4227 is a selection from Semmes X D62-6289.

D62-6289 is a selection from Hill X Sioux.

D69-6344 is a selection from D63-6094 X D62-7562, resistant to phytophthora rot and several species of root-knot nematodes. D63-6094 is a selection from Hill (4) X PI 171442. D62-7562 is a selection from Laredo X D49-2491.

Results of 32 Uniform Group V nurseries are summarized in Tables 8 through 14. Table 8 gives a general summary of performance along with characteristics of each strain. Two- and three-year data are reported for seed yield and oil and protein percentages of the seed.

Differences among strains for seed yield were significant (odds 19:1 or greater) at 22 of the 32 locations. There was a significant variety X location interaction within each production region. Differences among strains for seed yield were significant in all but the Delta region.

The strain V72-580 has been released as Bay. This strain has been tested four years. It has averaged 4 days later in maturity and 6 inches taller than Essex but has averaged lower in seed yield in each region. N73-40 has been evaluated three years. It averages seven days later than Essex. Yield performance has been good, but not adequate to merit release.

Two strains, D74-7633 and D74-7824, have been evaluated two years. Both were selected to combine resistance to phytophthora rot with resistance to cyst nematodes. Neither shows much advantage over Forrest.

Five strains were evaluated one year. J74-35, which is resistant to cyst nematodes race 4, averaged 3 days earlier than Bedford. Its yield was greater than that for Bedford in the Upper and Central South and in the West. However, the greater mean yield in these regions was contributed largely to relatively few locations. R74-511 averaged 1 day later in maturity than Essex, and higher in seed yield in the Delta and West. Not any of the strains D75-7685, D75-7778, or D75-7987 appeared outstanding.

Table 8 - General summary of performance of the strains in Uniform Group V, 1978

	Essex	Forrest	Bedford	(Bay) V72-580	N73-40	D74-7633
Seed Yield - 1978						
East Coast	49.5	42.6-	41.8-	42.4-	44.3	41.6-
Upper & Central South	41.3	37.0-	34.2-	40.0	40.0	37.6
Delta	36.4	37.8	40.0	37.7	38.0	38.7
West	38.7	41.0	38.5	38.5	41.9	38.9
1977-78						
East Coast	47.6	44.0	40.4	42.8	45.3	43.0
Upper & Central South	42.2	39.0	37.0	41.0	41.0	41.5
Delta	38.0	39.4	40.3	37.0	35.9	39.8
West	42.2	42.2	40.1	41.3	41.8	40.5
1976-78						
East Coast	45.0	42.8		41.5	44.0	
Upper & Central South	41.5	38.7		40.5	39.5	
Delta	38.0	38.8		37.7	36.0	
West	42.7	41.7		42.1	40.2	
Oil Content - 1978	21.0	21.5	20.9	22.5+	21.3	22.2+
1977-78	21.2	21.3	20.9	22.8	21.1	21.8
1976-78	20.8	21.0		22.2	20.8	
Protein Content - 1978	42.8	40.3-	39.6-	39.8-	41.0-	40.9-
1977-78	41.8	40.1	39.4	39.3	40.6	40.4
1976-78	41.6	39.6		39.2	40.3	
Seed size	12.8	12.2	12.3	15.4+	15.8+	13.8+
Maturity index	10-4	+3	+5	+3	+7	+5
Seed quality	1.8	1.8	1.9	1.6	2.0	1.7
Height	28	34	40	34	39	40
Shatter resistance	2.0	1.0	1.0	1.0	1.0	1.0
Bacterial pustule	R	R	R	R	R	R
Phytophthora rot	2.0	1.5	1.0	2.0	2.0	1.0
M. [illegible]	4.5	2.0	2.5	4.5	4.0	2.5
M. [illegible]	4.0	1.2	2.0	4.8	3.5	1.5
Cyst nematode (Race 3)	S	R	R	S	S	R
Cyst nematode (Race 4)	S	S	R	S	S	S
Flower color	P	W	W	P	P	W
Pubescence color	G	T	T	G	T	T
Pod wall color	T	T	T	T	T	T

Table 8 - (continued)

	D74-7824	J74-35	R74-511	D75-7685	D75-7778	D75-7987
Seed Yield - 1978						
East Coast	45.0-	42.2-	45.7	40.8-	39.9-	39.4-
Upper & Central South	35.0-	38.2	38.5	37.1-	37.1-	34.2-
Delta	37.8	38.8	38.9	35.3	35.0	35.1
West	39.6	42.2	42.0	33.4	34.4	37.6
1977-78						
East Coast	43.7					
Upper & Central South	38.4					
Delta	39.3					
West	42.7					
1976-78						
East Coast						
Upper & Central South						
Delta						
West						
Oil Content - 1978	21.1	21.2	21.5	19.8-	20.3-	20.7
1977-78	21.2					
1976-78						
Protein Content - 1978	40.7-	41.0-	40.9-	44.0+	42.8	40.7-
1977-78	40.1					
1976-78						
Seed size	11.9-	12.2	13.2	12.4	11.7-	12.6
Maturity index	+2	+2	+1	0	+1	+4
Seed quality	1.8	1.9	1.8	1.7	1.7	2.0
Height	35	31	31	38	33	36
Shatter resistance	1.0	2.0	1.0	1.0	1.0	1.0
Bacterial pustule	R	R	R	R	R	R
Phytophthora rot	1.0	1.5	1.0	1.0	1.0	1.0
M. incognita	2.5	2.5	4.5	2.5	1.0	1.0
M. arenaria	4.0	2.7	1.9	2.3	1.9	3.9
Cyst nematode (Race 3)	R	R	Seg	Seg	S	S
Cyst nematode (Race 4)	S	R	S	S	S	S
Flower color	W	W	P	W	W	P
Pubescence color	T	T	G	Seg	G	T
Pod wall color	T	T	T	T	T	T

Table 9 - Seed yield, in bushels per acre, for the strains in Uniform Group V, 1978

Location	Essex	Forrest	Bedford	Bay (V72-580)	N73-40	D74-7633	D74-7824
			East Coast				
Queenstown, Md.	53.9	44.3	46.7	49.1	45.0	45.6	53.2
Georgetown, Del.	40.6	36.1	32.7-	32.9-	28.5-	31.3-	38.4
Warsaw, Va.	51.8	43.9-	38.4-	44.3-	44.5-	40.7-	39.5-
Petersburg, Va.	38.8	35.4	32.7-	31.0-	34.9	32.7-	40.3
Holland, Va.	58.4	45.1-	49.7-	46.3-	53.6-	51.4-	48.0-
Plymouth, N.C.	53.4	50.8	50.6	50.8	59.1+	47.8	50.6
*Jay, Fla.	18.5	17.7	31.8+	30.0+	39.2+	41.3+	33.5+
Mean	49.5	42.6-	41.8-	42.4-	44.3-	41.6-	45.0-
			Upper and Central South				
Orange, Va.	57.4	47.1	46.2	53.8	42.8	45.9	41.7
Knoxville, Tenn.	60.9	50.5-	49.4-	53.4-	58.0	52.6-	51.3-
Clemson, S.C.	23.1	27.2	30.4	34.4	35.9	28.3	23.6
*Calhoun, Ga.	16.5	18.1	13.0	14.8	18.3	16.0	13.6
Athens, Ga.	42.4	34.6	38.1	35.7	40.2	38.1	34.5
Belle Mina, Ala.	29.7	22.7-	20.2-	26.0	20.3-	18.1-	21.5-
Princeton, Ky.	50.7	41.7-	32.0-	43.6-	35.3-	39.1-	42.1-
Martin, Tenn.	45.1	46.3	43.9	44.5	48.5	46.8	39.4
Jackson, Tenn.	32.6	33.4	16.8	29.8	35.7	27.0	25.6
Verona, Miss.	29.7	29.3	30.4	39.0+	43.4+	42.5+	35.0
Mean	41.3	37.0-	34.2-	40.0	40.0	37.6	35.0-
			Delta				
Portageville, Mo. (A)	40.6	36.9	38.5	35.9	42.0	33.5-	41.1
Portageville, Mo. (B)	29.2	40.1+	40.8+	38.9+	29.8	38.9+	39.4+
Keiser, Ark.	42.7	48.4+	45.6+	46.0+	45.6+	46.8+	44.6
Jonesboro, Ark.	20.4	22.4	36.1+	22.0	23.1	25.4	19.9
Stoneville, Miss. (A)	46.4	51.4	46.2	48.8	46.5	51.7	46.1
Stoneville, Miss. (B)	25.3	19.0-	26.1	26.5	29.5	27.9	28.9
St. Joseph, La.	50.1	46.1	46.4	45.5	49.8	46.4	44.7
Mean	36.4	37.8	40.0	37.7	38.0	38.7	37.8
			West				
*Clinton, Mo.	41.5	40.6	38.4	45.2	44.0	36.8	36.9
Columbus, Kan.	22.7	24.8	30.6	22.7	27.6	26.3	25.7
Pine Bluff, Ark.	44.7	42.9	41.5	40.6	46.9	41.6	47.7
Stuttgart, Ark.	45.8	51.9+	48.1	43.3	46.3	49.5	49.8
Bossier City, La.	16.2	32.2+	28.7+	26.7+	39.6+	27.5+	26.7+
Bixby, Okla.	26.7	21.8	20.2-	18.6-	24.9	26.0	24.8
Lubbock, Tex.	60.2	57.7	53.1-	60.9	51.9-	55.0	58.0
Halfway, Tex.	55.8	49.7-	40.4-	53.8	46.6-	45.1-	46.6-
Beaumont, Tex.	37.2	47.2	45.7	41.5	51.2	40.1	37.6
Mean	38.7	41.0	38.5	38.5	41.9	38.9	39.6

*Not included in mean.
(+) - Strains yielding significantly more (odds 19:1 or greater) than Essex.
(-) - Strains yielding significantly less (odds 19:1 or greater) than Essex.

Table 9 - (continued)

Location	J74-35	R74-511	D75-7685	D75-7778	D75-7987	L.S.D. (.05)	C.V. (%)
		East Coast					
Queenstown, Md.	42.3	49.5	39.6	46.3	39.8	N.S.	12
Georgetown, Del.	34.3-	34.9-	38.7	21.2-	26.4-	5.3	15
Warsaw, Va.	41.7-	43.2-	44.6-	41.0-	42.3-	4.2	6
Petersburg, Va.	31.5-	37.9	31.0-	36.6	34.2	5.0	8
Holland, Va.	52.0-	53.1-	41.7-	44.9-	45.8-	4.8	6
Plymouth, N.C.	51.4	55.4	49.4	49.2	48.0	5.7	7
Jay, Fla.	32.5+	24.0	26.3+	33.2+	24.3	7.7	15
Mean	42.2-	45.7	40.8-	39.9-	39.4-		
		Upper and Central South					
Orange, Va.	55.0	48.9	53.8	48.3	46.7	N.S.	14
Knoxville, Tenn.	54.9-	47.7-	47.3-	47.6-	52.7-	5.0	6
Clemson, S.C.	27.6	27.9	27.0	25.3	25.9	N.S.	18
Calhoun, Ga.	16.1	20.7	16.3	18.3	14.2	N.S.	20
Athens, Ga.	39.5	36.9	35.8	35.4	34.5	N.S.	11
Belle Mina, Ala.	21.6-	26.1	26.9	22.7-	17.7-	3.8	10
Princeton, Ky.	43.4-	42.7-	42.7-	44.5	37.9-	7.2	10
Martin, Tenn.	42.2	43.1	39.1	41.1	35.6	N.S.	13
Jackson, Tenn.	32.6	28.6	28.5	32.9	20.6	N.S.	24
Verona, Miss.	27.0	44.9+	32.9	36.3	36.1	6.8	11
Mean	38.2	38.5	37.1-	37.1-	34.2-		
		Delta					
Portageville, Mo. (A)	34.5-	39.6	31.5-	31.6-	33.1-	5.1	8
Portageville, Mo. (B)	42.8+	40.6+	37.6+	28.6	34.8	8.4	14
Keiser, Ark.	47.0+	47.7+	42.4	47.4+	45.0	2.8	4
Jonesboro, Ark.	30.2+	25.6	21.9	24.3	21.2	8.1	20
Stoneville, Miss. (A)	47.4	49.4	45.7	41.6	47.2	N.S.	7
Stoneville, Miss. (B)	22.7	24.3	27.0	29.8	27.0	4.5	10
St. Joseph, La.	47.1	45.2	40.8	41.5	37.2	5.8	8
Mean	38.8	38.9	35.3	35.0	35.1		
		West					
Clinton, Mo.	39.4	45.6	35.5	38.1	33.4	4.5	8
Columbus, Kan.	22.1	23.6	25.1	23.0	27.2	N.S.	16
Pine Bluff, Ark.	46.2	54.2	42.0	43.0	44.0	N.S.	13
Stuttgart, Ark.	49.5	51.3+	46.2	40.6-	37.5-	4.2	5
Bossier City, La.	33.2+	30.8+	33.7+	29.1+	30.8+	6.0	12
Bixby, Okla.	22.1	23.3	13.1+	16.1-	17.5-	5.7	16
Lubbock, Tex.	65.0	52.9-	44.7-	44.8-	52.3-	5.5	6
Halfway, Tex.	52.8	54.5	17.2-	39.2-	44.6-	5.9	6
Beaumont, Tex.	46.7	45.5	45.5	39.7	46.6	N.S.	14
Mean	42.2	42.0	33.4	34.4	37.6		

Table 10 - Chemical composition and seed size for the strains in Uniform Group V, 1978

Location	Essex	Forrest	Bedford	Bay (V72-580)	N73-40	D74-7633	D74-7824
			Oil Percentage				
Queenstown, Md.	20.0	19.6	19.0	20.5	19.7	20.2	19.9
Warsaw, Va.	21.7	22.2	20.9	21.5	21.3	21.6	21.4
Plymouth, N.C.	20.0	21.3	20.4	22.0	20.7	20.8	19.8
Jackson, Tenn.	20.6	20.7	20.0	20.8	20.2	21.2	21.5
Portageville, Mo. (B)	20.8	22.7	21.5	23.1	21.7	25.2	21.8
Keiser, Ark.	21.9	22.3	21.5	24.8	22.6	22.8	21.2
Stoneville, Miss. (A)	21.5	23.0	22.2	23.5	21.9	22.8	21.5
Stoneville, Miss. (B)	21.4	20.5	21.3	23.4	22.2	22.1	22.0
Stuttgart, Ark.	20.9	21.3	20.9	22.9	21.4	22.7	21.1
Mean	21.0	21.5	20.9	22.5+	21.3	22.2+	21.1
			Protein Percentage				
Queenstown, Md.	43.3	40.6	39.0	41.1	41.6	41.3	41.3
Warsaw, Va.	41.7	37.6	37.4	39.1	38.7	37.4	38.8
Plymouth, N.C.	44.0	40.0	40.1	39.6	41.6	41.4	41.4
Jackson, Tenn.	43.7	43.7	42.4	43.6	43.4	44.0	42.0
Portageville, Mo. (B)	42.1	38.0	38.2	37.8	38.5	39.7	39.2
Keiser, Ark.	41.0	39.4	38.2	36.9	39.6	39.9	40.2
Stoneville, Miss. (A)	43.3	40.4	40.8	40.3	42.1	41.3	41.8
Stoneville, Miss. (B)	42.9	41.6	39.7	39.9	41.0	41.2	40.6
Stuttgart, Ark.	42.9	41.4	40.9	40.3	42.6	42.1	41.3
Mean	42.8	40.3-	39.6-	39.8-	41.0-	40.9-	40.7-
			Grams per 100 Seed				
Queenstown, Md.	13.9	13.0	12.6	15.4	16.6	14.4	13.2
Warsaw, Va.	15.0	13.4	13.5	16.8	17.2	15.3	12.8
Plymouth, N.C.	15.4	12.5	12.7	15.8	17.9	12.6	12.1
Jackson, Tenn.	12.5	12.3	12.7	15.3	16.0	14.1	12.2
Portageville, Mo. (B)	12.8	11.4	11.0	15.2	14.0	12.7	10.9
Keiser, Ark.	10.0	13.5	13.5	16.0	15.5	14.0	12.5
Stoneville, Miss. (A)	10.6	10.6	10.0	13.4	14.8	12.0	10.3
Stoneville, Miss. (B)	11.8	11.0	11.4	14.8	14.8	13.4	11.0
Stuttgart, Ark.	13.0	12.3	13.3	16.3	15.3	15.3	12.3
Mean	12.8	12.2	12.3	15.4+	15.8+	13.8+	11.9-

Table 10 - (continued)

Location	J74-35	R74-511	D75-7685	D75-7778	D75-7987	L.S.D. (.05)
			Oil Percentage			
Queenstown, Md.	19.5	19.7	19.3	19.8	19.3	
Warsaw, Va.	22.1	21.3	19.8	20.3	20.1	
Plymouth, N.C.	21.2	20.4	19.5	20.0	20.5	
Jackson, Tenn.	21.8	21.5	19.4	19.6	19.5	
Portageville, Mo. (B)	20.1	21.5	19.3	20.8	21.5	
Keiser, Ark.	21.9	22.2	20.7	20.5	22.1	
Stoneville, Miss. (A)	22.7	23.4	20.4	20.4	21.4	
Stoneville, Miss. (B)	20.3	21.9	19.7	21.1	21.2	
Stuttgart, Ark.	21.0	21.7	19.8	20.3	21.0	
Mean	21.2	21.5	19.8-	20.3-	20.7	0.6
			Protein Percentage			
Queenstown, Md.	42.0	40.8	43.0	41.5	41.3	
Warsaw, Va.	37.9	39.5	42.2	41.3	39.5	
Plymouth, N.C.	41.1	42.8	45.0	43.3	40.7	
Jackson, Tenn.	41.1	41.8	45.9	43.8	44.4	
Portageville, Mo. (B)	41.3	38.8	43.6	41.5	38.9	
Keiser, Ark.	40.4	40.1	43.4	43.0	38.0	
Stoneville, Miss. (A)	41.3	41.2	43.7	44.5	41.7	
Stoneville, Miss. (B)	41.2	40.8	43.6	42.4	40.2	
Stuttgart, Ark.	42.5	41.9	45.5	43.8	42.0	
Mean	41.0-	40.9-	44.0+	42.8	40.7-	0.8
			Grams per 100 Seeds			
Queenstown, Md.	13.8	15.4	12.8	12.0	13.5	
Warsaw, Va.	13.2	14.6	14.7	12.8	14.8	
Plymouth, N.C.	12.2	14.0	12.7	11.7	11.5	
Jackson, Tenn.	11.0	12.1	12.0	12.3	11.7	
Portageville, Mo. (B)	11.8	11.9	11.2	10.6	11.9	
Keiser, Ark.	14.0	15.0	13.5	13.0	14.0	
Stoneville, Miss. (A)	10.2	10.8	9.8	11.0	11.3	
Stoneville, Miss. (B)	10.6	11.8	11.6	10.8	12.2	
Stuttgart, Ark.	13.0	13.3	13.0	11.3	12.7	
Mean	12.2	13.2	12.4	11.7-	12.6	0.7

Table 11 - Relative maturity, days earlier (-) or later (+) than Essex, for the strains in Uniform Group V, 1978

Location	Date planted	Essex matured	Forrest	Bedford	Bay (V72-580)	N73-40
		East Coast				
Queenstown, Md.	5-30	10-17	+7	+7	+3	+8
Georgetown, Del.	6-1	10-13	+5	+7	+5	+7
Warsaw, Va.	5-30	10-15	+6	+6	+2	+6
Petersburg, Va.	5-29	10-8	+8	+10	+8	+14
Holland, Va.	5-23	10-16	+4	0	+4	+7
Plymouth, N.C.	5-24	10-8	+2	+4	0	+4
Jay, Fla.	5-25	9-25	0	+3	+2	+2
Mean		10-10	+5	+5	+3	+7
		Upper and Central South				
Orange, Va.	6-1	10-9	+14	+17	+17	+14
Knoxville, Tenn.	5-19	10-13	0	+2	+4	+7
Clemson, S.C.	5-19	9-25	+2	+9	+8	+10
Calhoun, Ga.	5-26	9-22	+4	+5	+6	+7
Athens, Ga.	5-12	9-17	+2	+6	+4	+10
Martin, Tenn.	5-31	10-3	+10	+10	+11	+11
Jackson, Tenn.	5-16	9-29	+2	+4	+3	+17
Mean		9-30	+5	+8	+8	+11
		Delta				
Portageville, Mo. (A)	5-10	10-4	+4	+6	+1	+7
Portageville, Mo. (B)	5-23	10-9	+3	+5	+6	+6
Keiser, Ark.	5-31	10-7	+3	+3	+5	+7
Jonesboro, Ark.	5-22	10-12	+4	+2	-4	+4
Stoneville, Miss. (A)	5-15	9-26	+3	+7	+2	+7
Stoneville, Miss. (B)	5-22	10-4	+1	+7	+6	+11
St. Joseph, La.	5-18	9-18	+1	+5	+3	+8
Mean		10-3	+3	+5	+3	+7
		West				
Columbus, Kan.	6-9	10-8	+2	+2	+4	+6
Pine Bluff, Ark.	5-16	11-3	-14	-10	-12	-7
Stuttgart, Ark.	5-27	9-29	+4	+8	+6	+11
Bossier City, La.	5-18	9-20	+5	+2	+2	+2
Lubbock, Tex.	5-22	10-21	-1	-2	-3	+2
Beaumont, Tex.	6-2	10-14	-5	+2	-1	+1
Mean		10-13	-2	0	-1	+4

Table 11 - (continued)

Location	D74-7633	D74-7824	J74-35	R74-511	D75-7685	D75-7778	D75-7987
			East Coast				
Queenstown, Md.	+8	+4	+1	+1	0	+1	+7
Georgetown, Del.	+7	+5	0	+1	+3	0	+6
Warsaw, Va.	+7	+5	+6	+1	+1	+2	+7
Petersburg, Va.	+13	+8	+6	0	+2	0	+4
Holland, Va.	+7	+7	0	0	0	0	0
Plymouth, N.C.	+4	0	+2	0	-2	+2	+4
Jay, Fla.	+2	+1	+2	0	+2	0	0
Mean	+6	+4	+2	0	+1	+1	+4
			Upper and Central South				
Orange, Va.	+17	+10	+14	+10	+14	+10	+15
Knoxville, Tenn.	+1	-4	+5	+1	-3	-6	0
Clemson, S. C.	+8	+3	-2	+7	-1	+3	+7
Calhoun, Ga.	+7	+5	+3	+3	0	+4	+5
Athens, Ga.	+9	+3	+1	+4	-2	+3	+6
Martin, Tenn.	+10	+1	+2	+7	+9	+1	+9
Jackson, Tenn.	+6	+3	+3	-3	0	+3	+4
Mean	+8	+3	+4	+4	+2	+3	+7
			Delta				
Portageville, Mo. (A)	+6	+3	+4	+1	0	0	+5
Portageville, Mo. (B)	+7	+1	+1	0	+1	+2	+5
Keiser, Ark.	+6	+3	+2	+3	+1	+5	+6
Jonesboro, Ark.	+1	-3	+4	-5	+1	+4	+2
Stoneville, Miss. (A)	+5	+3	0	+5	+1	0	+2
Stoneville, Miss. (B)	+10	+5	-5	+5	-2	+7	+8
St. Joseph, La.	+4	+2	0	+2	0	+1	+3
Mean	+6	+3	+1	+2	0	+3	+4
			West				
Columbus, Kan.	+5	+2	+1	+2	+2	+1	+5
Pine Bluff, Ark.	-11	-16	-5	-11	-16	-9	-16
Stuttgart, Ark.	+9	+3	+5	+4	+2	+2	+8
Bossier City, La.	+3	+5	+3	+5	0	+1	+4
Lubbock, Tex.	+1	-6	-5	-6	-6	-8	-1
Beaumont, Tex.	0	+1	+1	+5	-5	-5	-1
Mean	+1	-2	0	-1	-3	-3	0

Table 12 - Plant height for the strains in Uniform Group V, 1978

Location	Essex	Forrest	Bedford	Bay (V72-580)	N73-40	D74-7633
			East Coast			
Queenstown, Md.	32	36	46	40	44	46
Georgetown, Del.	38	44	48	43	45	44
Warsaw, Va.	31	43	49	40	45	46
Petersburg, Va.	29	38	45	37	42	43
Holland, Va.	29	32	43	37	42	39
Plymouth, N.C.	28	35	42	34	40	42
Jay, Fla.	15	23	24	20	23	23
Mean	29	36	42	36	40	47
			Upper and Central South			
Orange, Va.	32	36	46	44	44	45
Knoxville, Tenn.	31	39	43	42	44	46
Clemson, S.C.	22	27	32	30	33	30
Calhoun, Ga.	25	28	31	25	32	32
Athens, Ga.	22	26	32	25	34	33
Belle Mina, Ala.	35	39	45	40	40	41
Princeton, Ky.	36	44	53	43	49	48
Martin, Tenn.	34	41	41	41	45	44
Jackson, Tenn.	32	40	46	41	45	43
Verona, Miss.	22	27	27	27	32	29
Mean	29	35	40	36	40	39
			Delta			
Portageville, Mo. (A)	33	35	42	40	44	43
Portageville, Mo. (B)	25	36	41	32	35	42
Keiser, Ark.	26	31	38	30	37	36
Jonesboro, Ark.	33	29	43	30	40	38
Stoneville, Miss. (A)	28	32	37	29	37	36
Stoneville, Miss. (B)	19	20	25	21	27	26
St. Joseph, La.	26	36	38	37	36	37
Mean	27	31	38	31	37	37
			West			
Clinton, Mo.	32	37	42	40	42	42
Columbus, Kan.	22	28	34	27	33	31
Pine Bluff, Ark.	53	52	57	54	55	55
Stuttgart, Ark.	22	32	38	31	38	38
Bossier City, La.	22	23	31	26	32	25
Bixby, Okla.	21	26	31	21	32	27
Lubbock, Tex.	24	31	41	29	36	34
Halfway, Tex.	31	34	39	32	35	40
Beaumont, Tex.	18	27	34	25	32	27
Mean	27	32	39	32	37	35

Table 12 - (continued)

Location	D74-7824	J74-35	R74-511	D75-7685	D75-7778	D75-7987
			East Coast			
Queenstown, Md.	41	35	42	42	38	42
Georgetown, Del.	43	40	39	42	40	43
Warsaw, Va.	43	36	38	45	39	43
Petersburg, Va.	38	33	37	37	34	38
Holland, Va.	36	33	34	38	33	38
Plymouth, N.C.	35	35	35	40	35	39
Jay, Fla.	20	18	17	22	21	22
Mean	37	33	35	38	34	38
			Upper and Central South			
Orange, Va.	40	34	37	41	37	44
Knoxville, Tenn.	42	34	40	42	39	41
Clemson, S.C.	29	26	25	30	30	27
Calhoun, Ga.	29	24	26	32	25	30
Athens, Ga.	30	25	26	30	27	28
Belle Mina, Ala.	40	37	36	39	35	42
Princeton, Ky.	43	38	40	45	40	45
Martin, Tenn.	40	39	34	36	40	35
Jackson, Tenn.	42	35	36	45	40	42
Verona, Miss.	27	23	26	27	28	25
Mean	36	32	33	45	34	36
			Delta			
Portageville, Mo. (A)	41	33	34	38	40	43
Portageville, Mo. (B)	36	32	33	38	30	40
Keiser, Ark.	35	30	28	35	33	35
Jonesboro, Ark.	31	28	29	37	34	36
Stoneville, Miss. (A)	33	29	29	33	30	37
Stoneville, Miss. (B)	23	19	20	25	23	23
St. Joseph, La.	36	29	32	37	33	33
Mean	34	29	29	35	32	35
			West			
Clinton, Mo.	39	36	37	41	36	40
Columbus, Kan.	30	22	26	29	27	32
Pine Bluff, Ark.	53	48	48	55	53	56
Stuttgart, Ark.	35	29	28	34	30	34
Bossier City, La.	24	26	20	26	24	29
Bixby, Okla.	28	21	21	26	22	27
Lubbock, Tex.	34	31	27	36	31	33
Halfway, Tex.	32	30	27	37	34	36
Beaumont, Tex.	27	22	22	28	26	29
Mean	34	29	28	35	31	35

Table 13 - Lodging scores for the strains in Uniform Group V, 1978

Location	Essex	Forrest	Bedford	Bay (V72-580)	N73-40	D74-7633
			East Coast			
Queenstown, Md.	2.8	3.0	3.5	2.8	3.8	3.2
Georgetown, Del.	2.5	2.5	2.5	2.5	2.7	2.8
Warsaw, Va.	1.3	1.8	2.5	1.6	2.0	2.2
Petersburg, Va.	1.0	1.0	2.0	1.0	1.0	2.0
Holland, Va.	1.0	1.5	2.2	1.7	2.3	2.3
Plymouth, N.C.	2.0	2.0	3.0	2.0	3.0	4.0
Jay, Fla.	2.0	1.0	1.0	1.0	2.0	1.0
			Upper and Central South			
Orange, Va.	1.0	2.0	3.7	1.7	3.3	2.0
Knoxville, Tenn.	2.0	2.0	3.0	2.0	3.0	2.0
Clemson, S.C.	1.0	1.0	1.0	1.0	1.0	1.0
Calhoun, Ga.	1.0	1.0	1.0	1.0	1.0	1.0
Athens, Ga.	1.2	1.3	1.5	1.0	1.3	1.5
Belle Mina, Ala.	2.2	1.3	2.7	2.0	2.8	1.7
Princeton, Ky.	1.6	2.3	4.0	1.7	4.0	3.7
Martin, Tenn.	1.0	2.0	2.0	1.0	3.0	3.0
Jackson, Tenn.	1.0	2.0	3.0	1.0	2.0	1.0
Verona, Miss.	1.0	1.0	1.0	1.0	1.0	1.0
			Delta			
Portageville, Mo. (A)	3.5	3.7	3.5	3.5	3.7	3.2
Portageville, Mo. (B)	1.3	1.5	2.0	1.7	2.0	1.8
Keiser, Ark.	1.0	1.0	2.0	1.0	2.0	2.0
Jonesboro, Ark.	1.7	1.5	2.7	1.2	1.8	1.5
Stoneville, Miss. (A)	2.0	2.0	3.0	2.0	3.0	3.0
Stoneville, Miss. (B)	2.7	2.7	2.0	2.0	2.0	2.0
St. Joseph, La.	1.2	4.0	4.0	4.2	5.0	3.9
			West			
Clinton, Mo.	2.6	3.1	3.3	3.0	3.3	3.3
Columbus, Kan.	1.0	1.3	1.6	1.1	1.4	1.4
Pine Bluff, Ark.	2.6	3.6	2.3	2.0	1.6	2.0
Stuttgart, Ark.	1.2	1.6	3.0	1.0	2.8	2.2
Bossier City, La.	1.2	1.0	1.0	1.5	1.2	1.2
Bixby, Okla.	1.0	1.0	1.0	1.0	1.0	1.0
Lubbock, Tex.	1.0	1.2	1.5	1.0	2.0	1.5
Halfway, Tex.	2.0	3.0	4.0	2.0	4.0	4.0
Beaumont, Tex.	1.0	1.0	2.0	1.0	1.7	1.0

Table 13 - (continued)

Location	D74-7824	J74-35	R74-511	D75-7685	D75-7778	D75-7987
			East Coast			
Queenstown, Md.	3.8	2.5	3.5	3.5	3.0	3.8
Georgetown, Del.	3.0	2.7	2.7	2.8	2.3	2.7
Warsaw, Va.	2.2	1.5	1.6	2.0	1.6	2.1
Petersburg, Va.	4.0	1.0	2.0	2.0	2.0	2.0
Holland, Va.	3.3	2.0	1.0	2.8	2.2	2.8
Plymouth, N.C.	2.0	3.0	2.0	3.0	3.0	3.0
Jay, Fla.	2.0	2.0	1.0	1.0	3.0	1.0
			Upper and Central South			
Orange, Va.	3.0	2.0	1.7	2.0	2.0	2.0
Knoxville, Tenn.	3.0	2.0	4.0	3.0	2.0	3.0
Clemson, S.C.	1.0	1.0	1.0	1.0	1.0	1.0
Calhoun, Ga.	1.5	1.3	1.0	1.0	1.3	1.0
Athens, Ga.	1.5	1.5	1.0	2.0	1.7	1.2
Belle Mina, Ala.	2.8	2.0	1.5	2.3	1.5	2.0
Princeton, Ky.	3.7	2.7	3.0	3.7	2.0	3.7
Martin, Tenn.	2.0	2.0	1.0	2.0	1.0	1.0
Jackson, Tenn.	2.0	2.0	2.0	2.0	1.0	2.0
Verona, Miss.	1.0	1.0	1.0	1.0	1.0	1.0
			Delta			
Portageville, Mo. (A)	4.0	3.0	3.8	3.2	3.2	3.5
Portageville, Mo. (B)	2.2	2.0	1.7	2.0	2.0	1.8
Keiser, Ark.	2.0	1.0	1.0	2.5	1.0	1.0
Jonesboro, Ark.	2.5	2.0	2.0	2.0	1.7	1.8
Stoneville, Miss. (A)	3.0	2.0	2.3	3.0	2.0	2.3
Stoneville, Miss. (B)	2.0	2.0	2.0	2.0	2.0	2.0
St. Joseph, La.	4.3	4.2	5.0	3.7	4.0	3.9
			West			
Clinton, Mo.	3.3	3.3	2.6	3.1	3.0	3.3
Columbus, Kan.	1.5	1.2	1.0	1.6	1.2	1.5
Pine Bluff, Ark.	1.3	3.3	2.3	2.3	2.6	3.0
Stuttgart, Ark.	2.3	1.6	1.8	2.0	1.7	1.2
Bossier City, La.	2.5	1.3	1.0	1.3	2.2	1.0
Bixby, Okla.	1.0	1.0	1.0	1.0	1.0	1.0
Lubbock, Tex.	1.5	2.0	1.2	1.5	2.2	1.2
Halfway, Tex.	4.0	3.0	3.0	4.0	3.0	3.0
Beaumont, Tex.	1.0	1.0	1.0	1.7	1.7	1.3

Table 14 - Seed quality scores for the strains in Uniform Group V, 1978

Location	Essex	Forrest	Bedford	Bay (V72-580)	N73-40	D74-7633
			East Coast			
Queenstown, Md.	2.0	2.0	2.0	1.8	1.8	2.0
Georgetown, Del.	2.0	2.5	2.5	2.0	2.0	2.5
Warsaw, Va.	1.0	1.0	1.0	1.1	1.0	1.0
Petersburg, Va.	1.0	1.0	2.0	1.0	1.0	1.0
Holland, Va.	1.5	1.3	1.0	1.5	1.8	1.0
Plymouth, N.C.	1.5	1.5	1.5	1.5	1.5	1.5
			Upper and Central South			
Orange, Va.	1.0	1.0	1.0	1.0	1.0	1.0
Knoxville, Tenn.	2.0	3.0	3.0	1.0	4.0	2.0
Calhoun, Ga.	2.0	2.2	1.7	1.5	2.0	2.0
Athens, Ga.	1.8	2.0	2.3	2.2	2.2	2.0
Belle Mina, Ala.	1.0	1.0	1.0	1.0	1.0	1.0
Martin, Tenn.	2.0	2.0	2.0	2.0	2.0	2.0
Jackson, Tenn.	2.0	2.0	2.5	2.0	2.0	2.0
			Delta			
Portageville, Mo. (A)	1.5	2.0	2.5	1.5	2.5	1.5
Portageville, Mo. (B)	2.0	1.5	1.5	1.5	1.5	1.0
Keiser, Ark.	1.0	1.0	1.0	1.0	1.5	1.0
Jonesboro, Ark.	1.7	1.5	2.7	1.2	1.8	1.5
Stoneville, Miss. (A)	2.3	2.0	2.0	2.0	2.0	2.3
Stoneville, Miss. (B)	2.7	2.7	2.0	2.0	2.0	2.0
			West			
Clinton, Mo.	1.5	2.0	2.0	1.5	1.5	2.0
Columbus, Kan.	1.5	1.6	1.6	2.1	1.5	1.8
Pine Bluff, Ark.	3.0	2.0	2.0	1.0	3.0	1.0
Stuttgart, Ark.	2.3	1.7	2.3	1.7	3.0	2.2
Lubbock, Tex.	1.7	2.0	2.5	2.2	2.5	2.0
Beaumont, Tex.	4.0	2.0	3.0	3.3	4.0	2.0

Table 14 - (continued)

Location	D74-7824	J74-35	R74-511	D75-7685	D75-7778	D75-7987
			East Coast			
Queenstown, Md.	2.0	2.0	1.8	2.0	1.5	2.0
Georgetown, Del.	2.2	2.3	2.0	2.0	2.0	3.0
Warsaw, Va.	1.0	1.0	1.0	1.1	1.0	1.1
Petersburg, Va.	1.0	1.0	1.0	1.0	1.0	3.0
Holland, Va.	1.2	1.0	1.7	1.0	1.2	1.0
Plymouth, N.C.	2.0	2.0	1.5	1.5	1.5	1.5
			Upper and Central South			
Orange, Va.	1.0	1.0	1.0	1.0	1.0	1.0
Knoxville, Tenn.	3.0	2.0	2.0	2.0	2.0	2.0
Calhoun, Ga.	1.7	2.0	2.0	1.5	1.7	2.0
Athens, Ga.	2.0	2.2	1.5	1.5	1.8	2.5
Belle Mina, Ala.	1.0	1.0	1.0	1.0	1.0	1.0
Martin, Tenn.	2.0	2.0	2.0	2.0	2.0	2.0
Jackson, Tenn.	2.0	3.0	2.0	2.0	2.0	3.0
			Delta			
Portageville, Mo. (A)	1.5	2.0	2.0	1.5	1.5	2.5
Portageville, Mo. (B)	1.0	1.5	1.5	1.0	1.0	1.5
Keiser, Ark.	1.5	1.5	1.5	1.5	1.0	1.0
Jonesboro, Ark.	2.5	2.0	2.0	2.0	1.7	1.8
Stoneville, Miss. (A)	2.0	2.0	2.0	2.0	2.0	2.0
Stoneville, Miss. (B)	2.0	2.0	2.0	2.0	2.0	2.0
			West			
Clinton, Mo.	2.0	2.0	1.5	1.8	1.8	2.3
Columbus, Kan.	1.5	1.7	1.4	1.7	1.6	1.7
Pine Bluff, Ark.	2.0	3.0	2.0	1.0	2.0	2.0
Stuttgart, Ark.	1.8	2.5	1.8	1.7	2.0	2.7
Lubbock, Tex.	3.0	3.0	2.5	2.5	2.7	2.7
Beaumont, Tex.	2.3	2.7	3.3	2.0	3.0	2.0

PRELIMINARY GROUP V

1978

Preliminary Group V nurseries, including 34 experimental strains along with Hill and Forrest, were grown at 8 locations. The parentage of each of these strains is reported in Table 15. Performance data are summarized in Tables 16-21.

Differences among strains for seed yield were significant at 7 of the 8 locations. The combined analysis of variance also showed differences among strains for seed yield to be significant. Stoneville yields were not included in the combined analysis. Only 2 strains had mean seed yields significantly higher than that for Forrest and one strain had a significantly lower seed yield. The low yielding strain, D76-12050, shattered badly.

All strains averaged later in maturity than Hill. However, S76-2120 which averaged three days later was one of the higher yielding strains. Eleven strains averaged later in maturity than Forrest.

Eighteen strains had a protein percentage significantly higher than Hill. Ten of these 18 strains had an oil percentage significantly lower. D76-8070 had a mean protein percentage of 49.8 and an oil percentage of 17.0. The four high protein strains D76-8070, D76-8089, D76-8554, and D76-8817 had thin stands in several of the plantings. In 1977 harvesting had been delayed and seed had suffered weather damage. D76-8089 was not included in calculating mean seed yields. All four strains are resistant to phytophthora rot, soybean mosaic virus and bacterial pustule.

Fourteen strains were rated resistant to race 3 of the soybean cyst nematode in a field planting at Ames Plantation in Tennessee. J74-51 also has a moderate level of resistance to CN race 4. The two strains, D76-12035 and D76-12050, have also been selected for resistance to soybean looper feeding.

Only J74-51 and R76-45 equaled Forrest in resistance to the two root-knot nematode species. Each has Forrest as a parent.

Strains which appear to merit testing in the regional uniform tests are N76-098, N76-683, S76-2120, R76-45, V75-345, D76-9375, and J74-51.

Table 15 - Parentage of the strains grown in Preliminary Group V, 1978

	Variety or strain	Parentage	Generation composited
1.	Hill		
2.	Forrest		
3.	D75-12035	Forrest(2) X PI 229358	F_5
4.	D75-12050	Forrest(2) X PI 229358	
5.	D76-8070	D68-4641 X D72-347	F_5
6.	D76-8089	D68-4641 X D72-347	F_5
7.	D76-8554	D68-4641 X D72-8632	F_5
8.	D76-8817	D68-4641 X D72-8632	F_5
9.	D76-9375	Forrest X Centennial	F_5
10.	Ga75-20	Davis X D64-4731	F_5
11.	Ga75-518	Davis X D64-4731	F_4
12.	J74-51	Forrest(2) X (D68-18 X PI 88788)	F_4
13.	N76-052	N70-1741 X Essex	F_5
14.	N76-098	N70-1741 X Essex	F_5
15.	N76-132	N69-5020 X Essex	F_5
16.	N76-675	N70-1501 X N70-2173	F_5
17.	N76-683	N70-1501 X N70-2173	F_5
18.	R75-195	D68-B4 X Mack	F_5
19.	R75-579	Forrest X Mack	F_4
20.	R76-45	Forrest X Mack	F_5
21.	R76-717	Mack X Cross 37-3	F_4
22.	R76-1017	[T-143 X Dare(2)] X Mack (3)	F_4
23.	S76-1807	Forrest X sel (Hill X Custer)	F_4
24.	S76-1810	Forrest X sel (Hill X Custer)	F_4
25.	S76-2120	D67-3297 X Essex	F_4
26.	S76-2240	Forrest X V71-480	F_4
27.	S76-2335	Essex X Mitchell	F_4
28.	S76-2447	D70-3115 X Essex	F_4
29.	S75-2575	D70-3115 X S63-5328	F_4
30.	V75-35	Essex X V69-862	F_5
31.	V75-75	Essex X V69-862	F_5
32.	V75-252	Hill X Essex	F_5
33.	V75-345	Essex X Shore	F_4
34.	V75-353	Essex X Shore	F_4
35.	V75-386	Essex X V69-953	F_4
36.	V75-681	D64-4731 X Hood	F_6

Table 16 - General summary of performance for the strains grown in Preliminary Group V, 1978

Strain	Seed yield	Maturity index	Ht.	Percent Oil	Percent Protein	Cyst nematode Race 3	Cyst nematode Race 4	Root-knot nematode *M. incognita*	Root-knot nematode *M. arenaria*
Hill	39.9	10-2	31	20.9	41.0	S	S	3.0	4.8
Forrest	41.2	+10	35	21.3	40.3	R	S	1.0	2.0
D75-12035	40.6	+7	35	19.3-	44.2+	R	S	4.5	1.0
D75-12050	35.0-	+3	33	19.2-	42.5+	R	S	3.0	3.0
D76-8070	37.7	+4	32	17.0-	49.8+	S	S	2.0	5.0
*D76-8089	-	+4	33	-	-	S	S	1.0	4.3
D76-8554	38.2	+7	38	18.8-	46.0+	S	S	4.5	4.8
D76-8817	38.3	+13	40	18.8-	46.1+	S	S	3.0	5.0
D76-9375	42.5	+12	37	21.6	39.1-	R	S	1.0	3.8
Ga75-20	38.5	+11	37	21.1	40.5	S	S	5.0	5.0
Ga75-518	41.3	+10	38	20.6	42.2+	S	S	2.5	4.0
J74-51	42.8	+2	39	21.7+	40.0	R	R	1.2	1.8
N76-052	40.9	+6	35	20.2-	42.5+	S	S	4.0	4.8
N76-098	47.0+	+3	30	21.1	43.1+	S	S	3.5	5.0
N76-132	43.4	+6	32	20.1-	43.7+	S	S	5.0	5.0
N76-675	41.4	+13	35	20.4	42.1+	S	S	1.0	4.5
N76-683	45.5+	+13	39	20.8	41.8	S	S	4.0	5.0
R75-195	42.6	+8	39	21.5	41.5	R	S	5.0	4.2
R75-579	44.2+	+13	34	19.8-	42.1+	R	S	3.0	3.5
R76-45	43.1	+11	37	21.0	41.1	R	S	1.5	2.0
R76-717	40.9	+3	38	20.8	40.8	R	S	5.0	3.8
R76-1017	43.8	+7	33	20.6	42.6+	R	S	5.0	3.3
S76-1807	40.3	+5	37	19.9-	43.6+	R	S	5.0	1.9
S76-1810	39.2	+5	38	19.8-	44.0+	R	S	5.0	2.4
S76-2120	46.9+	+3	32	21.1	40.2	S	S	4.0	5.0
S76-2240	42.0	+7	35	22.0+	38.4-	S	S	4.0	1.8
S76-2335	43.3	+8	37	21.0	40.5	S	S	4.5	4.3
S76-2447	43.8	+7	36	20.4	43.0+	S	S	4.0	5.0
S75-2575	43.0	+9	36	20.5	42.0	R	S	5.0	2.4
V75-35	45.0+	+14	34	20.4	43.2+	S	S	5.0	5.0
V75-75	44.4+	+12	31	20.4	44.1+	S	S	4.0	4.5
V75-252	43.9+	+9	30	20.9	42.0	S	S	5.0	5.0
V75-345	45.0+	+9	38	22.0+	40.9	S	S	4.0	5.0
V75-353	41.4	+8	39	20.3	43.1+	S	S	5.0	5.0
V75-386	37.8	+6	30	20.2-	44.2+	S	S	3.5	4.8
V75-681	40.6	+14	38	21.0	40.3	S	S	4.5	2.6
L.S.D.(.05)	3.9			0.7	1.0				
L.S.D.(.01)	5.1			0.9	1.4				

*Not included in means because of incomplete stands.

Table 17 - Seed yield, in bushels per acre, for the strains grown in Preliminary Group V, 1978

Strain	George-town, Del.	Queens-town, Md.	Warsaw, Va.	Ply-mouth, N.C.	Portage-ville, Mo.(A)	Keiser, Ark.	*Stone-ville, MS(B)	Prince-ton, Ky.
Hill	40.8	37.4	39.4	43.1	35.8	38.7	16.8	43.5
Forrest	35.4	40.9	37.9	45.8	36.2	45.6+	14.6	46.7
D75-12035	37.7	43.7	38.9	43.5	37.1	37.1	12.2	46.1
D75-12050	40.6	37.2	32.1-	40.4	23.4	33.6	13.6-	37.8
D76-8070	38.4	42.6	36.9	34.5-	31.3	36.4	15.2	44.2
*D76-8089	48.0	42.2	25.7-	20.3	-	33.7	7.7	47.1
D76-8554	37.6	36.9	36.0	40.5	36.0	41.4	19.1	39.6
D76-8817	33.9	35.8	40.1	44.2	32.9	45.4+	23.1	35.5-
D76-9375	37.3	41.4	39.8	47.8	38.9	46.6+	22.4	46.1
Ga75-20	36.4	38.4	36.4	46.8	33.1	38.8	12.5	39.8
Ga75-518	38.8	39.8	39.9	52.4+	33.5	47.0	11.7	38.1
J74-51	43.7	44.4	41.0	44.7	40.6	41.2	17.1	44.5
N76-052	41.7	33.9	38.1	47.6	41.5	38.8	14.8	44.8
N76-098	48.2	42.7	41.4	57.0+	36.9	47.4+	12.9	55.4+
N76-132	49.2	41.8	45.6	50.4+	35.5	39.2	10.1	42.5
N76-675	36.9	37.8	39.8	48.3	35.8	45.0+	22.5	46.1
N76-683	39.3	45.6	42.9	53.5+	38.6	49.8+	26.8+	49.0
R75-195	41.1	42.4	37.9	48.7	42.1	41.0	23.4	45.1
R75-579	39.1	39.1	39.8	54.7+	35.4	48.9+	20.4	52.4+
R76-45	38.4	40.4	37.3	47.1	45.1	44.8	16.2	48.9
R76-717	42.3	39.0	42.2	43.5	36.7	39.3	10.2	43.1
R76-1017	42.6	40.9	39.3	51.3+	42.2	43.7	13.3	46.7
S76-1807	43.9	36.3	35.9	45.4	33.4	42.4	18.2	45.2
S76-1810	41.1	40.5	35.6	43.3	31.4	44.8	19.1	38.1
S76-2120	42.8	45.7	45.9	52.7+	44.2	45.7+	16.1	51.5+
S76-2240	40.5	39.7	39.4	46.9	35.0	46.7+	20.9	45.6
S76-2335	36.0	42.6	39.7	55.5+	34.0	47.0+	11.0	48.1
S76-2447	40.4	38.3	40.6	51.9+	40.0	47.6+	14.5	48.0
S75-2575	41.7	44.1	39.2	48.7	39.0	47.0+	14.1	41.4
V75-35	37.7	39.8	47.5+	56.3+	31.8	47.4+	23.6	54.4+
V75-75	37.3	45.8	42.5	54.9+	39.6	37.6	16.5	52.9+
V75-252	43.4	40.0	45.6	55.1+	33.3	44.4	23.6	45.8
V75-345	45.3	42.2	42.0	57.1+	39.8	40.8	22.5	47.7
V75-353	38.4	35.6	38.8	53.5+	36.6	33.7	17.2	48.2
V75-386	39.6	32.4	43.4	38.0	32.3	28.1-	10.6	51.0
V75-681	34.7	35.2	36.0	55.8+	35.4	46.4+	17.2	41.0
L.S.D.(.05)	N.S.	N.S.	6.8	6.6	N.S.	6.1	9.2	7.9
C.V.	9%	10%	8%	7%	13%	7%	27%	9%

*Not included in mean

Table 18 - Oil percentages for the strains in Preliminary Group V, 1978

Strain	Queenstown, Md.	Warsaw, Va.	Plymouth, N.C.	Portageville, Mo.(A)	Stoneville, Miss.(B)
Hill	19.1	21.4	20.6	22.2	21.0
Forrest	19.1	21.6	21.1	22.6	22.2
D75-12035	18.7	19.8	19.4	19.4	19.3
D75-12050	18.8	19.4	19.3	18.9	19.6
D76-8070	16.8	17.1	16.9	17.2	17.1
D76-8089	18.0	19.0	19.5	-	19.0
D76-8554	17.5	19.3	18.5	19.5	19.3
D76-8817	17.9	19.6	18.7	18.5	19.4
D76-9375	19.7	21.7	21.1	22.5	23.0
Ga75-20	20.5	20.6	21.3	21.5	21.7
Ga75-518	19.8	20.9	20.3	20.6	21.4
J74-51	19.8	21.9	21.8	22.5	22.5
N76-052	18.7	20.4	19.2	21.0	21.6
N76-098	19.5	22.2	21.5	21.4	20.9
N76-132	19.0	20.4	19.1	21.7	20.2
N76-675	19.5	20.0	19.8	21.3	21.6
N76-683	19.6	20.7	20.2	21.7	21.7
R75-195	19.8	21.1	21.3	22.8	22.5
R75-579	18.3	20.2	18.8	20.6	20.9
R76-45	19.8	21.2	21.2	20.9	21.9
R76-717	19.6	21.3	19.8	21.6	21.5
R76-1017	19.8	20.6	19.9	22.3	20.5
S76-1807	19.4	19.3	19.8	20.8	20.1
S76-1810	18.7	19.7	19.8	20.9	20.1
S76-2120	19.6	21.6	20.5	22.0	21.7
S76-2240	20.3	22.4	21.9	22.1	23.2
S76-2335	19.4	20.9	20.7	22.3	21.6
S76-2447	19.7	20.1	20.1	21.4	20.6
S75-2575	19.9	19.8	20.1	21.6	21.3
V75-35	19.5	19.8	20.4	21.0	21.5
V75-75	18.9	20.9	20.0	21.4	20.9
V75-252	19.1	21.7	21.0	20.9	22.0
V75-345	20.5	21.4	22.8	23.3	22.0
V75-353	19.6	20.5	19.7	21.2	20.7
V75-386	19.3	20.0	19.9	21.1	20.7
V75-681	19.3	20.6	21.3	22.2	21.7

Table 19 - Protein percentages for the strains in Preliminary Group V, 1978

Strain	Queenstown, Md.	Warsaw, Va.	Plymouth, N.C.	Portageville, Mo.(A)	Stoneville, Miss.(B)
Hill	42.6	38.8	42.0	39.6	42.1
Forrest	41.5	38.9	41.0	39.4	40.7
D75-12035	44.1	42.6	44.1	44.6	45.4
D75-12050	43.2	41.0	42.6	43.2	42.5
D76-8070	49.7	49.1	50.4	50.3	49.6
D76-8089	47.2	45.5	47.9	-	47.5
D76-8554	46.5	44.9	46.9	45.8	45.9
D76-8817	47.0	44.3	46.9	46.3	46.0
D76-9375	40.4	38.5	39.8	38.2	38.6
Ga75-20	41.1	40.5	41.7	39.8	39.4
Ga75-518	43.2	41.4	43.2	41.9	41.4
J74-51	41.2	37.5	41.3	39.9	40.2
N76-052	43.7	41.6	44.3	41.1	41.6
N76-098	44.8	41.8	44.1	40.3	44.3
N76-132	44.0	42.4	45.1	41.6	45.3
N76-675	43.2	41.8	43.7	41.7	40.2
N76-683	41.8	41.3	42.8	42.1	41.0
R75-195	42.9	40.6	42.7	40.1	41.0
R75-579	43.1	40.6	43.7	40.6	42.3
R76-45	41.6	40.3	41.8	40.6	41.1
R76-717	41.8	39.1	43.2	39.3	40.7
R76-1017	43.9	41.0	44.1	40.3	43.6
S76-1807	44.2	44.1	44.3	41.2	44.1
S76-1810	45.1	43.3	45.4	42.6	43.7
S76-2120	42.6	39.0	40.9	38.2	40.3
S76-2240	39.0	36.6	39.8	38.5	38.3
S76-2335	42.1	39.6	41.4	38.4	40.9
S76-2447	43.5	42.0	45.1	41.5	42.8
S75-2575	42.2	41.9	44.7	39.8	41.6
V75-35	43.7	42.2	44.6	42.9	42.7
V75-75	44.8	43.0	45.1	42.7	44.9
V75-252	44.2	40.2	42.9	41.0	41.8
V75-345	40.1	41.0	43.2	39.0	41.1
V75-353	43.2	43.0	45.1	41.9	42.3
V75-386	44.8	43.8	44.9	42.3	45.0
V75-681	41.9	39.9	41.4	38.0	40.3

Table 20 - Plant height for the strains in Preliminary Group V, 1978

Strain	George-town, Del.	Queens-town, Md.	Warsaw, Va.	Ply-mouth, N.C.	Portage-ville, Mo.(A)	Keiser, Ark.	Stone-ville, MS.(B)	Prince-ton Ky.
Hill	36	34	36	32	31	30	17	38
Forrest	44	40	40	36	36	32	19	43
D75-12035	42	47	40	28	34	36	19	39
D75-12050	38	45	38	28	35	30	17	37
D76-8070	37	40	30	31	34	28	22	35
D76-8089	39	41	-	-	-	34	19	43
D76-8554	42	46	41	39	40	32	25	41
D76-8817	47	46	42	38	41	41	25	46
D76-9375	47	44	44	34	39	33	19	46
Ga75-20	42	46	42	35	38	36	19	38
Ga75-518	42	43	45	41	41	34	18	41
J74-51	46	47	46	36	41	35	22	44
N76-052	41	42	41	35	39	31	15	38
N76-098	37	40	33	30	32	26	12	31
N76-132	37	40	36	31	33	29	16	37
N76-675	38	42	42	35	39	31	20	42
N76-683	42	45	44	38	43	36	27	45
R75-195	42	46	44	38	41	37	23	42
R75-579	41	36	38	35	37	35	19	39
R76-45	43	42	44	38	39	35	17	43
R76-717	45	46	42	35	43	37	19	44
R76-1017	40	42	38	34	35	30	15	39
S76-1807	43	48	40	37	32	37	20	40
S76-1810	41	46	43	39	40	36	18	40
S76-2120	38	37	38	32	36	30	16	35
S76-2240	42	42	42	35	37	32	17	43
S76-2335	39	54	43	33	41	33	16	38
S76-2447	43	41	42	35	39	32	17	38
S75-2575	42	45	41	36	37	33	16	40
V75-35	37	42	38	33	35	31	20	36
V75-75	34	35	42	32	35	26	15	32
V75-252	34	38	32	31	31	28	18	33
V75-345	43	46	44	39	43	28	24	44
V75-353	38	38	33	33	38	26	18	37
V75-386	35	43	33	26	34	28	14	37
V75-681	43	46	38	39	42	34	21	44

Table 21 - Seed quality scores for the strains in Preliminary Group V, 1978

Strain	George-town, Del.	Queens-town, Md.	Warsaw, Va.	Ply-mouth, N.C.	Portage-ville, Mo.(A)	Keiser, Ark.	Stone-ville, MS(B)
Hill	2.0	2.0	1.4	1.5	1.5	1.0	2.0
Forrest	2.3	2.0	1.5	1.5	1.5	1.0	2.0
D75-12035	2.5	2.0	1.4	1.5	1.0	1.5	2.5
D75-12050	2.5	2.0	1.3	1.5	1.0	1.0	3.0
D76-8070	2.3	2.2	1.3	1.5	2.5	1.5	2.0
D76-8089	2.5	2.5	1.8	1.5	-	2.0	2.5
D76-8554	2.3	2.0	1.6	1.5	1.5	1.0	2.0
D76-8817	2.0	2.0	1.5	1.5	1.5	1.0	2.0
D76-9375	2.3	2.0	1.3	1.5	1.0	1.0	2.5
Ga75-20	2.3	2.0	1.2	1.5	1.0	1.5	2.0
Ga75-518	2.0	2.0	1.2	1.5	1.5	1.5	2.5
J74-51	2.5	2.0	1.5	1.5	2.0	1.5	2.0
N76-052	2.0	2.0	1.0	1.5	1.5	1.0	2.0
N76-098	1.8	2.0	1.0	1.5	1.0	1.5	2.0
N76-132	2.3	2.0	1.5	1.5	1.5	1.0	2.5
N76-675	1.8	2.0	1.2	1.5	1.0	1.0	2.0
N76-683	2.0	2.0	1.5	1.5	1.0	1.0	2.0
R75-195	2.3	2.0	1.3	1.5	1.5	1.5	2.0
R75-579	2.0	2.0	1.4	1.5	1.0	1.5	2.5
R76-45	2.3	2.0	1.4	1.5	1.5	1.0	2.5
R76-717	2.5	2.0	1.5	1.5	1.5	1.5	2.0
R76-1017	2.3	2.0	1.5	1.5	1.5	1.5	2.5
S76-1807	2.0	2.0	1.4	1.5	1.5	1.5	2.0
S76-1810	2.5	2.0	1.2	1.5	2.0	1.5	2.5
S76-2120	2.3	2.0	1.0	1.5	1.5	1.5	2.5
S76-2240	2.3	2.0	1.4	1.5	2.0	1.5	2.5
S76-2335	2.3	2.0	1.2	1.5	2.0	1.0	3.0
S76-2447	2.3	2.0	1.2	1.5	1.5	1.5	2.0
S75-2575	2.0	2.0	1.4	1.5	1.5	1.0	2.5
V75-35	2.0	2.0	1.2	1.5	1.0	1.0	2.0
V75-75	2.0	2.0	1.2	1.5	1.5	1.5	2.0
V75-252	2.0	2.0	1.4	1.5	1.0	1.0	2.0
V75-345	1.5	2.0	1.0	1.5	1.5	1.0	2.0
V75-353	2.3	2.0	1.4	1.5	1.0	1.5	2.0
V75-386	2.0	2.0	1.3	1.5	1.5	1.5	2.0
V75-681	2.5	2.0	1.5	1.5	1.5	1.5	2.0

UNIFORM GROUP VI

1978

	Variety or strain	Parentage	Generation composited
1.	Tracy	D61-618 X D60-9647	F_5
2.	Centennial	D64-4636 X tawny pubescent Lee 68 type	F_5
3.	N72-137	D65-6765 X (D67-B5 X N64-2451)	F_5
4.	N72-3058	F65-1376 X Ransom	F_5
5.	N72-3148	D67-B5 X N64-2451	F_5
6.	D74-7741	Forrest X D70-3001	F_5
7.	N73-693	D68-216 X Ransom	F_5
8.	N73-1102	Tracy X Ransom	F_5
9.	D75-16	D64-4636 X tawny pubescent Pickett 71 type	F_8
10.	D75-7527	Forrest X Mack	F_5
11.	N75-2213	Davis X Essex	F_5
12.	R74-1625	York X Davis	F_4

Background of breeding lines used as parents:

D61-618 is a phytophthora rot resistant selection from Hill(2) X PI 171442.

D60-9647 is a moderately high protein strain selected from FC31745 X D49-2510 which was included in Uniform Group VI 1963-65.

D64-4636 is a selection from Hill X D58-3311. D58-3311 is a bacterial pustule resistant strain selected from Jackson(4) X D49-2491.

D67-B5 is D49-2491 converted to a narrow leaf, phytophthora resistant type.

N64-2451 is from the same cross as Ransom. It was grown in Uniform Group VII in 1968.

F65-1376 is a selection from (F55-224 X D55-4073) X (F58-5788 X D56-4065) which was grown in Uniform Group VII in 1968 and 1969.

D70-3001 same parentage as Centennial.

D68-216 same parentage as Forrest.

Results of 35 Uniform Group VI nurseries are summarized in Tables 22 through 28. Table 22 gives a general summary of agronomic qualities, oil and protein content of the seed, and reaction to several pest problems.

Seed yield differences among strains were significant (odds 19:1 or greater) at 18 of the 35 locations. The combined analysis of variance for seed yield by production regions showed differences among strains to be significant in the Upper and Central South and the Delta.

A three-year comparison of the two check varieties shows Centennial to have a distinct advantage over Tracy in the Southeast, but Tracy to have an advantage in other production regions. The three strains N72-137, N72-3058, and N72-3148 have been evaluated three years. N72-137 has shown no advantage over the best check in any area. N72-3058 showed a 0.7 bushel increase in the East and a 0.9 bushel increase in the West. N72-3148 showed a 2 bushel advantage over Tracy in the East, a 1.0 bushel lower yield than Centennial in the Southeast, a 2.4 bushel lower yield than Tracy in the Upper and Central region, a 0.5 bushel lower yield in the Delta, and a 1.5 bushel increase over Tracy in the West.

Three strains D74-7741, N73-693, and N73-1102 have been evaluated two years. D74-7741 averaged 4 days earlier than Tracy, while the other two were similar to Tracy in maturity. These strains yielded well in all regions except the Southeast where they averaged lower in seed yield than Centennial.

Four strains have been evaluated only one year. D75-16 and D75-7527 averaged 9 and 8 days earlier than Tracy. Both are resistant to cyst nematodes race 3. N75-2213 and R74-1625 averaged 4 days earlier than Tracy. D75-16 was identified as an early maturing line when 200 single plant progenies were grown from D70-3185 for initiating breeders' seed for release as Centennial. Reaction to the two root-knot species was similar to that for Centennial. Mean seed yield was similar to that for Centennial in all but the Delta region where it averaged 6 bushels higher in yield. The other three strains produced well in all regions.

Table 22 - General summary of the performance for the strains grown in Uniform Group VI, 1978

	Tracy	Centennial	N72-137	N72-3058	N72-3148	D74-7741
Seed Yield - 1978						
East Coast	44.7	42.2	39.4	44.0	43.1	43.1
Southeast	33.5	40.4	35.4	35.7	35.8	35.6
Upper & Central South	31.9	28.7	29.0	31.7	29.6	30.9
Delta	35.4	32.6-	32.5-	33.3	34.7	39.5+
West	39.6	37.8	35.4	38.2	39.9	40.5
- 1977-78						
East Coast	42.5	41.1	41.2	42.8	43.8	43.4
Southeast	38.7	43.1	38.6	37.7	38.0	39.3
Upper & Central South	35.6	34.3	32.6	33.6	32.5	33.8
Delta	34.3	31.6	32.8	32.8	34.4	38.1
West	36.3	35.4	33.2	36.4	37.9	38.6
- 1976-78						
East Coast	39.8	39.0	40.0	40.5	41.8	
Southeast	37.5	41.8	39.4	37.5	40.8	
Upper & Central South	34.3	32.7	32.1	33.8	31.9	
Delta	37.4	35.2	36.1	37.0	36.9	
West	37.2	36.0	34.9	38.1	38.7	
Oil Content - 1978	19.2	20.0+	20.2+	20.9+	21.0+	22.0+
- 1977-78	18.9	20.0	20.3	21.2	21.0	22.7
- 1976-77	18.3	19.8	20.1	20.9	20.9	
Protein Content - 1978	43.3	43.1	44.3+	43.6	41.0-	40.6-
- 1977-78	43.1	42.3	43.3	42.7	40.1	39.7
- 1976-78	42.9	42.0	43.0	42.6	40.0	
Seed size	15.9	12.9-	12.4-	15.3	14.1-	13.4-
Maturity index	10-6	+3	0	+2	+3	-4
Height	37	37	35	36	33	33
Seed quality	1.9	1.6	1.6	1.5	1.6	1.6
Bacterial pustule	R	R	R	R	R	R
Phytophthora rot	1.0	1.0	1.5	1.5	1.5	1.0
M. incognita	4.0	2.0	5.0	5.0	5.0	1.5
M. arenaria	5.0	4.5	5.0	4.5	5.0	2.8
Cyst nematode (Race 3)	S	R	S	S	S	R
Flower color	W	P	W	P	P	W
Pubescence color	T	T	T	T	T	T
Pod wall color	T	T	T	T	T	T

Table 22 - (continued)

	N73-693	N73-1102	D75-16	D75-7527	D75-2213	R74-1625
Seed Yield - 1978						
East Coast	42.1	44.2	41.9	44.9	44.8	45.2
Southeast	35.9	37.6	35.2	36.2	37.5	34.5
Upper & Central South	32.7	32.5	29.5	33.2	33.8	36.5+
Delta	36.9	36.3	38.0	41.2+	35.1	37.4
West	40.9	41.2	38.7	43.0	40.1	40.5
- 1977-78						
East Coast	42.1	44.7				
Southeast	41.4	39.6				
Upper & Central South	37.1	35.7				
Delta	35.5	34.6				
West	38.3	39.9				
- 1976-78						
East Coast						
Southeast						
Upper & Central South						
Delta						
West						
Oil Content - 1978	21.1+	20.5+	20.1+	22.2+	20.7+	20.9+
- 1977-78	21.2	20.5				
- 1976-77						
Protein Content - 1978	41.6-	41.6-	43.8	40.3-	42.8	42.1-
- 1977-78	40.9	41.0				
- 1976-78						
Seed size	14.4-	15.4	14.4-	13.4-	14.3-	14.7
Maturity index	+1	0	-9	-8	-4	-4
Height	33	37	33	32	37	35
Seed quality	1.5	1.7	1.8	1.8	1.6	1.5
Bacterial pustule	R	R	R	R	R	R
Phytophthora rot	1.5	1.0	1.0	1.0	1.0	1.0
M. incognita	5.0	5.0	1.0	3.0	5.0	5.0
M. arenaria	4.5	5.0	5.0	1.6	5.0	5.0
Cyst nematode (Race 3)	S	S	R	R	S	S
Flower color	P	P	P	P	W	W
Pubescence color	T	T	T	T	G	G
Pod wall color	T	Br	T	T	T	T

Table 23 - Seed yield, in bushels per acre, for the strains in Uniform Group VI, 1978

Location	Tracy	Centennial	N72-137	N73-3058	N72-3148	D74-7741	N73-693
			East Coast				
Warsaw, Va.	39.3	28.9-	34.4	41.6	35.1	36.7	39.7
Petersburg, Va.	53.3	44.2-	37.1-	52.8	45.2-	38.5-	39.8-
Holland, Va.	55.9	57.4	51.5	60.4	59.4	57.6	64.0+
Plymouth, N.C.	49.2	55.9	50.5	52.5	56.1	51.3	55.4
Clinton, N.C.	47.8	40.6	42.1	49.4	44.5	48.2	43.2
Kinston, N.C.	22.6	24.0	23.2	27.7	24.0	26.5	23.2
Clayton, N.C.	36.3	38.2	35.7	37.7	38.4	36.2	38.8
Florence, S.C.	53.7	50.4	45.3-	41.5-	41.2-	48.1-	41.2-
Hartsville, S.C.	44.3	40.6	34.7	32.8	44.3	44.6	33.7
Mean	44.7	42.2	39.4	44.0	43.1	43.1	42.1
			Southeast				
Blackville, S.C.	38.1	40.3	34.8	40.1	43.7	38.1	37.3
Tifton, Ga.	37.4	39.6	35.7	33.0	38.3	25.7	34.1
Quincy, Fla.	24.0	26.1	30.9	28.0	24.2	37.3	29.8
Jay, Fla.	23.5	38.7+	34.0+	34.8+	28.3	30.7+	32.5+
Fairhope, Ala.	45.1	46.5	42.8	43.5	46.1	42.7	45.6
Baton Rouge, La.	33.0	51.0+	34.3	35.0	34.2	39.0	35.9
Mean	33.5	40.4	35.4	35.7	35.8	35.6	35.9
			Upper and Central South				
Athens, Ga.	43.7	42.0	40.6	46.4	44.5	45.7	46.0
*Calhoun, Ga.	13.8	11.7	10.9	13.2	11.0	16.7	16.7
Belle Mina, Ala.	19.6	16.5	17.4	18.5	15.6	19.0	21.9
Clemson, S.C.	29.2	24.0	27.0	29.6	32.2	24.9	30.7
Jackson, Tenn.	21.7	17.4	14.4	20.2	18.4	20.2	23.8
Verona, Miss.	45.3	43.6	45.7	43.6	37.5	44.7	41.2
Mean	31.9	28.7	29.0	31.7	29.6	30.9	32.7
			Delta				
Portageville, Mo.(A)	36.1	37.4	32.3	33.6	33.8	44.2+	39.8
Portageville, Mo.(B)	38.6	35.0	34.1	35.7	34.0	42.2	39.3
Keiser, Ark.	37.9	35.6	40.8	38.7	41.3	43.8	37.2
Jonesboro, Ark.	20.5	20.1	16.1-	19.7	17.5	22.3	23.0
Stoneville, Miss.(A)	42.5	37.3-	36.6-	38.6	45.6	45.2	42.0
Stoneville, Miss.(B)	31.9	24.3-	31.2	31.2	32.8	34.6	33.4
St. Joseph, La.	40.4	38.5	36.6	35.9	38.1	44.2	43.3
Mean	35.4	32.6-	32.5-	33.3	34.7	39.5+	36.9
			West				
Pine Bluff, Ark.	34.6	41.7	38.3	41.3	45.6	39.1	43.8
Stuttgart, Ark.	43.0	42.0	38.7-	44.7	41.2	50.4+	42.9
Bossier City, La.	32.2	27.1	23.5-	27.9	29.0	26.9	29.5
Crowley, La.	46.0	43.4	40.9	41.6	41.6	44.6	45.5
Beaumont, Tex.	50.3	50.1	43.1-	43.1-	50.3	43.0-	48.6
Bixby, Okla.	21.8	22.1	19.2	18.9	19.6	20.9	19.0
Lubbock, Tex.	49.5	38.3-	44.2	50.1	52.1	58.6+	57.0
Mean	39.6	37.8	35.4	38.2	39.9	40.5	40.9

*Not included in mean.
(+) - Strains yielding significantly more (odds 19:1 or greater) than Tracy.
(-) - Strains yielding significantly less (odds 19:1 or greater) than Tracy.

Table 23 - (continued)

Location	N73-1102	D75-16	D75-7527	N75-2213	R74-1625	L.S.D. (.05)	C.V. (%)
			East Coast				
Warsaw, Va.	42.9	36.8	41.3	38.6	41.2	5.5	9
Petersburg, Va.	38.6-	33.5-	43.7-	35.4-	49.1	6.4	9
Holland, Va.	62.0	52.7	60.0	61.3	64.5+	9.0	10
Plymouth, N.C.	54.5	54.9	52.5	52.6	53.0	N.S.	11
Clinton, N.C.	41.8	49.0	56.9	50.3	46.3	N.S.	15
Kinston, N.C.	26.5	27.2	30.1	30.4	29.1	N.S.	14
Clayton, N.C.	40.5	36.4	39.0	39.1	40.1	N.S.	9
Florence, S.C.	51.2	43.5-	44.3-	52.0	48.9	5.2	7
Hartsville, S.C.	39.7	43.3	36.1	43.2	34.5	N.S.	18
Mean	44.2	41.9	44.9	44.8	45.2	N.S.	
			Southeast				
Blackville, S.C.	39.0	35.7	44.2	39.3	39.5	N.S.	9
Tifton, Ga.	40.8	28.8	33.9	45.1	39.8	N.S.	23
Quincy, Fla.	34.9	35.1	33.7	30.6	29.9	N.S.	20
Jay, Fla.	30.0+	32.3+	25.2	28.2	22.0	6.4	13
Fairhope, Ala.	48.3	42.0	43.9	49.6+	43.0	4.3	6
Baton Rouge, La.	32.7	37.1	36.2	32.3	32.8	7.0	12
Mean	37.6	35.2	36.2	37.5	34.5	N.S.	
			Upper and Central South				
Athens, Ga.	44.2	42.8	50.8+	46.2	47.4	4.8	6
Calhoun, Ga.	14.4	11.7	14.5	21.0	15.3	N.S.	26
Belle Mina, Ala.	19.7	15.0	19.5	18.2	21.1	N.S.	15
Clemson, S.C.	26.7	29.6	29.7	27.7	28.5	N.S.	14
Jackson, Tenn.	19.7	18.6	25.3	27.7	33.4+	7.8	21
Verona, Miss.	52.2	41.6	40.5	49.1	52.1	N.S.	10
Mean	32.5	29.5	33.2	33.8	36.5+	3.8	
			Delta				
Portageville, Mo.(A)	41.2	40.6	40.5	34.0	38.1	6.0	9
Portageville, Mo.(B)	34.7	40.5	46.7	36.1	36.6	N.S.	12
Keiser, Ark.	38.8	38.1	43.7	39.3	40.1	N.S.	8
Jonesboro, Ark.	22.5	20.7	21.9	22.3	19.7	2.7	8
Stoneville, Miss.(A)	43.2	47.2+	53.9+	39.2	45.6	4.6	6
Stoneville, Miss.(B)	30.7	35.2	34.7	36.7	39.6+	6.8	12
St. Joseph, La.	43.1	43.6	46.9+	38.2	42.1	4.4	6
Mean	36.3	38.0	41.2+	35.1	37.4	2.7	
			West				
Pine Bluff, Ark.	48.5	39.4	43.9	45.7	42.2	N.S.	16
Stuttgart, Ark.	48.8+	46.1+	51.4+	42.9	45.3	3.0	4
Bossier City, La.	22.3-	31.6	32.7	28.0	30.0	6.2	13
Crowley, La.	41.8	41.0	40.7	46.6	43.0	N.S.	10
Beaumont, Tex.	49.3	41.7-	47.0	47.2	44.3	6.0	8
Bixby, Okla.	23.3	17.7	19.5	17.1	22.0	N.S.	12
Lubbock, Tex.	54.7	53.2	65.6+	53.5	56.7	7.8	9
Mean	41.2	38.7	43.0	40.1	40.5	N.S.	

Table 24 - Chemical composition and seed size for the strains in Uniform Group VI, 1978

Location	Tracy	Centennial	N72-137	N72-3058	N72-3148	D74-7741
			Oil Percentage			
Warsaw, Va.	19.5	20.2	20.6	20.4	21.0	22.7
Plymouth, N.C.	18.1	20.8	20.4	20.6	21.2	21.8
Clinton, N.C.	18.9	21.4	19.8	21.1	21.1	22.2
Jay, Fla.	19.9	21.8	20.6	21.9	22.4	21.8
Jackson, Tenn.	18.5	18.4	18.8	18.5	18.9	20.2
Portageville, Mo. (B)	18.7	18.9	21.0	19.9	20.3	22.3
Keiser, Ark.	19.2	19.3	19.9	20.9	20.4	21.8
Stoneville, Miss. (B)	20.3	19.2	20.6	21.9	22.2	22.8
Stuttgart, Ark.	18.6	19.6	19.2	21.6	20.8	22.9
Beaumont, Tex.	20.2	20.4	21.4	22.6	21.9	21.8
Mean	19.2	20.0+	20.2+	20.9+	21.0+	22.0+
			Protein Percentage			
Warsaw, Va.	39.2	39.5	42.2	41.7	38.7	36.1
Plymouth, N.C.	44.1	42.0	42.8	43.5	39.5	39.8
Clinton, N.C.	43.3	41.3	45.0	43.6	41.1	40.7
Jay, Fla.	43.6	43.1	45.4	43.3	41.8	42.4
Jackson, Tenn.	44.6	44.3	45.9	46.0	45.2	43.8
Portageville, Mo. (B)	41.9	41.9	42.1	41.7	37.9	38.9
Keiser, Ark.	43.0	43.5	44.1	42.6	41.1	39.6
Stoneville, Miss. (B)	43.7	44.8	43.8	43.5	40.5	40.1
Stuttgart, Ark.	45.2	45.3	46.6	45.3	43.6	41.3
Beaumont, Tex.	44.6	44.9	44.8	44.4	41.0	43.1
Mean	43.3	43.1	44.3+	43.6	41.0-	40.6-
			Grams per 100 Seeds			
Warsaw, Va.	17.2	11.6	12.6	15.6	13.5	14.0
Plymouth, N.C.	16.2	15.4	13.0	15.7	14.6	13.2
Clinton, N.C.	15.0	12.9	12.2	15.8	13.9	12.4
Jay, Fla.	15.9	12.4	12.9	15.2	13.5	15.1
Jackson, Tenn.	12.0	12.6	11.3	13.0	12.2	12.8
Portageville, Mo. (B)	16.0	11.7	11.6	13.0	12.7	11.9
Keiser, Ark.	18.0	12.0	13.0	16.0	15.0	14.0
Stoneville, Miss. (B)	14.5	12.4	11.8	15.7	14.9	12.1
Stuttgart, Ark.	16.7	14.0	12.7	17.3	15.0	13.7
Beaumont, Tex.	17.8	14.3	13.3	16.0	15.9	14.7
Mean	15.9	12.9-	12.4-	15.3	14.1-	13.4-

Table 24 - (continued)

Location	N73-693	N73-1102	D75-16	D75-7527	N75-2213	R74-1625	L.S.D. (.05)
			Oil Percentage				
Warsaw, Va.	21.8	21.1	20.5	21.9	21.5	21.1	
Plymouth, N.C.	20.6	20.9	19.4	21.6	20.5	20.7	
Clinton, N.C.	20.3	20.4	19.7	22.3	20.6	20.7	
Jay, Fla.	21.8	20.8	20.6	22.2	21.4	20.9	
Jackson, Tenn.	19.3	19.3	18.4	20.0	18.8	20.1	
Portageville, Mo. (B)	21.5	19.7	20.9	23.2	19.9	21.7	
Keiser, Ark.	20.3	20.7	20.4	23.1	22.1	22.1	
Stoneville, Miss. (B)	23.0	20.4	20.3	22.5	21.2	20.6	
Stuttgart, Ark.	19.8	20.2	19.8	23.0	20.4	21.3	
Beaumont, Tex.	22.2	21.7	20.8	22.3	20.1	19.7	
Mean	21.1+	20.5+	20.1+	22.2+	20.7+	20.9+	0.6
			Protein Percentage				
Warsaw, Va.	36.4	38.5	40.0	36.5	38.9	39.6	
Plymouth, N. C.	40.9	41.3	44.5	40.3	42.7	41.4	
Clinton, N. C.	42.8	42.7	44.8	40.6	42.9	43.0	
Jay, Fla.	43.6	42.4	43.7	43.4	44.4	44.0	
Jackson, Tenn.	44.2	44.2	45.4	43.7	45.1	43.8	
Portageville, Mo. (B)	38.2	39.2	42.1	37.2	41.2	39.0	
Keiser, Ark.	42.1	40.1	43.0	38.2	40.1	39.8	
Stoneville, Miss. (B)	40.5	42.4	43.7	39.7	42.5	42.0	
Stuttgart, Ark.	44.6	43.2	45.2	41.1	44.7	43.5	
Beaumont, Tex.	42.8	42.3	45.6	42.1	45.0	44.5	
Mean	41.6-	41.6-	43.8	40.3-	42.8	42.1-	0.8
			Grams per 100 Seeds				
Warsaw, Va.	14.6	16.0	16.2	13.5	15.6	16.6	
Plymouth, N.C.	16.5	16.7	14.6	12.1	16.2	14.4	
Clinton, N.C.	14.6	14.0	14.4	12.8	12.7	14.0	
Jay, Fla.	16.1	15.0	14.7	15.9	14.0	13.0	
Jackson, Tenn.	12.0	13.9	15.1	13.2	15.1	13.9	
Portageville, Mo. (B)	12.9	14.3	14.2	12.6	12.9	13.9	
Keiser, Ark.	15.0	16.0	14.0	13.0	14.0	16.0	
Stoneville, Miss. (B)	14.0	14.5	12.3	12.7	12.5	13.6	
Stuttgart, Ark.	14.3	17.7	14.3	12.7	14.0	15.3	
Beaumont, Ark.	14.4	16.2	14.3	15.0	16.1	15.8	
Mean	14.4-	15.4	14.4-	13.4-	14.3-	14.7	0.9

Table 25 - Relative maturity data, days earlier (-) or later (+) than Tracy, for the strains in Uniform Group VI, 1978

Location	Date planted	Tracy matured	Centennial	N72-137	N72-3058	N72-3148
			East Coast			
Warsaw, Va.	5-30	10-22	+2	0	+1	+2
Petersburg, Va.	5-30	10-24	+3	-3	0	+4
Holland, Va.	5-23	10-7	-6	0	0	0
Plymouth, N.C.	5-24	10-24	0	-2	+4	+2
Clinton, N.C.	5-15	10-18	-2	0	0	+2
Kinston, N.C.	5-23	10-26	+9	0	+2	0
Clayton, N.C.	5-19	10-24	-2	-2	0	-2
Florence, S.C.	5-15	10-16	+3	+3	+5	+1
Hartsville, S.C.	5-26	10-9	+5	0	+5	+4
Mean		10-19	+2	0	+2	+1
			Southeast			
Blackville, S.C.	5-12	10-6	+4	+2	+1	+3
Tifton, Ga.	5-15	10-3	+7	+7	+7	+7
Jay, Fla.	5-25	10-6	-1	-1	0	+2
Fairhope, Ala.	6-15	10-12	+1	+2	+6	+6
Baton Rouge, La.	5-15	10-16	+2	-1	0	+1
Mean		10-9	+3	+2	+3	+4
			Upper and Central South			
Athens, Ga.	5-12	10-8	+7	+3	+2	+6
Calhoun, Ga.	5-26	10-18	+5	-11	-6	+5
Belle Mina, Ala.	5-11	10-2	+20	-1	0	+8
Clemson, S.C.	5-19	10-14	+4	+3	+4	+4
Verona, Miss.	-	10-21	+3	-2	+3	+3
Mean		10-12	+8	-2	+1	+5
			Delta			
Portageville, Mo.(A)	5-10	10-22	+3	-2	0	+1
Portageville, Mo.(B)	5-23	10-22	+5	-3	+2	+2
Keiser, Ark.	5-31	10-22	+2	0	0	+3
Jonesboro, Ark.	5-22	10-21	+1	+2	+2	+1
Stoneville, Miss.(A)	5-15	10-16	+3	-3	+1	+3
Stoneville, Miss.(B)	5-19	10-21	+3	+2	+4	+4
St. Joseph, La.	5-18	10-4	+2	0	+2	+3
Mean		10-18	+3	-1	+2	+2
			West			
Pine Bluff, Ark.	5-16	11-4	-5	+2	0	+2
Stuttgart, Ark.	5-27	10-21	0	-4	-1	0
Bossier City, La.	5-18	10-10	+1	0	+2	0
Crowley, La.	5-10	10-14	0	+5	+6	+2
Beaumont, Tex.	6-2	10-16	0	-1	-1	+6
Lubbock, Tex.	5-22	10-29	+10	+2	+3	+10
Mean		10-20	+1	+1	+2	+3

Table 25 - (continued)

Location	D74-7741	N73-693	N73-1102	D75-16	D75-7527	N75-2213	R74-1625
			East Coast				
Warsaw, Va.	-3	+2	+2	-4	-3	0	0
Petersburg, Va.	-6	0	+1	-9	-8	-1	-2
Holland, Va.	-12	0	-12	-15	-15	0	0
Plymouth, N.C.	-6	0	-6	-12	-10	-4	-2
Clinton, N.C.	-4	0	-8	-6	-8	-6	-2
Kinston, N.C.	0	0	0	-6	-6	-6	-6
Clayton, N.C.	+2	+2	-4	-4	-4	-4	+2
Florence, S.C.	-3	+3	0	-6	-2	-2	+2
Hartsville, S.C.	-4	+1	+1	-8	-8	-1	0
Mean	-4	+1	-2	-8	-7	-3	-9
			Southeast				
Blackville, S.C.	-4	+4	+4	-10	-6	-2	-2
Tifton, Ga.	-9	+7	0	-7	-7	-5	0
Jay, Fla.	-1	+4	0	-2	-1	-2	-3
Fairhope, Ala.	+2	+6	-2	-3	-1	+2	-1
Baton Rouge, La.	-3	+1	-4	-11	-11	-10	-6
Mean	-3	+4	0	-7	-5	-3	-2
			Upper and Central South				
Athens, Ga.	-7	+1	0	-11	-13	-2	-3
Calhoun, Ga.	-13	-8	0	-13	-16	-11	-12
Belle Mina, Ala.	+18	-4	-1	-14	-13	-7	-10
Clemson, S.C.	-9	+2	+1	-13	-13	-1	-5
Verona, Miss.	-3	+3	-1	-3	-5	-6	-3
Mean	-3	-1	0	-11	-12	-5	-7
			Delta				
Portageville, Mo.(A)	-5	+1	0	-10	-10	0	-2
Portageville, Mo.(B)	-5	+1	0	-8	-6	-1	-3
Keiser, Ark.	-6	+2	-2	-9	-8	0	-1
Jonesboro, Ark.	+1	+3	+2	-2	-4	+1	+1
Stoneville, Miss.(A)	-10	+2	+2	-10	-11	-3	-4
Stoneville, Miss.(B)	-6	+3	+4	-11	-9	-2	+1
St. Joseph, La.	-8	+5	0	-13	-11	-7	-6
Mean	-6	+2	+1	-9	-8	-2	-2
			West				
Pine Bluff, Ark.	+1	+1	0	-6	-2	+2	+1
Stuttgart, Ark.	-9	-1	-1	-14	-16	-7	-7
Bossier City, La.	-2	-2	-1	-7	-9	-5	-4
Crowley, La.	-9	+5	+1	-17	-18	-14	-10
Beaumont, Tex.	-2	+1	-1	-2	-2	0	+2
Lubbock, Tex.	-3	+2	-2	-3	-4	+1	0
Mean	-4	+1	-1	-8	-9	-4	-3

Table 26 - Plant height for the strains in Uniform Group VI, 1978

Location	Tracy	Centennial	N72-137	N72-3058	N72-3148	D74-7741
			East Coast			
Warsaw, Va.	42	45	43	44	39	45
Petersburg, Va.	37	39	37	38	37	37
Holland, Va.	38	41	38	42	35	39
Plymouth, N.C.	39	41	40	42	38	39
Clinton, N.C.	42	41	40	40	40	40
Kinston, N.C.	37	42	37	38	35	39
Clayton, N.C.	38	41	40	43	37	40
Florence, S.C.	35	33	33	26	23	29
Hartsville, S.C.	43	42	45	41	38	40
Mean	39	41	39	39	36	39
			Southeast			
Blackville, S.C.	33	37	31	31	26	28
Tifton, Ga.	30	30	26	28	26	23
Quincy, Fla.	34	38	35	35	32	36
Jay, Fla.	30	22	24	22	16	18
Fairhope, Ala.	35	37	33	35	27	32
Baton Rouge, La.	29	35	28	30	23	29
Mean	32	33	30	30	25	28
			Upper and Central South			
Athens, Ga.	32	35	31	34	30	31
Calhoun, Ga.	32	34	30	30	27	30
Belle Mina, Ala.	37	41	39	43	37	38
Clemson, S.C.	34	35	32	33	31	28
Jackson, Tenn.	51	49	48	46	47	47
Verona, Miss.	36	36	32	37	35	28
Mean	37	38	35	37	35	34
			Delta			
Portageville, Mo.(A)	46	43	39	47	40	42
Portageville, Mo.(B)	38	43	40	45	39	40
Keiser, Ark.	40	40	37	41	37	34
Jonesboro, Ark.	35	38	34	34	32	33
Stoneville, Miss.(A)	38	37	34	34	33	33
Stoneville, Miss.(B)	32	29	25	29	26	23
St. Joseph, La.	35	37	39	34	36	36
Mean	38	38	35	38	35	34
			West			
Pine Bluff, Ark.	56	57	54	56	53	55
Stuttgart, Ark.	41	42	37	41	34	36
Bossier City, La.	33	28	30	23	25	23
Crowley, La.	26	27	23	24	23	25
Beaumont, Tex.	29	34	30	30	28	26
Bixby, Okla.	31	30	27	28	25	29
Lubbock, Tex.	43	41	40	42	40	32
Mean	37	37	34	35	33	32

Table 26 - (continued)

Location	N73-693	N73-1102	D75-16	D75-7527	N75-2213	R74-1625
		East Coast				
Warsaw, Va.	40	44	41	44	46	46
Petersburg, Va.	38	42	36	37	42	41
Holland, Va.	40	42	37	36	43	39
Plymouth, N.C.	38	42	39	37	42	42
Clinton, N.C.	36	43	39	42	43	44
Kinston, N.C.	35	42	37	35	41	39
Clayton, N.C.	36	41	42	43	44	40
Florence, S.C.	27	35	27	23	31	35
Hartsville, S.C.	39	44	35	40	43	37
Mean	37	42	37	37	42	40
		Southeast				
Blackville, S.C.	29	32	30	30	34	33
Tifton, Ga.	24	29	24	22	33	28
Quincy, Fla.	32	36	33	31	39	37
Jay, Fla.	18	22	16	16	24	16
Fairhope, Ala.	28	32	34	27	37	26
Baton Rouge, La.	28	30	29	28	31	28
Mean	27	30	28	26	33	28
		Upper and Central South				
Athens, Ga.	30	33	31	31	33	33
Calhoun, Ga.	29	28	28	32	32	30
Belle Mina, Ala.	39	43	39	38	39	38
Clemson, S.C.	33	32	30	31	31	31
Jackson, Tenn.	47	49	44	46	47	50
Verona, Miss.	35	35	31	28	32	30
Mean	36	37	34	34	36	35
		Delta				
Portageville, Mo.(A)	44	46	38	39	45	44
Portageville, Mo.(B)	39	44	39	41	43	46
Keiser, Ark.	34	35	29	31	39	36
Jonesboro, Ark.	36	37	33	32	39	30
Stoneville, Miss.(A)	30	41	29	31	37	35
Stoneville, Miss.(B)	25	35	23	21	29	25
St. Joseph, La.	27	38	38	34	39	37
Mean	34	39	33	33	38	36
		West				
Pine Bluff, Ark.	55	54	55	55	55	53
Stuttgart, Ark.	35	43	34	36	40	40
Bossier City, La.	26	26	23	24	28	27
Crowley, La.	24	29	27	24	34	29
Beaumont, Tex.	27	32	26	28	35	31
Bixby, Okla.	23	26	27	29	27	26
Lubbock, Tex.	38	41	31	31	41	35
Mean	33	36	32	32	37	34

Table 27 - Lodging scores for the strains in Uniform Group VI, 1978

Location	Tracy	Centennial	N72-137	N72-3058	N72-3148	D74-7741
			East Coast			
Warsaw, Va.	2.5	2.0	1.9	1.9	1.7	2.0
Petersburg, Va.	4.0	1.5	1.5	1.0	1.5	2.0
Holland, Va.	1.0	2.9	3.2	3.3	3.1	3.3
Plymouth, N.C.	3.0	3.0	2.0	2.0	2.0	2.0
Clinton, N.C.	3.0	3.0	3.0	3.0	3.0	3.0
Kinston, N.C.	3.0	2.0	2.0	2.0	2.0	2.0
Clayton, N.C.	3.0	4.0	3.0	2.0	3.0	3.0
Florence, S.C.	1.0	1.0	1.0	1.0	1.0	1.0
Hartsville, S.C.	2.2	2.3	1.3	1.2	1.7	2.3
			Southeast			
Blackville, S.C.	2.0	2.0	1.0	1.5	1.0	1.0
Tifton, Ga.	1.0	1.0	1.0	1.0	1.0	1.0
Quincy, Fla.	1.3	1.0	1.0	1.3	2.0	1.3
Jay, Fla.	1.0	1.0	1.0	1.0	1.0	1.0
Fairhope, Ala.	1.0	1.0	1.0	1.0	1.0	1.0
Baton Rouge, La.	3.0	3.0	3.0	3.2	1.7	3.3
			Upper and Central South			
Athens, Ga.	2.2	1.8	1.5	1.5	1.7	1.8
Calhoun, Ga.	1.0	1.0	1.0	1.0	1.2	1.2
Belle Mina, Ala.	1.5	1.5	1.2	1.2	1.5	1.7
Clemson, S.C.	1.0	1.0	1.0	1.0	1.0	1.0
Jackson, Tenn.	3.0	2.0	1.0	2.0	2.0	2.0
			Delta			
Portageville, Mo. (A)	3.0	2.7	2.8	2.3	2.3	4.0
Portageville, Mo. (B)	2.7	1.8	1.7	1.8	2.2	3.0
Keiser, Ark.	2.0	2.0	1.0	1.0	2.0	1.0
Jonesboro, Ark.	2.3	2.0	1.5	1.8	1.3	1.7
Stoneville, Miss. (A)	3.3	3.0	3.7	2.0	2.0	3.7
Stoneville, Miss. (B)	2.0	2.0	2.0	1.3	2.0	2.0
St. Joseph, La.	3.0	3.0	3.5	2.0	2.0	4.5
			West			
Pine Bluff, Ark.	2.0	2.6	2.0	3.0	3.0	1.3
Stuttgart, Ark.	3.0	2.5	2.0	2.0	1.8	2.2
Bossier City, La.	1.3	1.3	1.3	1.0	1.0	2.5
Crowley, La.	1.3	1.3	1.0	1.0	1.0	1.3
Beaumont, Tex.	2.3	1.0	1.0	1.0	1.0	2.0
Bixby, Okla.	1.0	1.0	1.0	1.0	1.0	1.0
Lubbock, Tex.	2.0	2.2	2.0	2.0	2.5	1.7

Table 27 - (continued)

Location	N73-693	N73-1102	D75-16	D75-7527	N75-2213	R74-1625
		East Coast				
Warsaw, Va.	2.4	1.9	1.5	2.2	2.1	1.9
Petersburg, Va.	1.0	1.5	1.0	2.0	3.0	1.0
Holland, Va.	3.4	3.2	3.4	3.4	3.4	3.4
Plymouth, N.C.	2.0	2.0	2.0	2.0	3.0	2.0
Clinton, N.C.	3.0	3.0	3.0	3.0	3.0	3.0
Kinston, N.C.	2.0	2.0	2.0	2.0	3.0	2.0
Clayton, N.C.	3.0	2.0	2.0	3.0	3.0	3.0
Florence, S.C.	1.0	1.0	1.0	1.0	1.0	1.0
Hartsville, S.C.	2.0	1.2	2.0	1.8	2.0	2.0
		Southeast				
Blackville, S.C.	2.0	1.0	1.0	1.0	1.3	1.0
Tifton, Ga.	1.0	1.0	1.0	1.0	1.0	1.0
Quincy, Fla.	1.3	1.3	1.3	2.0	2.0	1.3
Jay, Fla.	1.0	1.0	1.0	1.0	1.0	1.0
Fairhope, Ala.	1.0	1.0	1.0	1.0	1.0	1.0
Baton Rouge, La.	1.8	2.5	1.8	2.3	2.0	2.5
		Upper and Central South				
Athens, Ga.	1.7	1.5	1.3	1.3	1.5	1.3
Calhoun, Ga.	1.5	1.0	1.2	1.7	1.7	1.0
Belle Mina, Ala.	1.7	1.2	1.0	1.7	1.7	1.3
Clemson, S.C.	1.0	1.0	1.0	1.0	1.0	1.0
Jackson, Tenn.	2.0	1.0	2.0	1.0	2.0	2.0
		Delta				
Portageville, Mo.(A)	3.2	3.0	2.7	3.3	2.7	2.8
Portageville, Mo.(B)	2.2	1.8	1.5	1.5	1.7	1.5
Keiser, Ark.	2.0	2.0	1.0	2.0	1.0	1.0
Jonesboro, Ark.	1.3	1.3	1.8	1.8	2.2	2.0
Stoneville, Miss. (A)	2.3	3.0	2.0	2.0	4.0	2.3
Stoneville, Miss. (B)	2.0	2.0	2.0	2.0	1.7	1.3
St. Joseph, La.	2.0	2.5	3.5	4.0	4.0	3.0
		West				
Pine Bluff, Ark.	2.6	3.0	2.6	2.0	1.6	3.0
Stuttgart, Ark.	1.8	2.0	1.5	2.3	2.3	1.8
Bossier City, La.	1.0	1.0	1.0	1.2	1.8	1.0
Crowley, La.	1.0	1.0	1.3	1.0	1.0	1.3
Beaumont, Tex.	1.0	1.3	1.0	1.3	2.0	2.0
Bixby, Okla.	1.0	1.0	1.0	1.0	1.0	1.0
Lubbock, Tex.	2.5	2.2	1.2	1.5	2.0	1.5

Table 28 - Seed quality scores for the strains in Uniform Group VI, 1978

Location	Tracy	Centennial	N72-137	N72-3058	N72-3148	D74-7741
			East Coast			
Warsaw, Va.	1.0	1.2	1.0	1.0	1.3	1.0
Petersburg, Va.	1.0	1.0	1.0	1.0	1.0	1.0
Holland, Va.	2.0	1.0	2.0	1.5	1.5	1.0
Plymouth, N.C.	1.5	1.5	1.5	1.5	1.5	1.5
Clinton, N.C.	1.5	1.5	1.5	1.5	1.5	1.5
Clayton, N.C.	1.5	1.5	1.5	1.5	1.5	1.5
			Southeast			
Blackville, S.C.	3.0	1.0	1.0	1.0	1.3	1.0
Tifton, Ga.	2.5	1.5	1.5	1.5	2.0	2.0
Quincy, Fla.	2.3	1.7	2.3	3.0	3.0	2.7
Jay, Fla.	2.0	1.0	1.0	1.0	1.0	1.0
			Upper and Central South			
Athens, Ga.	1.7	2.0	1.8	1.5	1.8	1.5
Calhoun, Ga.	2.0	2.5	1.7	1.5	2.0	2.0
Belle Mina, Ala.	1.0	1.0	1.0	1.0	1.0	1.0
Jackson, Tenn.	2.0	2.0	2.0	1.0	1.0	2.0
			Delta			
Portageville, Mo. (A)	1.5	1.5	1.5	1.5	1.5	1.5
Portageville, Mo. (B)	2.0	1.5	1.5	1.5	1.5	1.5
Keiser, Ark.	1.0	1.5	1.0	1.0	1.0	1.0
Jonesboro, Ark.	2.7	2.0	2.3	2.3	2.0	2.0
Stoneville, Miss. (A)	2.0	2.0	2.0	2.0	2.0	2.0
Stoneville, Miss. (B)	2.0	2.0	2.0	2.0	2.0	2.0
			West			
Pine Bluff, Ark.	2.0	1.0	2.0	1.0	1.0	2.0
Stuttgart, Ark.	2.7	2.3	2.3	1.8	1.8	2.0
Beaumont, Tex.	2.0	1.7	2.0	1.7	2.0	2.0
Lubbock, Tex.	2.2	1.5	2.0	1.7	2.0	2.0

Table 28 - (continued)

Location	N73-693	N73-1102	D75-16	D75-7527	N75-2213	R74-1625
			East Coast			
Warsaw, Va.	1.0	1.0	1.2	1.0	1.0	1.0
Petersburg, Va.	1.0	1.0	1.0	1.0	1.0	1.0
Holland, Va.	1.5	1.0	1.0	1.0	1.5	1.5
Plymouth, N.C.	1.5	1.5	1.5	1.5	1.5	1.5
Clinton, N.C.	1.5	1.5	1.5	1.5	1.5	1.5
Clayton, N.C.	1.5	1.5	1.5	1.5	1.5	1.5
			Southeast			
Blackville, S.C.	1.3	1.7	1.3	1.0	1.0	1.7
Tifton, Ga.	1.5	1.5	2.0	2.0	2.0	1.5
Quincy, Fla.	2.7	3.3	2.5	2.5	2.0	1.3
Jay, Fla.	1.0	2.0	1.0	1.0	1.0	1.0
			Upper and Central South			
Athens, Ga.	1.8	1.5	2.0	1.5	1.5	1.5
Calhoun, Ga.	1.7	2.0	2.0	2.0	1.7	2.0
Belle Mina, Ala.	1.0	1.0	1.0	1.0	1.0	1.0
Jackson, Tenn.	1.0	1.0	2.0	2.0	2.0	1.0
			Delta			
Portageville, Mo. (A)	1.5	1.5	1.5	1.5	1.5	1.5
Portageville, Mo. (B)	1.5	1.5	1.5	1.5	1.0	1.5
Keiser, Ark.	1.0	1.5	1.5	1.5	1.0	1.0
Jonesboro, Ark.	2.0	2.0	2.3	2.0	3.0	2.0
Stoneville, Miss. (A)	2.0	2.0	2.0	2.0	2.0	2.0
Stoneville, Miss. (B)	2.0	2.0	2.0	2.0	2.0	2.0
			West			
Pine Bluff, Ark.	2.0	1.0	1.0	3.0	1.0	1.0
Stuttgart, Ark.	1.3	2.2	2.7	2.3	2.0	1.3
Beaumont, Tex.	2.3	2.0	3.7	2.3	2.7	3.0
Lubbock, Tex.	2.0	2.5	2.7	2.2	1.7	1.8

PRELIMINARY GROUP VI

1978

Preliminary Group VI nurseries, including 34 experimental strains along with Centennial and Bedford as checks, were grown at 8 locations. The parentage of each of these strains is reported in Table 29. Performance data are summarized in Tables 30 through 35. Adverse weather prevented harvesting of the Petersburg, Virginia planting. Differences among strains for seed yield were signfficant at the 5% level of confidence at only 4 locations.

The combined analysis of variance showed differences among strains to be significant. There were no strains with mean seed yields significantly greater than the yield for Centennial. Six strains had mean seed yields significantly lower than that for Centennial.

All but three strains averaged earlier in maturity than Centennial. There were no strains which averaged earlier in maturity than Bedford. Eleven strains were rated resistant to cyst nematode race 3 in the field planting at Ames Plantation in Tennessee. Two strains, D75-8297 and R76-74, had good resistance to both species of root-knot nematodes.

D74-7711, the highest yielding strain, was one of the earliest in maturity. D70-3186, which ranked seccnd in yield, is a subline out of Centennial which is a week earlier in maturity.

D75-9921 was selected for resistance to phytophthora rot, pythium, and soybean mosaic virus at Stoneville. In plantings at Plymouth, North Carolina in 1977 it was rated moderately resistant to pod mottle virus. In these plantings it had the lowest mean seed yield. N74-5077 was selected for resistance to SMV. It is also resistant to phytophthora rot and CN race 3.

Strains which appear to merit advancing to the Uniform Group VI tests are D74-7711, D70-3186, R75-868, D76-9665, N76-325, D76-9664, N76-1346, and S76-2593.

Table 29 - Parentage of the strains in Preliminary Group VI, 1978

	Variety or strain	Parentage	Generation composited
1.	Centennial		
2.	Bedford		
3.	D70-3186	D64-4636 X t.p. Pickett 71 type	F_8
4.	D74-2724	D68-216 X D70-2301	F_5
5.	D74-2808	D68-216 X D70-2301	F_5
6.	D74-7711	Forrest X D70-3001	F_5
7.	D75-8297	Forrest X D69-6344	F_5
8.	D75-8583	D69-4227 X D70-7040	F_5
9.	D75-9921	Semmes X Hood	F_5
10.	D76-9515	Forrest X Centennial	F_5
11.	D76-9664	Forrest X Centennial	F_5
12.	D76-9665	Forrest X Centennial	F_5
13.	F75-5632	Davis X D64-4636	F_5
14.	Ga75-15	Dare X D64-4731	F_4
15.	Ga75-57	Dare X D64-4731	F_4
16.	GaT74-2	Hampton 266 X Forrest	F_5
17.	GaT75-7499	Davis X Forrest	F_5
18.	N74-5077	Pickett 71(3) X [Dare(2) X PI 96983]	
19.	N75-2193	Davis X Essex	F_5
20.	N76-161	N69-5020 X Essex	F_5
21.	N76-261	N70-1741 X Essex	F_5
22.	N76-279	N70-1741 X Essex	F_5
23.	N76-325	N69-5020 X Essex	F_5
24.	N76-526	N70-1741 X N70-402	F_5
25.	N76-558	N69-5020 X Ransom	F_5
26.	N76-571	N69-5020 X Ransom	F_5
27.	N76-575	N69-5020 X Ransom	F_5
28.	N76-1346	N69-5020 X Ransom	F_5
29.	R75-868	(R66-873 X Mack) X (Mack X York)	F_4
30.	R76-18	D68-B4 X Mack	F_6
31.	R76-74	Forrest X Mack	F_5
32.	R76-1351	York X Davis	F_4
33.	R76-1407	[T207 X Davis] X Mack	F_5
34.	R76-1751	Pickett X PI 253664	F_5
35.	R76-1741	R69-1151 X R70-733	F_5
36.	S76-2593	Forrest X S63-5328	F_5

Table 30 - General summary of performance for the strains in Preliminary Group VI, 1978

Strain	Seed yield	Mat. index	Ht.	Percent Oil	Percent Protein	C.N. Race 3	Root knot *M. incognita*	Root knot *M. arenaria*
Centennial	35.7	10-23	38	20.7	42.3	R	2.0	3.0
Bedford	34.8	-10	37	21.0	40.1-	R	1.0	1.4
D70-3186	37.2	-7	33	21.0	43.5	R	1.0	3.5
D74-2724	30.2-	-1	33	20.7	42.1	R	3.5	1.9
D74-2808	31.7	-1	37	20.9	41.4	R	5.0	1.4
D74-7711	37.8	-10	32	21.0	41.0	R	4.0	1.5
D75-8297	32.1	-3	37	19.9	41.2	S	1.0	1.2
D75-8583	29.8-	-9	33	18.6-	46.5+	S	3.5	1.4
D75-9921	28.6-	-1	34	19.6-	42.1	S	3.0	3.5
D76-9515	35.2	+1	38	20.2	41.7	R	2.0	2.4
D76-9664	35.6	0	38	22.1	40.4-	R	2.0	3.2
D76-9665	35.8	+1	39	21.5	38.6-	R	2.0	2.5
F75-5632	33.9	-4	37	21.9+	38.9-	S	1.0	3.1
Ga75-15	33.2	-6	35	21.4	41.3	S	3.5	2.8
Ga75-57	33.0	-9	32	21.2	41.6	S	5.0	3.6
GaT74-2	34.5	-5	34	21.3	40.6-	S	3.0	2.0
GaT75-7499	33.1	-5	42	22.0+	39.4-	S	3.0	2.8
N74-5077	32.3	0	34	20.8	40.3-	R	3.5	4.1
N75-2193	32.4	-6	26	22.3+	41.8	S	5.0	3.4
N76-161	31.0	-5	28	20.2	43.2	S	2.5	3.5
N76-261	34.8	-3	39	22.0+	40.8	S	2.0	3.6
N76-279	33.1	-5	33	21.4	41.6	S	4.0	5.0
N76-325	36.0	-4	30	21.0	42.8	S	3.0	3.8
N76-526	30.4-	-6	33	21.6	41.4	S	3.0	3.8
N76-558	32.5	-6	29	21.7	42.5	S	5.0	4.0
N76-571	30.1-	-3	34	21.3	41.6	S	4.5	5.0
N76-575	35.3	-4	34	21.5	41.2	S	5.0	4.3
N76-1346	35.2	-5	33	21.4	41.1	S	2.5	3.6
R75-868	36.7	-4	33	21.4	40.1-	S	3.0	4.5
R76-18	33.5	-2	29	21.7	41.4	R	5.0	1.8
R76-74	34.0	-5	34	22.7+	40.0-	R	1.0	1.6
R76-1351	34.0	-1	32	22.1+	40.5-	S	5.0	4.5
R76-1407	34.8	0	39	20.5	42.1	S	5.0	1.0
R76-1751	31.7	-1	36	20.5	40.3-	S	3.0	1.2
R76-1741	29.0-	+2	40	20.8	42.3	S	5.0	1.6
S76-2593	35.0	-10	34	21.7	40.1-	R	3.5	3.2
L.S.D.(.05)	4.8			1.0	1.6			
L.S.D.(.01)	6.4			1.3	2.0			

Table 31 - Seed yield, in bushels per acre, for the strains in Preliminary Group VI, 1978

Strain	Ply-mouth, N.C.	Portage-ville, Mo.(A)	Keiser, Ark.	Stone-ville, MS.(A)	Stone-ville, MS.(B)	Jay, Fla.	Belle Mina, Ala.
Centennial	56.6	37.7	38.6	35.4	21.6	42.0	17.7
Bedford	50.8	41.4	37.4	44.8+	26.1	26.0-	17.4
D70-3186	55.5	45.3	43.8	47.5+	25.0	27.5-	15.7
D74-2724	46.6-	30.2	33.6	37.2	26.9	23.0-	14.2
D74-2808	43.6-	32.2	32.2-	33.4	25.0	39.0	16.9
D74-7711	46.9-	43.8	43.7	47.3+	23.9	41.0	18.5
D75-8297	42.1-	38.6	38.1	37.3	20.1	27.0-	16.5
D75-8583	43.5-	29.4	36.3	40.9	21.7	20.0-	16.7
D75-9921	48.0	27.0	33.4	30.4	22.7	19.8-	18.8
D76-9515	53.3	31.8	37.2	37.0	26.9	43.3	17.0
D76-9664	55.6	35.9	40.3	40.6	27.0	33.5-	16.1
D76-9665	52.4	36.4	41.3	40.5	24.9	39.5	15.4
F75-5632	54.8	33.2	38.9	33.4	29.2	27.3	21.0
Ga75-15	46.2-	36.1	41.7	49.5+	21.5	25.5-	12.2
Ga75-57	48.9	32.7	41.9	39.7	21.6	28.0-	18.0
GaT74-2	47.0-	33.7	42.1	42.4	20.5	41.5	14.3
GaT75-7499	43.9-	28.4	31.8-	42.2	35.2	28.5-	17.0
N74-5077	45.7-	35.6	40.0	37.9	21.9	29.0-	16.1
N75-2193	33.7-	43.4	43.4	36.9	23.6	25.0-	20.9
N76-161	44.7-	30.7	37.7	47.1+	27.9	13.3-	15.8
N76-261	52.9	37.1	42.1	42.5	24.8	28.0-	16.1
N76-279	54.0	37.3	36.4	38.8	25.6	23.3-	16.4
N76-325	53.2	39.5	44.5+	48.3+	26.7	20.5-	19.2
N76-526	46.5-	30.7	33.9	34.5	18.4	31.8-	17.5
N76-558	50.4	31.6	43.5	40.6	24.6	21.5-	15.3
N76-571	42.1-	37.9	39.4	41.0	16.6	14.0-	19.5
N76-575	53.2	38.0	39.6	40.8	28.9	33.3-	13.6
N76-1346	47.5	38.1	41.4	42.5	29.4	31.0-	16.9
R75-868	51.4	44.3	42.4	46.7+	18.0	33.8-	20.3
R76-18	43.4-	35.6	38.6	41.0	21.8	32.5-	21.5
R76-74	46.2-	37.3	40.0	46.1+	19.6	30.8-	18.3
R76-1351	46.3-	28.9	42.4	34.6	31.6	39.0	15.2
R76-1407	48.5	33.3	40.0	40.7	26.2	38.8	16.2
R76-1751	43.4-	28.4	36.4	37.5	29.4	31.0-	15.6
R76-1741	42.0-	27.4	37.5	37.8	26.0	16.8-	15.7
S76-2593	49.9	39.5	38.3	47.8+	21.6	30.8-	17.0
L.S.D.(.05)	9.3	N.S.	5.2	7.1	N.S.	5.7	N.S.
C.V.	10%	15%	6%	9%	19%	12%	20%

Table 32 - Oil percentages for the strains in Preliminary Group VI, 1978

Strain	Plymouth, N.C.	Portageville, Mo. (A)	Stoneville, Miss.(B)	Jay, Fla.
Centennial	19.7	20.2	20.0	23.0
Bedford	21.4	20.8	21.1	20.8
D70-3186	20.3	22.4	20.5	20.8
D74-2724	20.2	21.2	20.1	21.1
D74-2808	20.6	19.9	21.5	21.6
D74-7711	20.5	21.0	20.9	21.7
D75-8297	19.6	20.3	19.3	20.3
D75-8583	17.9	19.4	18.0	19.0
D75-9921	18.9	20.3	18.6	20.4
D76-9515	19.1	20.6	19.7	21.4
D76-9664	21.5	22.0	21.6	23.4
D76-9665	20.8	21.1	21.0	23.1
F75-5632	21.5	21.9	21.6	22.4
Ga75-15	21.7	21.7	20.8	21.2
Ga75-57	19.9	21.4	21.3	22.1
GaT74-2	20.3	22.1	21.3	21.4
GaT75-7499	21.7	21.6	22.8	22.0
N74-5077	20.7	21.0	19.9	21.4
N75-2193	22.6	22.6	22.0	21.8
N76-161	19.6	20.7	19.7	20.6
N76-261	20.1	23.2	21.8	22.9
N76-279	20.3	21.5	21.2	22.5
N76-325	20.1	20.8	21.2	22.0
N76-526	20.6	22.1	21.6	22.2
N76-558	20.2	22.5	21.4	22.5
N76-571	21.9	20.4	19.9	23.0
N76-575	20.1	22.3	21.2	22.4
N76-1346	20.3	21.4	21.5	22.4
R75-868	20.4	21.3	21.3	22.5
R76-18	21.4	22.7	21.2	21.4
R76-74	22.3	22.8	22.9	22.6
R76-1351	23.7	21.0	21.4	22.3
R76-1407	19.0	20.3	20.3	22.4
R76-1751	19.4	20.9	20.1	21.6
R76-1741	19.4	21.6	20.7	21.3
S76-2593	21.5	21.2	21.9	22.2

Table 33 - Protein percentages for the strains in Preliminary Group VI, 1978

Strain	Plymouth, N.C.	Portageville, Mo. (A)	Stoneville, Miss.(B)	Jay, Fla.
Centennial	42.9	40.7	44.1	41.4
Bedford	39.7	38.5	39.9	42.2
D70-3186	45.2	40.9	43.8	43.9
D74-2724	42.4	38.1	43.1	44.6
D74-2808	41.6	41.2	41.2	41.4
D74-7711	40.9	40.5	40.8	41.6
D75-8297	41.8	39.4	42.2	41.2
D75-8583	47.8	43.6	47.4	47.3
D75-9921	41.9	40.5	43.6	42.5
D76-9515	43.1	37.6	43.1	42.9
D76-9664	40.7	37.8	41.9	41.0
D76-9665	38.4	37.2	39.6	39.3
F75-5632	38.8	37.4	39.7	39.7
Ga75-15	41.4	37.4	41.9	44.6
Ga75-57	43.9	39.8	41.2	41.5
GaT74-2	41.2	38.0	40.2	43.0
GaT75-7499	39.0	38.2	39.0	41.3
N74-5077	39.1	38.9	41.8	41.2
N75-2193	41.6	39.5	41.5	44.7
N76-161	43.8	39.8	42.6	46.4
N76-261	42.8	37.5	40.2	42.8
N76-279	43.1	39.5	41.5	42.2
N76-325	43.1	41.6	42.7	43.7
N76-526	42.2	38.7	41.5	43.0
N76-558	44.1	38.6	43.3	43.9
N76-571	40.7	40.9	42.7	42.2
N76-575	41.8	38.7	42.1	42.2
N76-1346	42.5	39.4	40.7	41.6
R75-868	40.0	38.9	41.0	40.4
R76-18	40.7	37.7	43.5	43.6
R76-74	39.6	38.5	40.9	41.1
R76-1351	37.4	40.1	42.2	42.1
R76-1407	42.8	40.5	43.2	41.9
R76-1751	40.6	37.7	41.4	41.5
R76-1741	43.8	39.6	42.7	43.2
S76-2593	41.0	37.2	40.1	41.9

Table 34 - Plant height for the strains in Preliminary Group VI, 1978

Strain	Ply-mouth, N.C.	Portage-ville, Mo.(A)	Keiser, Ark.	Stone-ville, MS.(A)	Stone-ville, MS.(B)	Jay, Fla.	Belle Mina, Ala.
Centennial	44	46	40	36	25	24	45
Bedford	44	46	37	35	22	18	42
D70-3186	38	39	34	34	20	14	38
D74-2724	37	39	38	29	22	18	37
D74-2808	41	43	40	35	24	21	42
D74-7711	40	37	33	32	19	24	37
D75-8297	36	39	42	41	28	24	37
D75-8583	39	36	39	31	21	18	39
D75-9921	38	40	36	32	24	18	34
D76-9515	42	45	40	39	26	28	47
D76-9664	44	47	39	38	24	18	43
D76-9665	44	48	38	40	25	30	41
F75-5632	42	45	39	36	24	26	39
Ga75-15	41	41	38	35	20	24	41
Ga75-57	36	40	34	31	20	16	38
GaT74-2	40	44	32	35	19	26	41
GaT75-7499	50	50	40	43	29	28	41
N74-5077	42	39	35	36	20	20	35
*N75-2193	-	34	28	25	18	16	32
N76-161	32	34	34	22	16	10	29
N76-261	43	49	44	35	22	16	41
N76-279	37	41	37	31	20	12	41
N76-325	36	36	32	27	18	10	31
N76-526	38	39	37	28	21	16	40
N76-558	32	36	34	24	18	14	29
N76-571	39	42	38	30	20	16	37
N76-575	37	39	42	28	22	18	37
N76-1346	38	39	38	26	22	14	34
R75-868	40	42	38	28	17	18	39
R76-18	35	33	34	25	17	16	34
R76-74	36	39	40	33	20	21	37
R76-1351	43	49	38	41	25	24	41
R76-1407	40	46	42	41	27	30	33
R76-1751	42	42	35	38	25	30	41
R76-1741	40	53	41	42	25	20	38
S76-2593	42	44	36	31	19	18	41

*Not included in mean.

Table 35 - Seed quality for the strains in Preliminary Group VI, 1978

Strain	Ply-mouth, N.C.	Portage-ville, Mo.(A)	Keiser, Ark.	Stone-ville, MS.(A)	Stone-ville, MS.(B)	Jay, Fla.	Belle Mina, Ala.
Centennial	1.5	1.5	1.5	2.0	2.0	1.0	1.0
Bedford	1.5	1.5	2.0	2.0	2.0	2.0	1.0
D70-3186	1.5	1.5	2.0	2.0	2.0	1.0	1.0
D74-2724	1.5	1.5	1.5	2.0	2.0	1.0	1.0
D74-2808	1.5	1.5	1.5	2.0	2.0	1.0	1.0
D74-7711	1.5	1.5	1.0	2.0	2.0	1.0	1.0
D75-8297	1.5	1.5	2.0	2.0	2.0	2.0	1.0
D75-8583	1.5	1.5	2.0	2.0	2.0	1.0	1.0
D75-9921	1.5	1.5	2.0	2.0	2.0	1.0	1.0
D76-9515	1.5	1.5	1.0	2.0	2.0	1.0	1.0
D76-9664	1.5	1.5	1.5	2.0	2.0	1.0	1.0
D76-9665	1.5	1.5	1.5	2.0	2.0	1.0	1.0
F75-5632	1.5	1.5	2.0	2.0	2.0	1.0	1.0
Ga75-15	1.5	1.5	1.0	2.0	2.0	1.0	1.0
Ga75-57	1.5	1.5	1.0	2.0	2.0	1.0	1.0
GaT74-2	1.5	1.5	1.5	2.0	2.0	1.0	1.0
GaT75-7499	1.5	1.5	1.5	2.0	2.0	1.0	1.0
N74-5077	1.5	1.5	2.0	2.0	2.0	1.0	1.0
N75-2193	1.5	1.5	1.0	2.0	2.0	1.0	1.0
N76-161	1.5	1.5	1.0	2.0	2.0	1.0	1.0
N76-261	1.5	1.5	2.0	2.0	2.0	1.0	1.0
N76-279	1.5	1.5	1.0	2.0	2.0	2.0	1.0
N76-325	1.5	1.5	1.5	2.0	2.0	1.0	1.0
N76-526	1.5	1.5	1.5	2.0	2.0	1.0	1.0
N76-558	1.5	1.5	1.5	2.0	2.0	1.0	1.0
N76-571	1.5	1.5	2.0	2.0	2.0	1.0	1.0
N76-575	1.5	1.5	1.5	2.0	2.0	1.0	1.0
N76-1346	1.5	1.5	1.0	2.0	2.0	1.0	1.0
R75-868	1.5	1.5	1.5	2.0	2.0	1.0	1.0
R76-18	1.5	1.5	1.5	2.0	2.0	1.0	1.0
R76-74	1.5	1.5	1.5	2.0	2.0	1.0	1.0
R76-1351	1.5	1.5	1.0	2.0	2.0	1.0	1.0
R76-1407	1.5	1.5	1.5	2.0	2.0	1.0	1.0
R76-1751	1.5	1.5	1.5	2.0	2.0	1.0	1.0
R76-1741	1.5	1.5	1.5	2.0	2.0	2.0	1.0
S76-2593	1.5	1.5	1.5	2.0	2.5	1.0	1.0

UNIFORM GROUP VII

1978

	Variety or strain	Parentage	Generation composited
1.	Bragg	Jackson X D49-2491	F_6
2.	Ransom	(N55-5931 X N55-3818) X D56-1185	F_5
3.	GaSoy 17	Bragg X Hood	F_4
4.	F71-1180	F59-1505 X [Bragg(3) X D60-7965]	F_5
5.	N72-3189	D65-6765 X Ransom	F_5
6.	F72-6831	Bragg(3) X D60-7965	F_5
7.	Ga72-663	Bragg X Lee	F_4
8.	Ga72-666	Bragg X Lee	F_4
9.	D75-9925	Semmes X Hood	F_5
10.	F73-7082	Bragg(3) X D60-7965	F_7
11.	F74-1349	F59-1505 X [Bragg(3) X D60-7965]	F_6
12.	N74-1572	Govan X Davis	F_5

Background of breeding lines used as parents:

D49-2491 is a sister strain of Lee selected from S100 X CNS.

N55-5931 is a selection from Roanoke X D49-2491 which was grown in Uniform Group VII in 1958.

N55-3818 is a selection from (N45-2994 X Ogden) X (N44-92 X N58-1867) which was grown in Preliminary VI in 1957. N45-2994 is from Arksoy X Ogden, N44-92 is from Haberlandt X Ogden, and N48-1867 is from Roanoke X N45-745.

D56-1185 is a selection from Perry X Lee.

F59-1505 is a selection from Jackson X D49-2491.

D60-7965 is a high protein selection from a cross of an F_5 line from Ogden X CNS with an F_5 line from Ogden X Biloxi.

D65-6765 is a selection from D58-3358 X D59-9289. It was included in Uniform Group VII in 1968 and 1969.

Results of 30 Uniform Group VII nurseries are summarized in Tables 36 through 42. Table 36 gives a general summary of agronomic qualities, oil and protein percentages of the seed, and reaction to several pest problems. Two- and three-year data are reported for seed yield and oil and protein percentages of the seed.

Differences among strains for seed yield were significant (odds 19:1 or greater) at 13 of the 30 locations. The combined analysis of variance for seed yield in the East showed the variety X location interaction to be nonsignificant but differences among varieties to be significant; for the Southeast and Delta and West the variety X location interaction was significant but differences among varieties were not significant.

Three-year seed yield summaries are presented for three strains in addition to Bragg and Ransom. GaSoy 17 shows a yield advantage over Bragg and Ransom in all production regions and should replace Ransom as a check. Maturity is one day later than Bragg. GaSoy 17 and Ransom are very susceptible to both root-knot species. F71-1180 shows a three-year mean seed yield 3 bushels greater than GaSoy 17 in the Southeast and 4.7 bushels greater than Bragg. F71-1180 has excellent resistance to both *M. incognita* and *M. arenaria*. Maturity is nearly 2 days later than Bragg. F71-1180 is being increased for release. The three-year mean seed yield for N72-3189 is below that for F71-1180 in all production areas except for Delta and West, where it averages 0.3 bushels higher.

Three strains, F72-6831, Ga72-663, and Ga72-666, have been evaluated 2 years. All gave good performance. Ga72-663 is being increased for release. It averaged one day earlier in maturity than Bragg. Ga72-663 had the best seed quality rating of the strains in the group.

Of the strains evaluated one year, D75-9925, selected to combine resistance to phytophthora rot, soybean mosaic virus, and pythium, yielded significantly less than Bragg in the East and similar to Bragg in other regions. F73-7082 yielded well in all regions and received low ratings for root-knot nematode injury. F74-1349 averaged lower in seed yield in all regions than F73-7082. N74-1572 yielded well and appeared resistant to both *M. incognita* and *M. arenaria*.

Table 36 - General summary of performance for the strains in Uniform Group VII, 1978

	Bragg	Ransom	GaSoy 17	F71-1180	N72-3189	F72-6831
Seed Yield - 1978						
East Coast	40.9	40.2	42.7	42.3	39.8	41.3
Southeast	35.7	35.9	37.4	38.1	36.5	35.6
Upper & Central South	35.6	33.5	36.0	37.8	39.6	37.9
Delta & West	33.8	35.5	36.1	34.2	37.8	37.3
1977-78						
East Coast	40.8	40.7	43.7	43.0	40.8	41.4
Southeast	37.2	36.2	38.8	39.6	36.7	37.7
Upper & Central South	37.7	35.8	37.7	39.1	38.2	39.8
Delta & West	32.9	32.4	35.0	34.7	34.3	35.8
1976-78						
East Coast	40.3	40.3	43.4	43.1	40.1	
Southeast	37.5	36.9	39.1	42.2	36.9	
Upper & Central South	34.6	32.4	35.3	36.4	34.1	
Delta & West	33.9	34.5	36.6	36.9	37.2	
Oil Content - 1978	20.4	22.0	21.0	20.4	22.4	20.3
1977-78	20.4	22.5	21.2	20.4	22.9	20.3
1976-78	20.4	22.6	21.0	20.3	22.7	
Protein Content - 1978	43.5	42.8	41.5-	42.8	41.6-	44.0
1977-78	42.8	41.4	40.6	42.2	40.2	42.9
1976-78	42.2	40.7	40.2	41.8	39.9	
Seed size	14.7	14.6	14.4	16.1+	14.4	16.2+
Maturity index	10-22	-2	+1	+1	-1	-1
Height	40	35	41	40	33	40
Seed quality	1.7	1.8	1.6	1.7	1.7	1.5
Bacterial pustule	R	R	R	R	R	R
Phytophthora rot	1.0	2.5	2.0	1.0	1.5	1.0
M. phaseolina	2.0	4.5	5.0	1.0	4.5	1.0
M. arenaria	2.5	5.0	4.0	1.6	4.5	3.6
Cyst nematode	S	S	S	S	S	S
Flower color	W	P	W	P	W	W
Pubescence color	T	T	G	T	T	T
Pod wall color	T	Br	T	T	T	T

Table 36 - (continued)

	Ga72-663	Ga72-666	D75-9925	F73-7082	F74-1349	N74-1572
Seed Yield - 1978						
East Coast	40.5	40.7	37.7-	42.9	40.4	42.3
Southeast	36.9	38.0	36.3	37.1	35.9	37.6
Upper & Central South	37.4	35.6	34.8	38.1	36.2	33.6
Delta & West	38.6	38.7	35.1	36.7	36.1	34.5
1977-78						
East Coast	41.9	42.0				
Southeast	38.9	39.2				
Upper & Central South	38.3	38.9				
Delta & West	36.5	35.9				
1976-78						
East Coast						
Southeast						
Upper & Central South						
Delta & West						
Oil Content - 1978	20.4	20.3	20.5	20.8	20.4	19.9
1977-78	20.7	20.6				
1976-78						
Protein Content - 1978	42.7-	42.8	43.6	43.0	42.7-	43.7
1977-78	41.6	41.9				
1976-78						
Seed size	13.9	13.6-	13.7-	14.1	15.3	11.5-
Maturity index	-1	-2	-3	0	0	-2
Height	39	38	32	40	38	38
Seed quality	1.0	1.6	1.6	1.8	1.6	1.6
Bacterial pustule	R	R	R	R	R	R
Phytophthora rot	1.0	1.0	1.0	1.0	1.0	1.0
M. incognita	4.5	2.0	3.0	2.5	1.5	1.0
M. arenaria	2.1	1.8	3.6	2.6	2.0	2.1
Cyst nematode	S	S	S	S	S	S
Flower color	P	P	P	W	W	W
Pubescence color	T	T	G	T	T	G
Pod wall color	T	T	T	T	T	T

Table 37 - Seed yield, in bushels per acre, for the strains in Uniform Group VII, 1978

Location	Bragg	Ransom	GaSoy 17	F71-1180	N72-3189	F72-6831	Ga72-663
			East Coast				
Plymouth, N.C.	39.9	37.2	44.2	43.2	43.4	39.7	40.2
Kinston, N.C.	27.6	30.4	31.2	32.1	30.1	33.0	32.6
Clinton, N.C.	29.5	33.0	34.2	29.9	32.4	33.4	30.5
Clayton, N.C.	38.9	36.9	36.5	34.8	34.1	34.5	32.0
Florence, S.C.(A)	51.0	48.2	54.5	55.8	42.0	53.8	48.3
Florence, S.C.(B)	48.1	43.0	47.6	45.6	45.1	45.5	43.9
Hartsville, S.C.(A)	45.2	45.7	41.8	45.0	43.8	42.1	44.1
Hartsville, S.C.(B)	47.2	47.0	51.7	52.1+	47.2	48.3	52.1+
Mean	40.9	40.2	42.7	42.3	39.8	41.3	40.5
			Southeast				
Blackville, S.C.	22.3	22.5	22.5	25.2	26.3+	23.1	20.6
Tallassee, Ala.	29.5	28.6	30.5	34.2+	32.2	31.3	33.6+
Tifton, Ga.	40.9	31.4	49.3	47.6	36.0	37.2	37.2
Gainesville, Fla.	36.5	30.8	39.1	35.1	30.4	34.5	34.9
Marianna, Fla.	44.4	41.3	44.5	41.2	40.1	47.9	40.8
Quincy, Fla.	28.3	29.7	29.0	35.6+	35.1+	34.3+	29.4
Jay, Fla.	37.3	41.8	33.0	30.0	37.0	27.8	42.8
Fairhope, Ala.	45.8	48.0	47.3	48.5	47.5	43.9	43.7
Poplarville, Miss.	39.4	40.8	42.2	43.5	34.9	43.0	35.6
Baton Rouge, La.	32.8	44.4+	36.6	40.1+	45.6+	32.6	50.2+
Mean	35.7	35.9	37.4	38.1	36.5	35.6	36.9
			Upper and Central South				
Athens, Ga.	42.2	38.5	45.0	46.5	50.0+	46.0	45.2
*Calhoun, Ga.	11.6	13.3	7.8	9.6	10.1	11.0	11.9
Clemson, S.C.	28.9	28.5	27.0	29.0	29.2	29.7	29.5
Mean	35.6	33.5	36.0	37.8	39.6	37.9	37.4
			Delta and West				
Stoneville, Miss.(A)	28.0	28.0	26.3	35.5+	33.6+	31.5	30.2
Stoneville, Miss.(B)	30.6	27.1	35.4+	33.2	33.2	31.1	33.2
Pine Bluff, Ark.	30.3	31.9	44.8+	36.5	35.9	39.8+	40.1+
Stuttgart, Ark.	36.4	39.4	36.8	37.7	42.3+	39.0	39.2
St. Joseph, La.	35.0	28.3	30.5	33.3	30.1	41.5	45.0+
Bossier City, La.	27.7	38.0+	30.7	31.6	32.0	29.9	30.1
Crowley, La.	44.3	38.0	37.6	29.6-	42.0	39.2	46.4
Beaumont, Tex.	38.9	47.0	45.5	37.5	49.9	43.2	40.3
Uvalde, Tex.	33.1	42.1	37.1	32.8	41.0	40.4	42.8
Mean	33.8	35.5	36.1	34.2	37.8	37.3	38.6

*Not included in mean.
(+) - Strains yielding significantly more (odds 19:1 or greater) than Bragg.
(-) - Strains yielding significantly less (odds 19:1 or greater) than Bragg.

Table 37 - (continued)

Location	Ga72-666	D75-9925	F73-7082	F74-1349	N74-1572	L.S.D. (.05)	C.V. %
			East Coast				
Plymouth, N.C.	40.3	39.2	43.9	37.3	42.3	N.S.	10
Kinston, N.C.	31.8	27.0	33.0	30.0	28.5	N.S.	11
Clinton, N.C.	31.3	35.3	35.4	33.4	37.0	N.S.	13
Clayton, N.C.	30.6	32.5	38.0	28.8	37.4	N.S.	15
Florence, S.C.(A)	51.2	53.3	51.7	55.3	52.6	N.S.	10
Florence, S.C.(B)	43.3	41.0	45.8	45.9	47.1	N.S.	12
Hartsville, S.C.(A)	44.9	39.8	43.2	45.3	44.6	N.S.	7
Hartsville, S.C.(B)	52.4+	33.1	52.2+	46.8	48.9	4.8	6
Mean	40.7	37.7-	42.9	40.4	42.3	2.9	
			Southeast				
Blackville, S.C.	23.6	25.0	21.8	23.5	26.3+	3.2	8
Tallassee, Ala.	33.8+	28.3	32.5	36.0+	35.0+	4.1	8
Tifton, Ga.	39.6	40.3	47.1	38.6	33.0	N.S.	17
Gainesville, Fla.	34.3	29.2	36.1	37.2	32.6	N.S.	10
Marianna, Fla.	40.2	38.6	44.1	45.8	42.7	7.5	10
Quincy, Fla.	35.3+	33.7+	32.7	32.3	32.7	4.6	8
Jay, Fla.	39.3	38.5	33.0	27.8	41.5	N.S.	28
Fairhope, Ala.	45.9	46.8	50.4	48.0	51.4	N.S.	7
Poplarville, Miss.	39.5	39.6	41.0	35.0	39.2	N.S.	17
Baton Rouge, La.	48.4+	42.7+	32.6	34.6	41.6+	6.9	10
Mean	38.0	36.3	37.1	35.9	37.6	N.S.	
			Upper and Central South				
Athens, Ga.	42.4	42.9	43.0	42.7	39.0	6.2	8
Calhoun, Ga.	12.0	12.4	13.3	7.6	10.2	N.S.	22
Clemson, S.C.	28.7	26.7	33.2	29.6	28.2	N.S.	13
Mean	35.6	34.8	38.1	36.2	33.6	N.S.	
			Delta and West				
Stoneville, Miss.(A)	29.4	32.9	36.9+	33.4+	22.4-	5.2	10
Stoneville, Miss.(B)	31.9	34.0	36.3+	33.2	31.7	3.7	7
Pine Bluff, Ark.	32.3	31.7	31.2	38.8+	32.6	8.0	13
Stuttgart, Ark.	40.2+	41.6+	40.6+	35.1	38.6	3.5	5
St. Joseph, La.	43.9+	28.1	38.1	30.6	28.0	7.1	12
Bossier City, La.	37.2+	26.0	36.3+	37.7+	39.0+	6.5	12
Crowley, La.	42.0	43.4	37.9	38.0	36.9	9.7	14
Beaumont, Tex.	46.5	42.6	44.8	45.0	45.6	N.S.	11
Uvalde, Tex.	45.2	35.5	28.6	32.7	36.0	N.S.	20
Mean	38.7	35.1	36.7	36.1	34.5	N.S.	

Table 38 - Chemical composition and seed size for the strains in Uniform Group VII, 1978

Location	Bragg	Ransom	GaSoy 17	F71-1180	N72-3189	F72-6831	Ga72-663
			Oil Percentage				
Clinton, N.C.	19.9	21.5	20.2	19.4	20.2	19.3	19.9
Blackville, S.C.	18.5	19.3	19.3	19.4	20.6	18.3	18.1
Athens, Ga.	21.5	23.6	21.9	21.9	22.3	21.3	22.0
Tifton, Ga.	21.1	21.9	21.4	21.0	22.5	20.3	20.6
Gainesville, Fla.	20.1	22.7	22.5	20.8	23.9	21.9	20.7
Jay, Fla.	21.4	23.9	21.1	19.9	22.8	21.1	21.1
Baton Rouge, La.	22.0	22.7	22.0	21.4	23.7	20.7	22.5
Stoneville, Miss.(B)	20.6	22.0	20.7	19.9	23.2	20.2	20.8
Stuttgart, Ark.	18.9	20.6	19.4	19.9	21.8	20.0	18.2
Beaumont, Tex.	20.4	22.2	21.4	20.3	22.5	19.8	20.2
Mean	20.4	22.0	21.0	20.4	22.4	20.3	20.4
			Protein Percentage				
Clinton, N.C.	42.7	43.1	40.9	43.0	43.7	43.7	42.7
Blackville, S.C.	44.5	44.7	42.7	43.4	43.1	45.2	44.3
Athens, Ga.	40.1	39.0	38.3	39.3	39.5	41.9	38.6
Tifton, Ga.	42.4	42.3	40.6	42.9	41.6	44.7	41.8
Gainesville, Fla.	43.9	42.7	41.0	43.3	40.7	43.6	43.5
Jay, Fla.	44.9	42.9	42.3	44.3	42.1	43.7	44.3
Baton Rouge, La.	45.0	44.2	43.2	43.8	42.2	46.0	43.5
Stoneville, Miss.(B)	43.3	41.1	41.1	42.4	39.2	42.8	41.0
Stuttgart, Ark.	44.1	45.0	42.8	42.6	43.0	44.5	44.3
Beaumont, Tex.	43.6	43.0	41.7	42.6	41.2	44.3	43.2
Mean	43.5	42.8	41.5-	42.8	41.6-	44.0	42.7-
			Grams per 100 Seeds				
Clinton, N.C.	14.2	13.8	13.0	16.8	12.8	15.5	13.6
Blackville, S.C.	11.2	10.2	11.4	12.0	11.3	11.5	10.5
Athens, Ga.	14.1	14.2	15.0	16.8	15.1	15.8	13.9
Tifton, Ga.	14.8	13.5	15.2	18.1	14.0	17.1	14.4
Gainesville, Fla.	17.5	16.7	17.4	20.1	16.4	19.1	16.0
Jay, Fla.	14.3	15.2	13.9	13.9	14.0	14.0	14.5
Baton Rouge, La.	15.4	16.6	15.5	18.5	16.0	17.6	15.3
Stoneville, Miss.(B)	15.0	13.3	14.2	15.3	12.9	16.8	13.2
Stuttgart, Ark.	16.0	17.3	14.3	16.3	15.7	18.7	15.0
Beaumont, Tex.	14.1	15.3	14.1	13.4	15.9	15.6	12.9
Mean	14.7	14.6	14.4	16.1+	14.4	16.2+	13.9

Table 38 - (continued)

Location	Ga72-666	D75-9925	F73-7082	F74-1349	N74-1572	L.S.D. (.05)
			Oil Percentage			
Clinton, N.C.	19.7	19.8	20.4	20.3	19.2	
Blackville, S.C.	17.8	18.6	18.4	18.3	18.1	
Athens, Ga.	20.8	21.7	21.7	20.4	21.4	
Tifton, Ga.	20.9	22.0	21.4	21.4	21.0	
Gainesville, Fla.	21.0	21.6	21.9	21.6	21.2	
Jay, Fla.	21.5	20.8	21.5	21.2	19.6	
Baton Rouge, La.	21.5	20.2	21.4	20.8	19.5	
Stoneville, Miss.(B)	20.3	20.9	20.8	20.6	20.4	
Stuttgart, Ark.	19.4	19.7	20.0	19.0	19.7	
Beaumont, Tex.	19.8	19.9	20.1	20.2	19.1	
Mean	20.3	20.5	20.8	20.4	19.9	0.5
			Protein Percentage			
Clinton, N.C.	43.0	43.6	42.3	40.8	44.3	
Blackville, S.C.	44.9	44.9	45.1	45.2	46.0	
Athens, Ga.	41.1	40.2	40.7	40.7	40.7	
Tifton, Ga.	40.9	40.6	42.9	41.0	41.7	
Gainesville, Fla.	43.7	42.8	43.0	43.4	42.9	
Jay, Fla.	42.9	45.2	43.1	42.9	43.8	
Baton Rouge, La.	41.2	44.6	45.6	44.5	45.7	
Stoneville, Miss.(B)	41.9	42.7	41.3	41.4	43.2	
Stuttgart, Ark.	44.4	45.9	43.6	44.1	44.5	
Beaumont, Tex.	43.7	45.0	42.8	42.7	44.6	
Mean	42.8	43.6	43.0	42.7-	43.7	0.8
			Grams per 100 Seeds			
Clinton, N.C.	13.2	12.6	13.8	16.6	10.2	
Blackville, S.C.	10.4	9.7	10.7	11.9	8.2	
Athens, Ga.	12.6	13.0	13.9	15.4	11.0	
Tifton, Ga.	14.7	13.4	14.4	16.7	11.1	
Gainesville, Fla.	15.3	17.6	15.7	18.5	12.9	
Jay, Fla.	14.0	12.9	14.1	14.0	12.3	
Baton Rouge, La.	14.6	15.9	14.7	16.1	12.9	
Stoneville, Miss.(B)	13.5	13.2	13.8	14.7	11.1	
Stuttgart, Ark.	14.7	15.0	16.3	15.0	12.7	
Beaumont, Tex.	12.9	13.9	13.4	14.0	12.6	
Mean	13.6-	13.7-	14.1	15.3	11.5-	0.8

Table 39 - Relative maturity data, days earlier (-) or later (+) than Bragg, for the strains in Uniform Group VII, 1978

Location	Date planted	Bragg matured	Ransom	GaSoy 17	F71-1180	N72-3189	F72-6831
			East Coast				
Plymouth, N.C.	5-24	10-30	-2	0	0	-2	-2
Kinston, N.C.	5-23	11-1	-2	0	+2	-2	+2
Clinton, N.C.	5-15	10-25	0	+2	0	0	-5
Clayton, N.C.	5-25	10-27	0	0	0	+7	0
Florence, S.C.(A)	5-15	10-23	-1	+1	+2	+1	-1
Hartsville, S.C.(A)	5-26	10-17	-2	+1	+1	-2	-3
Hartsville, S.C.(B)	6-1	10-23	-6	+1	0	-6	-2
Mean		10-25	-2	+1	+1	-1	-2
			Southeast				
Blackville, S.C.	5-22	10-13	-4	+2	+1	-6	-1
Tallassee, Ala.	5-22	10-10	-2	+1	+2	-2	-1
Tifton, Ga.	5-15	10-16	0	0	+4	0	0
Gainesville, Fla.	6-9	10-25	-3	+1	0	-3	-2
Marianna, Fla.	6-9	10-14	-2	0	+3	+2	0
Quincy, Fla.	-	10-11	-4	+4	+8	+7	+3
Jay, Fla.	5-25	10-14	0	0	+3	0	0
Fairhope, Ala.	6-15	10-22	-1	-1	+4	+3	-4
Baton Rouge, La.	5-15	10-23	+6	0	+5	+6	-2
Mean		10-15	-1	-1	+3	+1	-1
			Upper and Central South				
Athens, Ga.	5-12	10-18	-2	+1	0	-2	-1
Clemson, S.C.	5-19	10-23	-2	+2	+1	-2	0
Mean		10-21	-2	+2	+1	-2	-1
			Delta and West				
Stoneville, Miss.(A)	5-15	10-22	0	+2	0	-2	0
Stoneville, Miss.(B)	5-19	10-27	0	+2	+2	-1	0
Pine Bluff, Ark.	5-16	11-8	+6	+3	-2	+13	0
Stuttgart, Ark.	5-27	10-23	0	+1	0	+1	+1
St. Joseph, La.	5-18	10-15	-3	-2	+1	-6	0
Bossier City, La.	5-18	10-18	0	-1	-1	-2	-2
Crowley, La.	5-10	11-9	-19	-14	-3	-17	-9
Beaumont, Tex.	6-20	10-20	+3	+2	-1	+3	+2
Uvalde, Tex.	6-2	10-29	+3	+2	+3	+5	0
Mean		10-26	-1	-1	0	-1	-1

Table 39 - (continued)

Location	Ga72-663	Ga72-666	D75-9925	F73-7082	F74-1349	N74-1572
			East Coast			
Plymouth, N.C.	0	-2	-4	-2	0	-2
Kinston, N.C.	+4	0	-4	0	0	+2
Clinton, N.C.	0	0	-7	0	0	-7
Clayton, N.C.	0	-5	0	0	0	0
Florence, S.C.(A)	-1	-1	-4	0	+2	+1
Hartsville, S.C.(A)	0	-2	-3	-2	+1	0
Hartsville, S.C.(B)	-2	-4	-5	-2	0	-2
Mean	0	-2	-4	-1	0	-2
			Southeast			
Blackville, S.C.	0	-1	-5	-2	+1	-5
Tallassee, Ala.	+1	0	-3	-2	+3	-1
Tifton, Ga.	0	0	0	0	+4	0
Gainesville, Fla.	-2	-2	-1	-1	+1	-2
Marianna, Fla.	-1	-1	-1	-2	+2	-3
Quincy, Fla.	-1	-1	0	+7	+7	-5
Jay, Fla.	0	0	0	0	0	0
Fairhope, Ala.	-1	-1	-6	0	+2	-2
Baton Rouge, La.	0	0	0	+1	-1	-1
Mean	0	-1	-2	0	+2	-2
			Upper and Central South			
Athens, Ga.	-1	-2	-3	-2	-1	-2
Clemson, S.C.	0	-3	0	+1	0	+1
Mean	-1	-3	-2	-1	-1	-1
			Delta and West			
Stoneville, Miss.(A)	+2	0	0	0	0	-6
Stoneville, Miss.(B)	+1	0	-1	+1	+1	0
Pine Bluff, Ark.	-3	+2	+4	+10	+1	+10
Stuttgart, Ark.	+1	0	-1	+1	+1	-1
St. Joseph, La.	+2	+1	-8	+1	+1	-9
Bossier City, La.	+2	+1	-2	-1	0	-3
Crowley, La.	-14	-18	-8	-10	-10	-17
Beaumont, Tex.	0	+1	0	+2	+2	+2
Uvalde, Tex.	+3	+3	+1	+3	+3	-5
Mean	-1	-1	-2	+1	0	-3

Table 40 - Plant height for the strains in Uniform Group VII, 1978

Location	Bragg	Ransom	GaSoy 17	F71-1180	N72-3189	F72-6831
			East Coast			
Plymouth, N.C.	46	44	48	47	42	45
Kinston, N.C.	46	41	49	47	39	46
Clinton, N.C.	45	41	49	47	39	45
Clayton, N.C.	56	41	45	52	39	51
Florence, S.C.(A)	35	29	37	36	28	34
Florence, S.C.(B)	41	38	41	43	38	41
Hartsville, S.C.(A)	48	43	45	48	41	47
Hartsville, S.C.(B)	47	43	46	46	40	47
Mean	46	40	45	46	38	45
			Southeast			
Blackville, S.C.	41	37	42	44	37	42
Tallassee, Ala.	38	32	45	39	32	39
Tifton, Ga.	32	24	38	36	23	34
Gainesville, Fla.	36	29	35	33	25	34
Marianna, Fla.	40	37	39	41	33	38
Quincy, Fla.	44	36	40	41	35	42
Jay, Fla.	28	24	28	28	20	26
Fairhope, Ala.	35	34	37	34	32	34
Poplarville, Miss.	30	23	28	29	18	28
Baton Rouge, La.	38	31	36	36	28	37
Mean	36	31	37	36	28	35
			Upper and Central South			
Athens, Ga.	40	31	40	37	31	38
Calhoun, Ga.	33	34	37	36	32	39
Clemson, S.C.	40	32	40	36	32	38
Mean	38	32	39	36	32	38
			Delta and West			
Stoneville, Miss.(A)	45	37	47	44	35	45
Stoneville, Miss.(B)	39	32	43	39	29	39
Pine Bluff, Ark.	60	58	55	54	56	61
Stuttgart, Ark.	49	41	49	46	42	49
St. Joseph, La.	43	33	39	41	31	42
Bossier City, La.	38	33	35	39	25	37
Crowley, La.	36	27	40	35	24	34
Beaumont, Tex.	32	34	34	31	29	36
Uvalde, Tex.	30	33	33	27	23	29
Mean	41	36	42	40	33	41

Table 40 - (continued)

Location	Ga72-663	Ga72-666	D75-9925	F73-7082	F74-1349	N74-1572
			East Coast			
Plymouth, N.C.	45	43	39	45	49	44
Kinston, N.C.	45	43	35	48	47	41
Clinton, N.C.	43	43	36	45	43	45
Clayton, N.C.	45	46	41	50	45	44
Florence, S.C.(A)	35	35	29	37	36	39
Florence, S.C.(B)	41	40	35	41	43	40
Hartsville, S.C.(A)	44	41	39	48	47	45
Hartsville, S.C.(B)	44	45	39	45	48	39
Mean	43	42	37	45	45	42
			Southeast			
Blackville, S.C.	40	42	35	44	46	41
Tallassee, Ala.	37	37	30	35	37	37
Tifton, Ga.	32	30	26	29	33	30
Gainesville, Fla.	33	33	26	33	33	31
Marianna, Fla.	38	39	33	38	38	36
Quincy, Fla.	40	41	34	41	42	39
Jay, Fla.	28	28	22	28	28	22
Fairhope, Ala.	36	36	30	36	36	31
Poplarville, Miss.	28	25	23	28	27	27
Baton Rouge, La.	38	36	29	32	34	36
Mean	35	35	29	34	35	33
			Upper and Central South			
Athens, Ga.	38	36	28	40	39	37
Calhoun, Ga.	40	40	28	40	33	35
Clemson, S.C.	37	35	29	38	35	35
Mean	38	37	28	39	36	36
			Delta and West			
Stoneville, Miss.(A)	45	45	35	47	41	42
Stoneville, Miss.(B)	39	38	31	40	37	41
Pine Bluff, Ark.	61	62	52	63	55	56
Stuttgart, Ark.	47	44	32	50	42	43
St. Joseph, La.	48	39	32	41	37	35
Bossier City, La.	33	28	29	34	28	38
Crowley, La.	32	29	31	34	36	35
Beaumont, Tex.	35	33	25	37	32	36
Uvalde, Tex.	31	29	22	31	29	29
Mean	41	39	32	42	37	39

Table 41 - Lodging scores for the strains in Uniform Group VII, 1978

Location	Bragg	Ransom	GaSoy 17	F71-1180	N72-3189	F72-6831
			East Coast			
Plymouth, N.C.	3.0	2.0	3.0	3.0	3.0	3.0
Kinston, N.C.	2.0	3.0	2.0	2.0	3.0	2.0
Clinton, N.C.	4.0	2.0	4.0	4.0	3.0	3.0
Clayton, N.C.	4.0	3.0	4.0	3.0	4.0	4.0
Florence, S.C.(A)	1.0	1.0	1.0	1.0	1.0	1.0
Florence, S.C.(B)	1.0	1.0	1.0	1.0	1.0	1.0
Hartsville, S.C.(A)	2.7	2.0	3.5	2.3	2.2	2.5
Hartsville, S.C.(B)	2.7	2.2	4.0	3.0	2.5	2.5
			Southeast			
Blackville, S.C.	2.7	1.0	3.7	2.7	1.7	2.7
Tallassee, Ala.	1.0	1.0	1.0	1.0	1.0	1.0
Tifton, Ga.	1.0	1.0	1.0	1.0	1.0	1.0
Gainesville, Fla.	2.0	1.0	1.7	1.0	1.0	2.0
Marianna, Fla.	3.3	2.0	2.0	2.0	1.3	2.7
Quincy, Fla.	2.3	1.7	2.0	2.0	1.3	1.7
Jay, Fla.	2.0	2.0	2.0	1.0	2.0	1.0
Fairhope, Ala.	1.0	1.0	1.0	1.0	1.0	1.0
Baton Rouge, La.	3.1	1.8	4.0	2.7	1.5	2.5
			Upper and Central South			
Athens, Ga.	1.5	1.5	1.7	1.5	1.3	1.7
Calhoun, Ga.	1.3	1.2	1.2	1.0	1.0	1.8
			Delta and West			
Stoneville, Miss.(A)	3.0	2.0	3.0	2.7	2.0	3.0
Stoneville, Miss.(B)	2.0	2.0	2.0	2.0	2.0	2.0
Pine Bluff, Ark.	2.3	3.0	2.6	3.0	3.3	2.2
Stuttgart, Ark.	3.0	2.2	2.8	2.8	2.7	3.0
St. Joseph, La.	4.0	2.5	4.0	4.5	4.0	4.0
Bossier City, La.	2.1	1.3	1.0	1.5	1.2	1.5
Crowley, La.	2.0	1.0	2.0	1.0	1.0	1.0
Beaumont, Tex.	2.7	2.0	3.0	1.7	2.0	2.0
Uvalde, Tex.	1.5	1.2	1.0	1.2	1.3	1.3

Table 41 - (continued)

Location	Ga72-663	Ga72-666	D75-9925	F73-7082	F74-1349	N74-1572
			East Coast			
Plymouth, N.C.	3.0	3.0	2.0	3.0	3.0	3.0
Kinston, N.C.	3.0	3.0	3.0	2.0	2.0	2.0
Clinton, N.C.	4.0	4.0	4.0	2.0	4.0	4.0
Clayton, N.C.	4.0	4.0	3.0	4.0	4.0	3.0
Florence, S.C.(A)	1.0	1.0	1.0	1.0	1.0	1.0
Florence, S.C.(B)	1.0	1.0	1.0	1.0	1.0	1.0
Hartsville, S.C.(A)	2.7	2.7	1.3	2.5	2.2	3.0
Hartsville, S.C.(B)	2.7	2.7	2.3	2.8	2.5	3.8
			Southeast			
Blackville, S.C.	2.0	2.7	3.3	2.3	2.0	4.0
Tallassee, Ala.	1.3	1.0	1.0	1.0	1.0	1.0
Tifton, Ga.	1.0	1.0	1.0	1.0	1.0	1.0
Gainesville, Fla.	2.0	2.0	1.0	1.0	1.0	1.0
Marianna, Fla.	3.0	3.3	3.3	2.7	2.7	2.3
Quincy, Fla.	2.7	2.7	2.3	1.7	2.3	2.0
Jay, Fla.	2.0	3.0	1.0	2.0	1.0	1.0
Fairhope, Ala.	1.0	1.0	1.0	1.0	1.0	1.0
Baton Rouge, La.	5.0	5.0	4.0	3.0	3.2	3.7
			Upper and Central South			
Athens, Ga.	2.2	1.8	1.3	1.5	1.5	2.0
Calhoun, Ga.	1.8	1.8	1.2	1.2	1.2	1.3
			Delta and West			
Stoneville, Miss.(A)	4.0	4.0	2.3	3.0	2.0	3.3
Stoneville, Miss.(B)	2.7	2.3	2.0	2.3	2.0	2.7
Pine Bluff, Ark.	2.3	2.6	2.6	2.6	2.6	2.6
Stuttgart, Ark.	3.5	3.5	2.7	3.0	2.8	3.0
St. Joseph, La.	5.0	4.5	3.5	4.5	4.0	3.5
Bossier City, La.	2.5	2.8	1.2	1.6	1.2	1.2
Crowley, La.	2.0	2.0	1.0	1.0	1.0	1.7
Beaumont, Tex.	3.0	3.0	1.0	2.0	1.7	2.7
Uvalde, Tex.	1.5	1.3	1.0	1.0	1.2	1.5

Table 42 - Seed quality scores for the strains in Uniform Group VII, 1978

Location	Bragg	Ransom	GaSoy 17	F71-1180	N72-3189	F72-6831
			East Coast			
Plymouth, N.C.	1.5	1.5	1.5	1.5	1.5	1.5
Kinston, N.C.	1.5	1.5	1.5	1.5	1.5	1.5
Clinton, N.C.	1.5	1.5	1.5	1.5	1.5	1.5
Clayton, N.C.	1.5	1.5	1.5	1.5	1.5	1.5
			Southeast			
Blackville, S.C.	1.0	1.0	1.0	1.0	1.0	1.0
Tallassee, Ala.	1.0	1.0	1.0	1.0	1.0	1.0
Tifton, Ga.	2.0	2.0	1.5	2.5	2.0	2.5
Gainesville, Fla.	2.3	1.3	2.0	2.0	1.3	1.0
Quincy, Fla.	2.3	3.0	2.0	2.7	2.0	2.3
Jay, Fla.	1.0	1.0	1.0	2.0	1.0	1.0
			Upper and Central South			
Athens, Ga.	1.5	1.5	1.5	1.5	1.5	1.5
Calhoun, Ga.	2.0	2.0	1.7	1.7	2.0	1.7
			Delta and West			
Stoneville, Miss. (A)	2.0	2.0	2.0	2.0	2.0	2.0
Stoneville, Miss. (B)	2.0	2.0	2.0	2.0	2.0	2.0
Pine Bluff, Ark.	2.0	2.0	1.0	1.0	2.0	1.0
Stuttgart, Ark.	2.0	2.7	2.3	2.5	2.8	2.3
Beaumont, Tex.	1.3	2.7	2.7	1.7	2.7	2.0

Table 42 - (continued)

Location	Ga72-663	Ga72-666	D75-9925	F73-7082	F74-1349	N74-1572
			East Coast			
Plymouth, N.C.	1.5	1.5	1.5	1.5	1.5	1.5
Kinston, N.C.	1.5	1.5	1.5	1.5	1.5	1.5
Clinton, N.C.	1.5	1.5	1.5	1.5	1.5	1.5
Clayton, N.C.	1.5	1.5	1.5	1.5	1.5	1.5
			Southeast			
Blackville, S.C.	1.0	1.0	1.0	2.0	1.0	1.0
Tallassee, Ala.	1.0	1.0	1.0	1.0	1.0	1.0
Tifton, Ga.	1.5	1.5	1.5	1.5	2.5	1.5
Gainesville, Fla.	1.3	1.7	1.7	2.0	1.0	2.0
Quincy, Fla.	2.3	2.3	2.0	4.0	3.3	1.7
Jay, Fla.	1.0	1.0	1.0	1.0	1.0	1.0
			Upper and Central South			
Athens, Ga.	1.5	1.5	1.5	2.0	1.5	1.5
Calhoun, Ga.	1.7	1.7	1.5	2.0	2.0	1.5
			Delta and West			
Stoneville, Miss. (A)	2.0	2.0	2.0	2.0	2.0	2.0
Stoneville, Miss. (B)	2.0	2.0	2.0	2.0	2.0	2.0
Pine Bluff, Ark.	1.0	1.0	2.0	2.0	1.0	2.0
Stuttgart, Ark.	2.0	2.2	2.7	2.2	2.2	1.5
Beaumont, Tex.	1.7	2.3	1.3	1.7	2.0	1.7

PRELIMINARY GROUP VII

1978

Preliminary Group VII nurseries, including 34 experimental strains along with Bragg and Centennial, were grown at nine locations. The parentage of these strains is reported in Table 43. Performance data are summarized in Tables 44 through 49. Differences among strains for seed yield were significant at eight locations.

The combined analysis for seed yield showed differences among strains to be significant. There were no strains significantly higher in seed yield than Bragg. Three strains had significantly lower seed yields than Bragg. Centennial averaged 0.7 bushels higher in yield than Bragg. There were 16 strains which had mean seed yields above the mean for Bragg.

Two strains were resistant to cyst nematodes race 3. One other strain, GaT73-24, which has a CN 3 resistant parent, appeared to be segregating for reaction to cyst nematodes in the field planting at Ames Plantation in Tennessee. All strains but four averaged earlier in maturity than Bragg. There were no strains which averaged earlier in maturity than Centennial.

The two strains, D76-10055 and D76-10056, were included to observe the brachytic character under different environments. Both are weak in seed holding. It was anticipated that this character might be useful in areas where Group VII lines made excessive growth. At Stoneville on sandy loam, Bragg was 46 inches tall and the two brachytic lines were 22 inches tall. At Clinton, North Carolina,Bragg was 50 inches tall and D76-10055 and D76-10056 were 38 inches tall. Both lines received lodging scores of 4, while Bragg received a score of 3.

Strains which appear to merit advancing to Uniform Group VII are N76-1415, N74-1341, Ts77-5, N76-1505, GaT73-24, N74-1360, and F76-8846.

Table 43 - Parentage of strains in Preliminary Group VII, 1978

	Variety or strain	Parentage	Generation composited
1.	Bragg		
2.	Centennial		
3.	D75-9836	Semmes X Hood	F_5
4.	D75-9846	Semmes X Hood	F_5
5.	D75-9893	Semmes X Hood	F_5
6.	D75-10030	Semmes X Hood	F_5
7.	D75-11061	Govan X (Bragg X PI 229358)	F_5
8.	D76-10055	D71-9966 X PI 227224	F_5
9.	D76-10056	D71-9966 X PI 227224	F_5
10.	F73-7118	Bragg(3) X D60-7965	F_7
11.	F74-1235	F59-1505 X [Bragg(3) X D60-7965]	F_6
12.	F74-1344	F59-1505 X [Bragg(3) X D60-7965]	F_6
13.	F74-1559	F59-1505 X [Bragg(3) X D60-7965]	F_6
14.	F76-8831	Centennial X [Forrest X (Cobb X D68-216)]	F_5
15.	F76-8846	Centennial X [Forrest X (Cobb X D68-216)]	F_5
16.	Ga72-781	Davis X Lee	F_4
17.	Ga76-310	Bragg X Ransom	F_4
18.	Ga76-347	Bragg X Ransom	F_4
19.	Ga76-410	Lee 68 X Bienville	F_4
20.	Ga76-420	Lee 68 X Bienville	F_4
21.	GaT73-24	Davis X D68-180	F_5
22.	GaT74-13	Bragg X D68-180	F_5
23.	GaT74-59	Dare X Hampton 266A	F_6
24.	GaT74-5162	Dare X Hampton 266A	F_6
25.	N74-1341	Govan X Ransom	F_5
26.	N74-1360	Govan X Ransom	F_5
27.	N76-284	N70-1741 X Essex	F_5
28.	N76-380	N69-5020 X Essex	F_5
29.	N76-902	N70-1741 X N69-332	F_5
30.	N76-1415	N70-2173 X Hutton	F_5
31.	N76-1460	N70-2173 X Hutton	F_5
32.	N76-1505	N70-2173 X Hutton	F_5
33.	N76-1513	N70-2173 X Hutton	F_5
34.	N76-1680	N70-1501 X Ransom	F_5
35.	Ts77-11	Bragg X Ransom	F_5
36.	Ts77-5	D66-8556 X Ransom	F_5

Table 44 - General summary of performance for the strains in Preliminary Group VII, 1978

	Seed yield	Maturity index	Ht.	Percent Oil	Percent Protein	CN Race 3	Root knot *M. incognita*	Root knot *M. arenaria*
Bragg	34.3	10-24	41	20.5	43.1	S	2.0	3.0
Centennial	35.0	-8	34	19.9	44.8+	R	1.0	2.8
D75-9836	34.3	-3	40	20.8	43.0	S	5.0	2.6
D75-9846	32.3	+1	38	20.5	43.3	S	4.0	3.5
D75-9893	29.9	-6	33	20.1	42.8	S	5.0	2.0
D75-10030	36.3	+2	37	21.0	40.9-	S	4.5	3.0
D75-11061	29.6	-5	36	19.1-	44.8+	S	4.5	1.8
D76-10055	26.6-	0	29	19.4-	43.6	S	3.0	3.2
D76-10056	23.3-	-1	28	19.6-	43.6	S	3.0	4.0
F73-7118	33.3	-1	39	20.4	42.7	S	3.0	2.4
F74-1235	34.4	0	41	20.1	42.0	S	2.0	1.8
F74-1344	30.3	+1	42	19.3-	43.7	S	2.5	1.5
F74-1559	34.9	0	39	19.7	43.5	S	1.5	4.1
F76-8831	29.4-	-5	38	19.3-	43.1	R	-	-
F76-8846	33.8	-1	40	19.2-	44.2	R	1.5	2.8
Ga72-781	35.0	0	41	19.7	44.6+	S	5.0	3.5
Ga76-310	35.7	+1	35	20.8	42.5	S	2.0	4.4
Ga76-347	31.8	-1	39	20.0	43.5	S	4.5	4.4
Ga76-410	32.2	-1	35	20.2	45.5+	S	4.5	3.4
Ga76-420	33.7	-6	30	20.0	43.9	S	3.0	1.5
GaT73-24	36.7	-2	40	20.5	43.1	Seg	4.0	4.0
GaT74-13	32.0	-1	39	19.8	44.1	S	3.0	3.7
GaT74-59	33.1	-2	39	21.7+	39.6-	S	3.0	5.0
GaT74-5162	32.2	0	40	21.3	41.6-	S	3.5	3.0
N74-1341	37.0	-1	38	21.0	42.5	S	4.5	1.4
N74-1360	36.6	-8	30	21.3	43.0	S	1.0	3.7
N76-284	36.1	-6	35	19.9	43.7	S	4.0	4.6
N76-380	36.3	-8	30	19.5-	43.1	S	5.0	3.9
N76-902	34.6	-1	36	20.7	43.1	S	4.5	3.0
N76-1415	37.9	-1	30	22.0+	42.7	S	2.5	4.5
N76-1460	35.6	0	31	20.2	41.2-	S	4.0	3.5
N76-1505	36.8	-3	34	19.9	44.2	S	4.0	5.0
N76-1513	32.2	-1	34	20.8	42.7	S	4.0	4.3
N76-1680	35.7	-6	35	21.2	42.6	S	2.0	4.4
Ts77-11	33.0	-3	37	20.0	43.8	S	2.5	2.4
Ts77-5	36.9	-4	38	21.0	42.7	S	4.5	1.5
L.S.D. (.05)	4.8			0.8	1.1			
L.S.D. (.01)	6.3			1.0	1.5			

Table 45 - Seed yield, in bushels per acre, for the strains in Preliminary Group VII, 1978

Strain	Clinton, N.C.	Black-ville, S.C.	Tifton, Ga.	Tallas-see, Ala.	Jay, Fla.	Baton Rouge, La.	Stone-ville, MS.(A)	Stone-ville, MS.(B)	Beaumont, Tex.
Bragg	42.6	22.4	49.4	28.3	29.8	30.9	31.2	26.2	48.4
Centennial	35.2	23.2	31.6	32.3	38.5	47.1+	32.9	26.7	47.9
D75-9836	37.4	26.5	40.5	28.8	27.0	40.7+	32.2	29.9	45.7
D75-9846	31.7-	28.6	34.5	32.3	26.5	33.1	30.7	30.8	42.5
D75-9893	32.6-	21.8	30.0	30.7	21.8	30.2	28.4	30.7	43.3
D75-10030	31.1-	27.8	40.9	41.2+	39.5	42.9+	25.4	32.7	45.4
D75-11061	32.0-	22.5	27.3	31.5	29.5	32.9	28.6	25.4	37.0
D76-10055	32.2-	18.1	37.5	19.3-	28.5	26.8	19.2-	23.5	34.3
D76-10056	26.6-	17.3	14.3	20.0-	26.5	27.0	23.0-	26.5	28.5
F73-7118	42.0	23.6	41.9	34.3	24.8	40.0+	28.0	27.2	38.1
F74-1235	34.6	24.6	34.4	31.9	41.0	33.4	30.1	30.0	49.4
F74-1344	24.6-	21.0	35.1	29.8	33.5	29.9	29.2	23.6	46.0
F74-1559	37.4	22.6	31.4	34.0	45.3+	37.3	36.5	23.2	46.7
F76-8831	32.9-	22.4	29.0	24.1	37.0	39.8	20.9	20.1	38.5
F76-8846	34.5	21.7	51.3	31.1	39.5	45.2+	18.1-	17.1-	45.5
Ga72-781	27.1-	29.7+	59.3	27.3	34.3	39.4	31.3	33.6+	32.7
Ga76-310	42.4	22.2	36.8	31.3	35.8	43.5+	33.5	28.0	48.0
Ga76-347	33.7	19.4	30.2	34.1	30.5	43.4+	27.5	29.0	38.0
Ga76-410	34.5	23.4	39.5	30.9	24.3	31.2	32.4	31.2	42.3
Ga76-420	37.7	25.3	31.0	31.2	27.5	40.6+	34.4	33.0	42.7
GaT73-24	41.2	21.5	38.2	32.5	39.8	42.3+	33.1	26.6	55.0
GaT74-13	36.2	22.6	34.9	28.3	31.5	36.5	27.1	29.8	41.4
GaT74-59	36.8	26.9	37.5	37.2+	24.5	36.5	19.4-	26.9	51.9
GaT74-5162	37.9	24.8	42.8	28.7	28.5	36.9	22.3-	21.9	46.1
N74-1341	39.8	23.3	38.7	34.9	43.3	43.5+	31.8	27.9	49.9
N74-1360	38.1	32.0+	33.1	36.5+	28.5	41.3+	39.1+	31.0	50.0
N76-284	42.8	33.6+	34.1	29.8	28.8	39.9	38.3+	29.3	48.1
N76-380	44.3	31.0+	31.2	33.8	29.5	41.2+	36.5	24.8	54.1
N76-902	36.5	23.6	34.1	28.3	38.5	35.5	30.1	32.2	52.2
N76-1415	38.0	27.7	48.4	27.1	33.5	46.0+	37.2	28.3	54.5
N76-1460	37.7	24.4	45.8	41.4+	18.0	46.8+	33.8	28.9	44.0
N76-1505	40.0	27.7	39.1	30.8	17.0	50.0+	42.9+	37.5+	46.1
N76-1513	38.9	22.0	27.4	37.0+	30.0	44.8+	25.0	18.0-	46.8
N76-1680	35.6	26.6	37.3	30.8	32.8	37.1	36.4	30.6	53.9
Ts77-11	30.1-	22.9	33.9	32.2	44.0	38.6	25.7	27.9	42.1
Ts77-5	41.2	25.7	33.6	31.8	44.5	41.0+	34.2	30.8	49.0
L.S.D.(.05)	9.7	6.5	N.S.	7.8	14.9	9.0	6.9	6.8	11.7
C.V.	13%	13%	25%	12%	23%	11%	11%	12%	13%

Table 46 - Oil percentages for the strains in Preliminary Group VII, 1978

Strain	Clinton, N.C.	Blackville, S.C.	Jay, Fla.	Stoneville, Miss.(B)	Beaumont, Tex.
Bragg	21.0	18.0	21.3	20.7	21.4
Centennial	20.5	18.0	20.9	19.7	20.4
D75-9836	19.8	19.2	21.4	21.4	22.1
D75-9846	20.9	19.4	21.8	20.2	20.4
D75-9893	20.9	19.2	19.6	20.1	20.8
D75-10030	20.8	19.5	22.6	21.0	21.3
D75-11061	19.0	16.8	20.9	19.6	19.4
D76-10055	19.9	17.6	20.6	19.2	19.8
D76-10056	19.2	17.4	21.4	20.0	19.8
F73-7118	19.7	18.2	21.5	20.9	21.8
F74-1235	19.9	19.0	20.7	20.2	20.7
F74-1344	19.7	18.4	19.4	19.1	19.8
F74-1559	19.6	18.1	20.1	20.3	20.2
F76-8831	20.3	17.4	20.4	19.4	19.1
F76-8846	18.8	17.8	20.2	19.3	20.0
Ga72-781	19.0	18.9	21.3	20.0	19.5
Ga76-310	20.2	19.0	23.1	20.6	21.3
Ga76-347	20.1	17.9	21.5	20.4	20.2
Ga76-410	19.8	17.9	22.2	20.9	20.2
Ga76-420	20.2	17.8	19.9	20.1	21.9
GaT73-24	19.9	18.2	21.6	20.6	22.3
GaT74-13	19.1	17.7	21.8	19.7	20.8
GaT74-59	21.4	20.0	22.6	21.2	23.1
GaT74-5162	21.1	19.8	22.0	21.5	22.2
N74-1341	21.3	18.4	22.7	21.4	21.4
N74-1360	20.3	19.1	22.5	21.8	22.7
N76-284	18.9	18.4	20.4	20.5	21.2
N76-380	19.2	17.7	20.2	20.2	20.4
N76-902	19.3	18.1	23.2	20.9	22.0
N76-1415	22.1	19.3	23.8	22.3	22.5
N76-1460	19.8	18.2	21.0	20.4	21.7
N76-1505	20.1	19.0	20.1	19.4	21.0
N76-1513	20.7	18.4	21.6	21.0	22.5
N76-1680	21.2	19.7	21.7	22.1	21.4
Ts77-11	19.1	18.3	22.3	20.4	20.0
Ts77-5	20.7	19.6	22.5	21.6	20.7

Table 47 - Protein percentages for the strains in Preliminary Group VII, 1978

Strain	Clinton, N.C.	Blackville, S.C.	Jay, Fla.	Stoneville, Miss.(B)	Beaumont, Tex.
Bragg	41.3	45.5	44.0	42.3	42.2
Centennial	42.5	46.0	45.2	45.1	45.1
D75-9836	43.2	44.5	44.1	41.9	41.3
D75-9846	42.1	45.0	43.5	42.5	43.4
D75-9893	41.4	44.3	43.9	42.6	41.6
D75-10030	40.7	42.6	39.7	40.7	40.6
D75-11061	44.5	46.7	43.7	44.1	44.8
D76-10055	43.2	46.4	43.6	42.1	42.9
D76-10056	43.8	46.3	42.7	41.9	43.1
F73-7118	42.0	45.1	44.4	41.3	40.8
F74-1235	42.0	43.9	42.6	41.0	40.6
F74-1344	42.9	44.9	46.1	42.6	41.9
F74-1559	42.9	44.8	44.5	42.2	42.9
F76-8831	41.9	45.1	43.3	41.2	44.0
F76-8846	43.1	45.9	43.7	44.2	44.3
Ga72-781	45.4	45.5	42.9	43.8	45.4
Ga76-310	42.0	45.8	43.0	41.1	40.5
Ga76-347	43.7	45.7	43.9	41.8	42.4
Ga76-410	45.2	46.7	47.3	43.6	44.8
Ga76-420	44.2	45.4	45.6	42.4	41.7
GaT73-24	42.1	44.9	43.5	42.9	42.3
GaT74-13	42.7	46.5	44.9	43.5	42.7
GaT74-59	38.6	41.1	40.7	38.8	38.6
GaT74-5162	41.1	42.8	42.2	40.2	41.6
N74-1341	42.2	45.0	41.6	41.3	42.2
N74-1360	43.8	44.5	44.6	40.8	41.5
N76-284	43.9	45.2	45.0	42.6	42.0
N76-380	42.6	44.8	45.0	41.3	42.0
N76-902	44.7	46.0	42.2	41.5	41.1
N76-1415	42.6	45.8	42.0	40.8	42.3
N76-1460	42.2	43.5	41.4	40.1	39.0
N76-1505	43.6	45.0	45.4	43.7	43.4
N76-1513	42.6	44.7	44.3	41.0	40.8
N76-1680	42.5	44.1	43.7	41.1	41.8
Ts77-11	44.8	45.5	42.4	42.8	43.7
Ts77-5	42.4	44.1	41.8	42.1	43.1

Table 48 - Plant height for the strains in Preliminary Group VII, 1978

Strain	Clinton, N.C.	Black-ville, S.C.	Tifton, Ga.	Tallas-see, Ala.	Jay, Fla.	Baton Rouge, La.	Stone-ville, MS.(A)	Stone-ville, MS.(B)	Beaumont, Tex.
Bragg	50	46	38	39	18	36	46	33	38
Centennial	39	39	27	34	24	38	37	27	35
D75-9836	42	45	38	40	30	41	40	35	38
D75-9846	43	45	30	38	24	34	44	35	36
D75-9893	38	38	29	34	18	31	37	28	32
D75-10030	40	40	32	38	26	35	42	34	36
D75-11061	43	38	34	36	18	36	39	29	30
D76-10055	38	34	25	33	16	26	22	21	32
D76-10056	38	34	22	33	16	27	22	20	32
F73-7118	50	40	30	38	24	38	46	36	33
F74-1235	48	43	37	43	28	42	43	35	36
F74-1344	49	46	35	45	34	40	45	36	39
F74-1559	46	43	38	43	30	38	38	33	33
F76-8831	46	40	33	37	32	40	43	30	36
F76-8846	46	44	40	39	30	40	43	32	37
Ga72-781	48	48	35	40	32	42	44	36	37
Ga76-310	41	40	28	32	24	39	37	30	31
Ga76-347	47	46	29	36	32	40	42	36	35
Ga76-410	45	37	26	40	20	34	36	30	35
Ga76-420	34	37	23	32	16	29	31	25	29
GaT73-24	47	43	32	42	32	40	45	35	40
GaT74-13	48	40	31	41	32	42	45	34	35
GaT74-59	45	43	34	44	28	38	43	31	35
GaT74-5162	34	44	39	34	32	43	43	31	39
N74-1341	47	43	31	36	26	38	40	29	38
N74-1360	38	37	24	24	16	29	34	21	31
N76-284	46	36	29	35	16	35	40	25	35
N76-380	43	35	23	27	18	27	32	22	32
N76-902	46	40	32	34	26	36	37	28	38
N76-1415	37	35	16	30	18	32	35	25	34
N76-1460	36	36	29	25	14	30	34	25	30
N76-1505	41	40	23	33	20	35	38	29	37
N76-1513	38	37	26	32	30	37	40	26	33
N76-1680	39	37	31	37	32	38	39	25	33
Ts77-11	44	43	26	37	26	37	42	31	36
Ts77-5	43	43	30	35	30	39	41	34	38

Table 49 - Seed quality scores for the strains in Preliminary Group VII, 1978

	Clinton, N.C.	Blackville, S.C.	Tifton, Ga.	Jay, Fla.	Stone-ville, MS.(A)	Stone-ville, MS.(B)	Beaumont, Tex.
Bragg	1.5	2.5	2.0	1.0	2.0	2.0	2.0
Centennial	1.5	1.0	1.5	1.0	2.0	2.0	2.0
D75-9836	1.5	1.0	2.0	1.0	2.0	2.0	3.0
D75-9846	1.5	2.0	2.0	1.0	2.0	2.0	3.0
D75-9893	1.5	1.0	1.5	1.0	2.0	2.0	3.0
D75-10030	1.5	1.5	1.5	1.0	2.0	2.0	2.0
D75-11061	1.5	1.0	1.5	1.0	2.0	2.0	2.0
D76-10055	1.5	2.0	2.5	1.0	2.5	2.0	3.0
D76-10056	1.5	1.5	2.0	1.0	2.0	2.0	3.0
F73-7118	1.5	1.5	2.0	1.0	2.0	2.0	2.0
F74-1235	1.5	1.0	2.0	1.0	2.0	2.0	2.5
F74-1344	1.5	1.5	2.0	1.0	2.0	2.0	3.0
F74-1559	1.5	1.0	3.0	1.0	2.0	2.0	2.0
F76-8831	1.5	2.0	1.5	1.0	2.0	2.0	2.0
F76-8846	1.5	2.0	1.0	1.0	2.0	2.0	1.5
Ga72-781	1.5	2.5	1.5	1.0	2.0	2.0	2.0
Ga76-310	1.5	3.0	2.0	1.0	2.0	2.0	2.0
Ga76-347	1.5	2.0	1.5	1.0	2.0	2.0	2.0
Ga76-410	1.5	2.0	2.0	1.0	2.0	2.0	1.5
Ga76-420	1.5	1.5	2.0	1.0	2.0	2.0	2.0
GaT73-24	1.5	2.0	2.0	1.0	2.0	2.0	2.0
GaT74-13	1.5	2.0	2.0	1.0	2.0	2.0	1.5
GaT74-59	1.5	1.0	1.5	1.0	2.0	2.0	2.0
GaT74-5162	1.5	1.5	1.5	1.0	2.0	2.0	2.0
N74-1341	1.5	1.5	1.5	1.0	2.0	2.0	2.5
N74-1360	1.5	1.0	1.5	1.0	2.0	2.0	3.0
N76-284	1.5	1.0	1.5	1.0	2.0	2.0	2.0
N76-380	1.5	1.0	2.0	1.0	2.0	2.0	2.5
N76-902	1.5	1.5	1.0	1.0	2.0	2.0	1.0
N76-1415	1.5	2.0	2.0	1.0	2.0	2.0	2.5
N76-1460	1.5	1.0	1.5	1.0	2.0	2.0	2.5
N76-1505	1.5	1.0	1.5	1.0	2.0	2.0	2.5
N76-1513	1.5	1.5	1.5	1.0	2.0	2.0	2.0
N76-1680	1.5	1.0	2.0	1.0	2.0	2.0	2.0
Ts77-11	1.5	1.0	2.0	1.0	2.0	2.0	2.5
Ts77-5	1.5	1.0	1.5	1.0	2.0	2.0	2.0

UNIFORM GROUP VIII

1978

	Variety or strain	Parentage	Generation composited
1.	Hutton	F55-822 X (Roanoke X CNS-4)	F_6
2.	Cobb	F57-735 X D58-3358	F_6
3.	Coker 338	Hampton 266 X Bragg	F_4
4.	Dowling	Semmes X PI 200492	F_8
5.	Coker 488	Hampton 266 X Bragg	F_8
6.	F70-2060	F62-2753 X D62-3286	F_7
7.	F72-6460	Bragg(2) X F59-2496	F_7
8.	Co75-756	Hampton 266 X Ransom	F_5
9.	F74-1468	F59-1505 X [Bragg(3) X PI 96035]	F_6
10.	F74-1493	F59-1505 X [Bragg(3) X PI 96035]	F_6
11.	F74-1497	F59-1505 X [Bragg(3) X PI 96035]	F_6
12.	GaT74-25	Bragg X F66-242	F_4

Background of breeding lines used as parents:

F55-822 is the parent line of Bragg

F57-735 is a selection from D49-772 X improved Pelican which was grown in Uniform Group VIII.

D58-3358 is a bacterial-pustule-resistant selection from Jackson(4) X D49-2491.

F62-2573 is a selection from D51-5091 X N50-2542. D51-5091 is a tall selection from Roanoke X N45-745 and N50-2542 is a high protein selection from Ogden X Biloxi.

D62-3286 is a high protein selection from D49-2491(4) X PI 163453, a wild type.

F59-1505 is a selection from Jackson X D49-2491.

F66-242 is a selection from F55-822 X (Roanoke X CNS-4).

Results from 21 Uniform Group VIII nurseries are summarized in Tables 50 through 56. Table 50 gives a general summary of agronomic qualities, oil and protein percentages, and field reaction to several pest problems. Two- and three-year data are reported for seed yield and oil and protein percentages of the seed.

Differences among strains were significant (odds 19:1 or greater) at 13 of the 21 locations. The combined analysis of variance showed a significant variety X location interaction and differences among varieties to be significant. Cobb, Co75-756, and GaT74-25 were significantly lower in yield than Hutton.

Cobb averages 5 days later in maturity than Hutton. In 1977 seed yield of Cobb was significantly greater than the yield for Hutton. In 1978 the results were reversed with Cobb yielding significantly less than Hutton.

Dowling is similar to Cobb in maturity. Its three year average is 0.5 bushels above that for Cobb. Dowling has a higher level of resistance to phytophthora rot than Cobb but is more susceptible to *M. incognita*. In plantings in Taiwan it has appeared to have a moderate level of resistance to soybean rust.

F72-6460 has the highest two-year mean seed yield, averaging 2.4 bushels per acre above the yield for Hutton. It has good resistance to both *M. incognita* and *M. arenaria*. It is similar in maturity to Hutton.

Of the strains grown one year, Co75-756 and GaT74-25 yielded significantly less than Hutton. The other three strains, F74-1468, F74-1493, and F74-1747, had mean seed yields slightly below that for Hutton.

Table 50 - General summary of performance for the strains in Uniform Group VIII, 1978

	Hutton	Cobb	Coker 338	Dowling	Coker 488	F70-2060
Seed Yield - 1978	37.6	35.2-	37.2	37.8	36.8	36.1
1977-78	37.3	37.4	37.7	37.6	38.8	38.1
1976-78	37.3	37.2	38.6	37.7		37.6
Oil Content - 1978	20.3	21.7+	21.9+	21.4+	22.2+	21.2+
1977-78	20.2	21.6	22.5	21.0	22.5	21.5
1976-78	19.8	21.2	22.1	20.6		21.3
Protein Content - 1978	44.3	40.5-	43.0	40.8-	41.1-	41.0-
1977-78	43.2	39.5	41.2	40.1	39.6	39.9
1976-78	43.2	39.5	41.2	40.2		39.5
Seed size	15.6	13.3-	14.7	13.7	14.5-	11.6-
Maturity index	10-23	+5	+2	+4	+1	-2
Height	37	39	37	36	39	35
Seed quality	1.5	1.5	1.6	1.3	1.4	1.4
Bacterial pustule	R	R	R	R	R	R
M. incognita	1.0	3.0	4.0	5.0	4.0	2.0
M. arenaria	4.5	4.5	5.0	5.0	4.5	1.5
Flower color	P	W	W	W	P	P
Pubescence color	T	G	T	G	T	G
Pod wall color	T	T	Br	T	T	T

Table 50 - (continued)

	F72-6460	Co75-756	F74-1468	F74-1493	F74-1747	GaT74-25
Seed Yield - 1978	39.3	35.2-	36.9	37.0	36.8	34.5-
1977-78	39.7					
1976-78						
Oil Content - 1978	20.5	21.7+	21.4+	20.3	20.3	20.6
1977-78	20.8					
1976-78						
Protein Content - 1978	42.9-	41.6-	42.8-	43.5	43.4	43.2-
1977-78	41.9					
1976-78						
Seed size	14.7	14.7	15.6	14.2-	14.1-	14.9
Maturity index	0	+1	-3	-3	-2	+2
Height	37	36	38	37	35	40
Seed quality	1.5	1.6	1.9	1.7	1.7	1.7
Bacterial pustule	R	R	R	R	R	R
M. incognita	2.0	5.0	3.0	2.0	2.5	4.0
M. arenaria	1.9	5.0	1.3	2.6	3.0	4.5
Flower color	W	P	P	P	P	W
Pubescence color	T	T	T	T	T	T
Pod wall color	T	T	T	T	T	T

Table 51 - Seed yield, in bushels per acre, for the strains in Uniform Group VIII, 1978

Location	Hutton	Cobb	Coker 338	Dowling	Coker 488	F70-2060	F72-6460
Clinton, N.C.	35.5	31.9	38.0	35.7	33.5	34.9	31.8
Florence, S.C.(A)	48.9	53.3	36.6-	47.6	43.8	43.5	51.7
Florence, S.C.(B)	44.2	48.2	45.3	44.6	46.8	47.4	51.5
Hartsville, S.C.(A)	52.8	38.2-	47.2	48.2	49.6	53.3	49.1
Hartsville, S.C.(B)	50.3	40.6	55.4	54.1	49.0	44.2	51.1
Blackville, S.C.(A)	22.3	20.3	22.2	22.5	25.3	24.4	21.9
Blackville, S.C.(B)	22.0	18.5	17.2	17.5	17.1	19.4	21.6
Athens, Ga.	41.4	30.5-	41.6	39.5	35.8	33.1-	44.3
Tallassee, Ala.	38.1	32.3	35.8	33.0	36.7	35.0	35.5
Tifton, Ga.	26.1	26.5	25.0	31.7	34.9+	21.9	31.6
Gainesville, Fla.	40.7	40.7	36.1	43.6	41.6	35.5-	42.0
Marianna, Fla.	38.3	35.9	39.6	39.6	43.1	38.2	39.9
Quincy, Fla.	29.8	31.8	35.2	33.0	34.7	34.4	37.2
*Jay, Fla.	15.7	35.2	24.5	20.3	21.8	34.2	21.0
Fairhope, Ala.	45.4	49.2	42.7	51.1+	47.1	46.6	48.0
Poplarville, Miss.	36.2	36.8	37.5	43.5	39.2	35.5	44.1
Baton Rouge, La.	46.4	41.2-	46.2	43.9	49.8	46.8	42.0
Stoneville, Miss	15.1	17.5	17.7	15.7	13.3	15.9	20.6+
Bossier City, La.	42.0	30.1-	40.5	28.9-	32.1-	33.5-	40.4
Beaumont, Tex.	45.6	48.4	50.0	45.3	37.8-	47.3	52.5+
Uvalde, Tex.	30.4	32.5	34.8	37.3	24.2	30.8	28.5
Mean	37.6	35.2-	37.2	37.8	36.8	36.1	39.3

*Not included in mean.

(+) - Strains yielding significantly more (odds 19:1 or greater) than Hutton.

(-) - Strains yielding significantly less (odds 19:1 or greater) than Hutton.

Table 51 - (continued)

Location	Co75-756	F74-1468	F74-1493	F74-1747	GaT74-25	L.S.D. (.05)	C.V. %
Clinton, N.C.	29.6	35.6	36.4	33.4	30.7	N.S.	14
Florence, S.C.(A)	34.8-	46.3	44.8	50.2	46.1	7.6	10
Florence, S.C.(B)	47.1	46.1	50.4	49.9	44.3	N.S.	8
Hartsville, S.C.(A)	49.5	48.9	53.9	52.9	41.6-	8.1	10
Hartsville, S.C.(B)	42.2	51.4	48.8	40.0	50.3	N.S.	16
Blackville, S.C.(A)	17.0-	24.4	23.7	24.2	19.9	3.7	10
Blackville, S.C.(B)	19.8	16.1	18.2	19.8	20.5	N.S.	12
Athens, Ga.	34.5-	40.8	35.0-	41.6	36.4	6.2	10
Tallassee, Ala.	34.8	36.5	35.8	33.8	34.9	N.S.	7
Tifton, Ga.	26.3	27.5	29.7	20.5	30.8	7.6	16
Gainesville, Fla.	38.3	36.5	39.7	37.2	34.3-	4.8	7
Marianna, Fla.	32.4	38.7	36.6	44.3	31.0-	6.3	8
Quincy, Fla.	25.2	32.6	34.4	32.1	25.3	N.S.	18
Jay, Fla.	27.7	18.3	20.3	14.2	17.7	N.S.	51
Fairhope, Ala.	49.4	44.0	43.7	46.8	41.3	5.7	7
Poplarville, Miss.	37.8	45.7	35.2	35.1	40.9	N.S.	25
Baton Rouge, La.	47.2	39.1-	45.3	43.0	43.8	4.5	6
Stoneville, Miss.	16.4	14.4	15.4	13.8	15.9	3.6	13
Bossier City, La.	29.4-	37.9	38.3	34.4-	30.4-	6.6	11
Beaumont, Tex.	47.7	42.6	45.7	49.5	40.8	6.4	8
Uvalde, Tex.	43.8+	33.1	28.7	33.8	31.3	7.5	14
Mean	35.2-	36.9	37.0	36.8	34.5	2.2	

Table 52 - Chemical composition and seed size for the strains in Uniform Group VIII, 1978

Location	Hutton	Cobb	Coker 338	Dowling	Coker 488	F70-2060	F72-6460
			Oil Percentage				
Hartsville, S.C.(A)	20.6	20.5	22.5	20.8	21.8	21.2	21.4
Tifton, Ga.	19.5	21.7	21.9	20.7	21.6	21.7	19.6
Tallassee, Ala.	19.6	21.8	21.1	20.8	21.9	20.7	20.5
Gainesville, Fla.	20.8	23.2	22.5	22.7	23.0	22.0	21.1
Jay, Fla.	20.3	22.8	21.3	21.7	22.8	22.1	18.5
Baton Rouge, La.	20.8	21.3	21.2	22.2	23.5	21.0	21.8
Beaumont, Tex.	20.2	20.8	22.7	20.9	21.0	20.0	20.4
Mean	20.3	21.7+	21.9+	21.4+	22.2+	21.2+	20.5
			Protein Percentage				
Hartsville, S.C.(A)	41.5	39.2	39.5	38.2	37.4	38.9	40.0
Tifton, Ga.	44.9	39.1	43.3	42.2	42.8	39.6	44.0
Tallassee, Ala.	44.5	40.6	43.0	41.8	41.2	40.6	42.9
Gainesville, Fla.	44.7	38.5	42.2	39.2	40.6	42.0	42.6
Jay, Fla.	44.7	41.9	44.6	41.5	41.9	40.8	43.8
Baton Rouge, La.	45.7	43.0	45.8	41.7	41.8	43.4	44.5
Beaumont, Tex.	44.1	41.5	42.6	40.8	41.9	41.7	42.6
Mean	44.3	40.5-	43.0	40.8-	41.1-	41.0-	42.9-
			Grams per 100 Seeds				
Tifton, Ga.	14.5	12.1	13.5	12.7	14.8	10.5	13.0
Tallassee, Ala.	14.4	12.3	14.1	12.7	12.8	9.2	13.1
Gainesville, Fla.	19.0	14.2	15.9	15.2	16.9	13.8	17.3
Jay, Fla.	12.9	12.4	13.4	12.8	12.5	11.4	12.6
Baton Rouge, La.	18.2	16.2	16.7	15.6	17.2	13.6	16.8
Beaumont, Tex.	14.5	12.5	14.3	13.1	12.7	11.0	15.1
Mean	15.6	13.3-	14.7	13.7	14.5-	11.6-	14.7

Table 52 - (continued)

Location	Co75-756	F74-1468	F74-1493	F74-1747	GaT74-25	L.S.D. (.05)
			Oil Percentage			
Hartsville, S.C.(A)	21.7	22.8	21.5	21.4	20.7	
Tifton, Ga.	19.9	20.5	18.8	19.7	20.3	
Tallassee, Ala.	21.1	20.8	20.1	20.0	20.3	
Gainesville, Fla.	22.3	21.3	20.8	21.3	21.1	
Jay, Fla.	22.7	20.7	20.1	18.4	21.1	
Baton Rouge, La.	22.1	22.1	20.5	20.8	20.4	
Beaumont, Tex.	21.8	21.6	20.5	20.3	20.0	
Mean	21.7+	21.4+	20.3	20.3	20.6	0.8
			Protein Percentage			
Hartsville, S.C.(A)	38.8	38.8	40.6	40.0	40.7	
Tifton, Ga.	43.8	44.1	45.4	44.8	43.8	
Tallassee, Ala.	43.0	42.4	42.8	43.0	43.8	
Gainesville, Fla.	40.8	43.1	43.2	42.5	42.7	
Jay, Fla.	41.5	44.4	44.8	46.2	43.7	
Baton Rouge, La.	42.4	44.2	44.9	44.7	44.9	
Beaumont, Tex.	40.6	42.5	42.8	42.8	43.0	
Mean	41.6-	42.8-	43.5	43.4	43.2-	0.9
			Grams per 100 Seeds			
Tifton, Ga.	12.5	13.8	12.3	12.8	14.1	
Tallassee, Ala.	12.8	13.7	12.0	12.1	13.7	
Gainesville, Fla.	16.4	20.2	18.0	17.9	17.5	
Jay, Fla.	14.0	13.5	13.0	9.8	13.4	
Baton Rouge, La.	18.0	17.5	16.5	17.3	16.7	
Beaumont, Tex.	14.2	14.9	13.2	14.7	14.0	
Mean	14.7	15.6	14.2-	14.1-	14.9	1.0

Table 53 - Relative maturity, days earlier (-) or later (+) than Hutton, for the strains in Uniform Group VIII, 1978

Location	Date planted	Hutton matured	Cobb	Coker 338	Dowling	Coker 488	F70-2060
Clinton, N.C.	5-15	10-27	+4	+3	0	+3	0
Florence, S.C.(A)	5-15	10-26	+7	+1	+7	+4	-2
Hartsville, S.C.(A)	5-26	10-22	+4	+3	+6	+1	-1
Hartsville, S.C.(B)	6-1	10-24	+8	+3	+9	0	-2
Blackville, S.C.(A)	5-22	10-14	+8	+2	+8	+2	-1
Blackville, S.C.(B)	7-11	10-25	+4	0	+3	+1	-2
Athens, Ga.	5-12	10-21	+4	+3	+6	+1	-5
Tallassee, Ala.	5-22	10-17	+2	+3	+3	-	-7
Tifton, Ga.	5-15	10-16	+8	0	+7	0	0
Gainesville, Fla.	6-9	10-26	+3	0	+2	0	0
Marianna, Fla.	6-8	10-25	+6	-1	+4	-4	0
Quincy, Fla.	-	10-18	+12	0	+2	-1	-5
Jay, Fla.	5-25	10-16	+8	-1	+4	+8	-2
Fairhope, Ala.	6-15	10-29	+7	+1	+2	-4	-4
Baton Rouge, La.	5-15	10-29	+2	+1	+1	+1	+2
Stoneville, Miss.	5-23	10-31	+2	+2	+2	-4	-5
Bossier City, La.	5-18	10-21	-1	+1	-1	+1	0
Beaumont, Tex.	6-20	10-22	+9	+4	+5	0	+2
Uvalde, Tex.	6-2	10-31	+5	+3	+4	+3	+2
Mean		10-23	+5	+2	+4	+1	-2

Table 53 - (continued)

Location	F72-6460	Co75-756	F74-1468	F74-1493	F74-1747	GaT74-25
Clinton, N.C.	0	+3	0	0	+3	+9
Florence, S.C.(A)	+1	-1	-2	-2	+1	+2
Hartsville, S.C.(A)	+1	+3	-5	-5	-3	+1
Hartsville, S.C.(B)	0	+3	-3	-5	-1	+3
Blackville, S.C.(A)	+2	0	-2	-4	-2	+2
Blackville, S.C.(B)	0	-1	-1	-2	-1	+2
Athens, Ga.	0	+2	-4	-5	-4	+1
Tallassee, Ala.	-	-	-7	-7	-7	+1
Tifton, Ga.	0	0	0	0	0	+4
Gainesville, Fla.	-1	0	0	-3	-1	+1
Marianna, Fla.	0	-6	-6	+4	-5	+2
Quincy, Fla.	+1	+3	-1	-7	-3	-1
Jay, Fla.	-2	+4	0	-2	-4	0
Fairhope, Ala.	-2	-5	-3	0	-5	+1
Baton Rouge, La.	+1	+3	-6	-5	-4	+1
Stoneville, Miss.	-3	-2	-5	-7	-6	-2
Bossier City, La.	-1	+2	-5	-2	-3	+2
Beaumont, Tex.	+5	+4	+1	-3	+2	+2
Uvalde, Tex.	+2	+2	0	0	0	+2
Mean	0	+1	-3	-3	-2	+2

Table 54 - Plant height for the strains in Uniform Group VIII, 1978

Location	Hutton	Cobb	Coker 338	Dowling	Coker 488	F70-2060
Clinton, N.C.	48	50	46	46	49	44
Florence, S.C.(A)	40	36	34	37	37	37
Florence, S.C.(B)	43	43	44	43	46	42
Hartsville, S.C.(A)	44	45	43	42	43	42
Hartsville, S.C.(B)	47	46	45	46	50	43
Blackville, S.C.(A)	41	47	44	41	45	41
Blackville, S.C.(B)	32	32	33	29	39	31
Athens, Ga.	38	36	39	37	38	32
Tallassee, Ala.	39	47	40	42	42	38
Tifton, Ga.	36	36	33	37	37	30
Gainesville, Fla.	32	32	33	29	36	31
Marianna, Fla.	42	42	40	39	41	37
Quincy, Fla.	44	47	44	41	43	42
Jay, Fla.	28	34	24	32	26	28
Fairhope, Ala.	37	42	35	40	40	38
Poplarville, Miss.	24	31	25	29	30	23
Baton Rouge, La.	36	42	39	32	41	39
Stoneville, Miss.	31	31	27	29	29	25
Bossier City, La.	37	41	39	33	40	38
Beaumont, Tex.	35	38	35	33	33	35
Uvalde, Tex.	27	29	25	27	26	25
Mean	37	39	37	36	39	35

Table 54 - (continued)

Location	F72-6460	Co75-756	F74-1468	F74-1493	F74-1747	GaT24-25
Clinton, N.C.	44	44	49	46	49	52
Florence, S.C.(A)	35	35	39	39	39	42
Florence, S.C.(B)	43	41	45	43	42	44
Hartsville, S.C.(A)	44	43	47	43	43	48
Hartsville, S.C.(B)	43	46	47	46	41	51
Blackville, S.C.(A)	43	41	45	45	42	48
Blackville, S.C.(B)	31	30	30	30	31	31
Athens, Ga.	43	34	39	37	38	44
Tallassee, Ala.	40	38	39	41	35	43
Tifton, Ga.	31	34	32	31	31	37
Gainesville, Fla.	34	30	33	33	30	34
Marianna, Fla.	39	41	40	41	39	40
Quincy, Fla.	42	41	46	41	38	45
Jay, Fla.	30	34	34	28	18	30
Fairhope, Ala.	38	37	36	37	35	39
Poplarville, Miss.	32	26	27	28	26	29
Baton Rouge, La.	39	40	38	41	37	38
Stoneville, Miss.	31	26	31	29	28	35
Bossier City, La.	40	38	36	40	38	36
Beaumont, Tex.	38	36	37	35	33	35
Uvalde, Tex.	26	26	30	27	27	31
Mean	37	36	38	37	35	40

Table 55 - Lodging scores for the strains in Uniform Group VIII, 1978

Location	Hutton	Cobb	Coker 338	Dowling	Coker 488	F70-2060
Clinton, N.C.	5.0	3.0	3.0	4.0	4.0	4.0
Florence, S.C.(A)	1.0	1.0	1.0	1.0	1.0	1.0
Florence, S.C.(B)	1.0	1.0	1.0	1.0	1.0	1.0
Hartsville, S.C.(A)	3.2	3.8	2.8	3.2	2.3	2.7
Hartsville, S.C.(B)	2.8	3.0	2.8	2.7	2.5	2.2
Blackville, S.C.(A)	2.3	2.3	1.7	1.7	1.7	2.7
Blackville, S.C.(B)	1.3	1.0	1.0	1.0	2.0	1.3
Athens, Ga.	2.0	2.2	2.2	1.3	1.5	1.5
Tallassee, Ala.	1.6	1.0	1.0	1.0	1.0	1.0
Tifton, Ga.	1.0	1.0	1.0	1.0	1.0	1.0
Gainesville, Fla.	1.3	2.0	2.0	1.0	1.0	1.0
Marianna, Fla.	2.7	2.7	3.0	2.3	1.7	2.7
Quincy, Fla.	2.7	2.3	2.0	2.3	1.3	1.7
Jay, Fla.	1.0	2.0	1.0	2.0	1.0	1.0
Fairhope, Ala.	1.0	1.0	1.0	1.0	1.0	1.0
Baton Rouge, La.	4.5	4.0	3.8	5.0	3.5	4.5
Stoneville, Miss.	2.0	2.0	1.7	2.0	2.0	1.0
Bossier City, La.	2.2	2.0	1.8	2.5	1.7	2.2
Beaumont, Tex.	2.0	2.0	2.7	1.7	2.0	2.3
Uvalde, Tex.	1.5	1.3	1.5	1.0	1.2	1.2

Table 55 - (continued)

Location	F72-6460	Co75-756	F74-1468	F74-1493	F74-1747	GaT74-25
Clinton, N.C.	3.0	3.0	4.0	4.0	3.0	3.0
Florence, S.C.(A)	1.0	1.0	1.0	1.0	1.0	1.0
Florence, S.C.(B)	1.0	1.0	1.0	1.0	1.0	1.0
Hartsville, S.C.(A)	2.8	2.3	2.5	3.7	2.8	3.2
Hartsville, S.C.(B)	2.7	2.3	3.0	4.0	2.5	2.5
Blackville, S.C.(A)	3.3	1.3	2.3	3.3	2.3	2.3
Blackville, S.C.(B)	1.0	1.3	1.3	1.0	1.3	1.7
Athens, Ga.	2.0	1.3	2.0	1.7	1.7	2.2
Tallassee, Ala.	1.0	1.0	1.0	1.0	1.0	1.0
Tifton, Ga.	1.0	1.0	1.0	1.0	1.0	1.0
Gainesville, Fla.	1.7	1.0	1.0	2.0	1.0	1.0
Marianna, Fla.	1.7	1.7	2.7	3.0	1.7	2.7
Quincy, Fla.	2.3	1.7	2.0	2.7	1.7	2.3
Jay, Fla.	2.0	2.0	2.0	2.0	2.0	2.0
Fairhope, Ala.	1.0	1.0	1.0	1.0	1.0	1.0
Baton Rouge, La.	3.2	3.8	5.0	3.9	3.2	4.3
Stoneville, Miss.	2.0	1.7	1.7	2.0	1.7	2.0
Bossier City, La.	1.6	1.8	2.5	1.9	1.6	2.1
Beaumont, Tex.	2.3	2.3	2.3	3.0	1.7	2.3
Uvalde, Tex.	1.5	1.0	1.0	1.2	1.0	1.5

Table 56 - Seed quality scores for the strains in Uniform Group VIII, 1978

Location	Hutton	Cobb	Coker 338	Dowling	Coker 488	F70-2060
Clinton, N. C.	1.5	1.5	1.5	1.5	1.5	1.5
Blackville, S.C.(A)	1.0	1.0	1.0	1.0	1.0	1.0
Blackville, S.C.(B)	1.0	1.0	1.0	1.0	1.0	1.0
Athens, Ga.	1.5	1.5	1.5	1.5	1.5	1.5
Tallassee, Ala.	1.0	1.0	1.0	1.0	1.0	1.0
Tifton, Ga.	2.0	2.0	1.5	1.5	1.5	1.0
Gainesville, Fla.	1.0	1.0	1.3	1.0	1.0	1.3
Quincy, Fla.	2.3	2.0	3.3	2.3	1.7	2.0
Jay, Fla.	1.0	1.0	1.0	1.0	2.0	1.0
Stoneville, Miss.	2.0	2.0	2.0	2.0	2.0	2.0
Beaumont, Tex.	2.0	2.0	2.0	1.0	1.7	1.7

Table 56 - (continued)

Location	F72-6460	Co75-756	F74-1468	F74-1493	F74-1747	GaT74-25
Clinton, N.C.	1.5	1.5	1.5	1.5	1.5	1.5
Blackville, S.C.(A)	1.0	1.0	1.0	1.0	1.0	1.0
Blackville, S.C.(B)	1.0	1.0	1.0	1.0	1.0	1.0
Athens, Ga.	1.5	1.5	1.5	1.5	1.5	1.5
Tallassee, Ala.	1.0	1.0	1.0	1.0	1.0	1.0
Tifton, Ga.	1.5	1.5	3.0	2.0	1.5	1.5
Gainesville, Fla.	1.0	1.0	1.7	2.0	1.0	1.7
Quincy, Fla.	3.0	3.0	3.7	3.0	3.0	3.3
Jay, Fla.	1.0	1.0	2.0	2.0	3.0	2.0
Stoneville, Miss.	2.0	2.0	2.0	2.0	2.0	2.0
Beaumont, Tex.	1.7	2.7	2.0	1.7	2.0	2.0

PRELIMINARY GROUP VIII

1978

Preliminary Group VIII nurseries, including 34 experimental strains, along with Cobb and Bragg were grown at six locations. The parentage of these strains is reported in Table 57. Performance data are summarized in Tables 58 through 63. Differences among strains for seed yield were significant at five of the six locations.

The combined analysis of variance showed differences among strains for seed yield to be significant. There were no strains having a seed yield significantly above that for Cobb. Three strains had mean seed yields significantly below that for Cobb.

There were no strains earlier in maturity than Bragg. Three strains averaged somewhat later in maturity than Cobb.

Nine strains were selected for resistance to soybean cyst nematodes race 3. Two of these appeared to be segregating in the field planting at Ames Plantation in Tennessee. The two strains, F76-8757 and F76-8827, were among the highest in average seed yields.

The strains F76-8757, Co76-689, F76-8827, Ga76-316, N76-1507, and GaT74-10 appear to merit being advanced to Uniform Group VIII.

Table 57 - Parentage of strains in Preliminary Group VIII, 1978

	Variety or strain	Parentage	Generation composited
1.	Cobb		
2.	Bragg		
3.	D75-10194	Govan X F_4 sel (Bragg X PI 229358)	F_5
4.	Co74-579	Co208 X N63-858	F_5
5.	Co75-689	(Co208 X N63-858) X Ransom	F_5
6.	Co76-888	Co68-33 X Hutton	F_5
7.	Co76-893	Co68-33 X Hutton	F_5
8.	Co76-896	Co68-33 X Hutton	F_5
9.	Co76-965	(Hampton 266 X D65-6765) X Hutton	F_5
10.	F74-3008	(F63-3999 X F65-1270) X (F62-1058 X F65-1269)	F_5
11.	F74-3191	F63-3999 X (F62-1058 X F65-1270)	F_5
12.	F75-6605	Bragg(3) X D60-7965	F_7
13.	F75-6713	Bragg(3) X D60-7965	F_7
14.	F75-7397	Davis X Cobb	F_5
15.	F75-7887	Cobb X [Hardee X (Hill X PI 274454)]	F_6
16.	F76-8757	Centennial X [Forrest X (Cobb X D68-216)]	F_5
17.	F76-8762	Centennial X [Forrest X (Cobb X D68-216)]	F_5
18.	F76-8827	Centennial X [Forrest X (Cobb X D68-216)]	F_5
19.	F76-8836	Centennial X [Forrest X (Cobb X D68-216)]	F_5
20.	F76-8849	Centennial X [Forrest X (Cobb X D68-216)]	F_5
21.	F76-8880	[D68-201 X (Hampton X D67-10472)] X Forrest	F_5
22.	F76-8906	[D68-201 X (Hampton X D67-10472)] X Forrest	F_5
23.	F76-9001	[D68-201 X (Hampton X D67-10472)] X Forrest	F_5
24.	F76-9006	[D68-201 X (Hampton X D67-10472)] X Forrest	F_5
25.	Ga75-311	Lee 68 X Bienville	F_4
26.	Ga76-314	Bragg X Ransom	F_4
27.	Ga76-316	Bragg X Ransom	F_4
28.	Ga76-333	Bragg X Ransom	F_4
29.	Ga76-411	Lee 68 X Bienville	F_4
30.	GaT74-10	Hale 3 X Delmar	F_5
31.	GaT74-58	Dare X Hampton 266	F_6
32.	N76-834	N70-1741 X N69-332	F_5
33.	N76-1507	N70-2173 X Hutton	F_5
34.	Ts77-18	Hutton X N66-1136	F_5
35.	Ts77-20	N66-1136 X Ransom	F_5
36.	Ts77-24	D68-1998 X Ransom	F_5

Table 58 - General summary of performance for the strains in Preliminary Group VIII, 1978

Strain	Seed yield	Maturity index	Ht.	Percent Oil	Percent Protein	CN Race 3	Root knot *M. incognita*	Root knot *M. arenaria*
Cobb	29.7	10-26	35	21.2	41.1	S	2.5	4.0
Bragg	28.3	-7	33	20.6	43.9+	S	2.5	2.7
D75-10194	21.9-	-7	34	19.4	44.7+	S	2.0	3.7
Co74-579	28.7	-5	33	22.1+	39.2-	S	4.5	4.2
Co75-689	31.9	-4	33	23.1+	38.4-	S	5.0	4.5
Co76-888	29.7	-3	34	22.3+	42.3	S	2.0	4.7
Co76-893	30.3	-4	38	21.6	42.1	S	3.0	3.4
Co76-896	29.1	-3	35	20.5	43.9+	S	4.0	3.0
Co76-965	25.3	-4	34	19.5-	43.5+	S	2.0	3.5
F74-3008	24.4-	-3	33	17.5-	46.6+	S	5.0	2.5
F74-3191	25.2	+2	37	19.5-	44.9+	S	3.0	2.8
F75-6605	30.3	-3	37	21.5	42.5	S	4.0	1.2
F75-6713	28.4	-5	36	19.5-	42.6	S	3.0	3.3
F75-7397	27.8	+2	40	21.1	42.0	S	5.0	2.5
F75-7887	29.0	+3	39	21.4	40.9	S	5.0	3.4
F76-8757	33.0	-6	35	20.5	43.6+	R	3.0	2.1
F76-8762	25.6	-3	33	20.6	42.3	Seg	3.0	1.5
F76-8827	31.5	-6	32	21.1	41.8	R	2.0	3.4
F76-8836	29.5	-6	31	20.6	42.8	R	3.0	2.8
F76-8849	30.3	-5	37	21.0	42.8	Seg	2.0	1.9
F76-8880	26.8	-5	36	20.8	42.5	R	2.5	1.7
F76-8906	27.4	-4	34	21.8	41.0	R	2.0	3.2
F76-9001	27.7	-2	35	20.7	42.2	R	3.0	3.2
F76-9006	24.3-	-3	36	22.0	41.1	R	2.5	2.9
Ga75-311	29.2	-3	35	20.7	43.4	S	4.5	4.4
Ga76-314	28.0	-2	41	22.4+	42.2	S	2.5	2.2
Ga76-316	31.0	-2	38	22.3+	42.0	S	5.0	2.4
Ga76-333	28.8	-6	36	22.0	42.6	S	4.5	1.5
Ga76-411	27.7	-5	31	21.9	42.4	S	4.5	4.5
GaT74-10	30.3	-6	36	21.8	43.7+	S	5.0	3.4
GaT74-58	27.6	-4	32	22.6+	39.6	S	5.0	3.9
N76-834	28.1	-5	32	21.2	42.3	S	4.0	2.9
N76-1507	30.6	-6	30	21.4	42.0	S	4.0	3.8
Ts77-18	28.4	-5	31	20.2-	44.2	S	3.0	3.2
Ts77-20	26.3	-3	28	22.3+	40.2	S	5.0	3.8
Ts77-24	27.8	-3	34	22.8+	43.2	S	5.0	3.8
L.S.D. (.05)	5.1			0.8	1.6			
L.S.D. (.01)	6.8			1.0	2.2			

Table 59 - Seed yield, in bushels per acre, for the strains in Preliminary Group VIII, 1978

Strain	Blackville, S.C.	Gainesville, Fla.	Quincy, Fla.	Jay, Fla.	Beaumont, Tex.	Stoneville, Miss.(B)
Cobb	22.4	38.8	25.8	22.0	47.1	22.2
Bragg	19.8	32.9	29.7	24.5	43.4	19.9
D75-10194	15.9-	30.5-	25.2	9.5	33.8	16.8-
Co74-579	26.8	34.4	32.5	23.8	45.7	8.9-
Co75-689	23.9	36.4	33.3	27.8	49.6	20.8
Co76-888	1818	37.7	29.3	25.8	45.7	21.2
Co76-893	26.6	32.1-	28.0	27.0	48.2	20.1
Co76-896	19.2	38.9	24.7	21.0	49.3	21.5
Co76-965	21.0	36.4	27.7	15.0	39.5	12.2-
F74-3008	17.7	29.1-	26.8	16.8	38.4	18.0
F74-3191	17.9	31.0-	22.6	20.8	42.1	16.6-
F75-6605	18.9	37.7	26.9	36.3	41.2	20.8
F75-6713	20.4	35.8	31.7	27.8	40.1	14.8-
F75-7397	17.8	35.5	23.8	19.3	50.7	19.6
F75-7887	17.2	35.8	23.2	28.5	47.5	21.7
F76-8757	22.5	32.8	32.8	45.0+	44.4	20.6
F76-8762	14.7-	33.3	15.0-	29.8	44.8	16.3-
F76-8827	19.9	37.1	26.6	44.3+	48.5	12.7-
F76-8836	17.7	29.9-	27.2	41.8+	46.5	13.8-
F76-8849	22.7	32.1-	25.4	34.3	46.7	20.8
F76-8880	21.6	26.9-	31.0	22.3	43.0	16.5-
F76-8906	19.5	28.7-	23.0	36.0	44.0	13.6-
F76-9001	18.4	26.5-	24.2	36.3	44.3	16.5-
F76-9006	19.6	28.4-	17.5-	22.0	41.5	16.9-
Ga75-311	21.0	29.8-	26.6	35.8	42.5	19.9
Ga76-314	21.3	39.8	28.0	21.8	41.0	16.2-
Ga76-316	22.2	35.6	32.1	31.0	46.4	18.9
Ga76-333	21.8	36.0	30.4	21.0	45.8	18.0
Ga76-411	21.0	31.5-	26.1	22.0	43.4	22.1
GaT74-10	25.7	34.0	32.2	30.8	44.2	14.8-
GaT74-58	21.9	36.3	28.3	21.8	46.2	11.1-
N76-834	26.5	29.6-	28.5	25.0	43.3	15.7-
N76-1507	25.3	35.6	33.2	24.0	47.4	18.2
Ts77-18	22.5	32.3	33.6	15.0	51.4	15.6-
Ts77-20	19.9	28.7-	26.9	19.8	49.3	13.6-
Ts77-24	22.4	33.8	26.1	18.3	49.0	17.2-
L.S.D. (.05)	5.2	6.6	8.1	16.6	N.S.	4.5
C.V.	12%	10%	15%	32%	9%	13%

Table 60 - Oil percentages for the strains in Preliminary Group VIII, 1978

Strain	Gainesville, Fla.	Jay, Fla.	Beaumont, Tex.	Stoneville, Miss. (B)
Cobb	22.3	21.2	20.9	20.5
Bragg	21.4	20.9	20.4	19.8
D75-10194	20.0	19.3	20.1	18.2
Co74-579	23.1	22.0	22.4	20.9
Co75-689	24.4	23.8	22.1	21.9
Co76-888	23.2	23.1	22.4	20.5
Co76-893	22.4	22.0	22.0	20.0
Co76-896	21.3	19.9	21.4	19.3
Co76-965	20.3	18.6	20.4	18.8
F74-3008	18.0	18.3	17.3	16.5
F74-3191	20.6	19.9	19.4	18.1
F75-6605	22.9	21.8	21.3	20.0
F75-6713	19.5	19.9	19.7	18.9
F75-7397	22.3	21.4	21.4	19.2
F75-7887	22.5	21.3	22.0	19.7
F76-8757	21.0	20.6	21.1	19.2
F76-8762	21.4	20.8	20.7	19.4
F76-8827	21.9	21.5	20.5	20.6
F76-8836	20.8	21.0	20.5	19.9
F76-8849	21.5	21.8	21.1	19.7
F76-8880	20.6	21.6	21.0	20.1
F76-8906	21.8	22.9	21.8	20.6
F76-9001	20.7	21.2	21.4	19.5
F76-9006	22.3	21.7	22.7	21.1
Ga75-311	20.4	20.7	21.9	19.7
Ga76-314	22.9	23.2	23.0	20.5
Ga76-316	23.0	22.7	22.3	21.1
Ga76-333	22.7	22.2	22.5	20.4
Ga76-411	22.3	22.7	22.0	20.6
GaT74-10	21.5	22.2	22.7	20.8
GaT74-58	22.6	23.0	23.8	21.0
N76-834	20.9	22.4	21.7	19.8
N76-1507	22.4	20.5	21.4	21.1
Ts77-18	20.8	19.7	20.6	19.7
Ts77-20	21.9	22.9	22.2	22.3
Ts77-24	23.5	22.7	22.7	22.1

Table 61 - Protein percentages for the strains in Preliminary Group VIII, 1978

Strain	Gainesville, Fla.	Jay, Fla.	Beaumont, Tex.	Stoneville, Miss.(B)
Cobb	39.8	42.8	41.7	40.0
Bragg	43.5	45.0	44.2	42.7
D75-10194	44.9	44.7	44.3	44.9
Co74-579	38.5	40.5	38.9	38.8
Co75-689	36.9	39.2	39.6	37.8
Co76-888	42.2	43.2	41.6	42.0
Co76-893	41.7	42.7	41.8	42.2
Co76-896	42.7	47.0	42.6	43.2
Co76-965	42.4	45.2	44.0	42.4
F74-3008	48.7	50.3	49.1	38.2
F74-3191	44.3	46.2	44.3	44.8
F75-6605	41.5	43.5	42.3	42.6
F75-6713	42.7	42.9	42.4	42.2
F75-7397	40.2	43.9	41.6	42.4
F75-7887	39.7	42.1	40.9	40.7
F76-8757	43.9	44.2	43.7	42.7
F76-8762	41.9	43.1	42.3	41.9
F76-8827	40.8	42.1	43.2	40.9
F76-8836	43.2	43.1	43.5	41.5
F76-8849	43.0	44.0	42.4	41.6
F76-8880	43.6	43.4	41.9	41.2
F76-8906	41.7	41.0	41.1	40.0
F76-9001	42.7	42.5	42.1	41.5
F76-9006	41.2	42.2	40.3	40.6
Ga75-311	43.6	44.2	42.3	43.6
Ga76-314	41.0	44.1	42.3	41.4
Ga76-316	40.9	43.5	42.0	41.4
Ga76-333	42.7	43.1	42.0	42.7
Ga76-411	42.8	42.5	42.7	41.5
GaT74-10	45.0	43.5	43.6	42.7
GaT74-58	39.4	39.6	39.4	40.1
N76-834	42.6	41.9	42.9	41.9
N76-1507	41.8	43.6	42.0	40.7
Ts77-18	44.7	45.3	44.1	42.8
Ts77-20	40.5	41.0	41.1	38.1
Ts77-24	42.9	43.0	44.3	42.5

Table 62 - Plant height for the strains in Preliminary Group VIII, 1978

Strain	Blackville, S.C.	Gainesville, Fla.	Quincy, Fla.	Jay, Fla.	Beaumont, Tex.	Stoneville, Miss.(B)
Cobb	45	32	44	30	40	28
Bragg	39	29	39	24	40	30
D75-10194	41	32	43	28	35	25
Co74-579	41	31	40	28	38	22
Co75-689	45	29	38	22	35	26
Co76-888	41	29	41	26	39	26
Co76-893	45	35	46	28	47	29
Co76-896	44	34	41	28	35	31
Co76-965	46	29	45	16	40	28
F74-3008	43	30	42	22	38	25
F74-3191	46	34	43	32	39	30
F75-6605	42	36	45	28	40	32
F75-6713	47	33	45	24	39	29
F75-7397	39	43	45	34	42	35
F75-7887	43	34	46	34	44	31
F76-8757	45	28	41	30	37	27
F76-8762	42	29	41	26	36	27
F76-8827	38	30	42	26	38	24
F76-8836	37	25	41	28	34	22
F76-8849	45	29	45	34	39	28
F76-8880	49	30	44	26	44	25
F76-8906	44	32	40	24	36	26
F76-9001	36	33	44	28	42	25
F76-9006	41	31	47	24	44	29
Ga75-311	46	33	41	20	41	27
Ga76-314	49	33	48	32	48	35
Ga76-316	42	33	47	28	46	33
Ga76-333	46	32	42	30	35	31
Ga76-411	40	26	40	16	40	25
GaT74-10	43	35	43	30	41	25
GaT74-58	41	27	37	26	38	23
N76-834	39	28	40	22	36	27
N76-1507	32	27	36	20	36	27
Ts77-18	44	27	38	20	34	24
Ts77-20	38	25	33	16	32	24
Ts77-24	43	28	37	28	38	29

Table 63 - Seed quality scores for the strains in Preliminary Group VIII, 1978

Strain	Blackville, S.C.	Gainesville, Fla.	Quincy, Fla.	Jay, Fla	Beaumont, Tex.	Stoneville, Miss.(B)
Cobb	1.0	1.0	2.5	1.0	2.5	2.0
Bragg	1.0	3.0	2.5	1.0	2.5	2.0
D75-10194	1.0	1.5	1.0	2.0	2.5	2.5
Co74-579	1.0	1.5	1.5	1.0	2.5	2.0
Co75-689	1.0	1.0	1.5	1.0	2.5	2.0
Co76-888	1.0	1.0	2.5	1.0	2.5	2.0
Co76-893	1.0	1.0	2.0	1.0	2.5	2.0
Co76-896	1.0	1.0	3.0	1.0	2.0	2.0
Co76-965	1.0	1.0	1.0	1.0	2.5	2.0
F74-3008	1.0	1.0	4.0	1.0	3.0	2.0
F74-3191	1.0	1.5	4.0	1.0	2.0	2.0
F75-6605	1.0	1.0	3.0	1.0	2.5	2.0
F75-6713	1.0	1.0	3.5	1.0	2.0	2.0
F75-7397	1.0	1.0	2.0	1.0	2.0	2.0
F75-7887	1.0	1.0	1.5	1.0	2.5	2.0
F76-8757	1.0	1.5	2.0	1.0	3.0	2.0
F76-8762	1.0	1.0	5.0	1.0	2.0	2.0
F76-8827	1.0	1.0	1.0	1.0	2.5	2.0
F76-8836	1.0	1.0	1.0	1.0	2.0	2.0
F76-8849	1.0	1.5	3.0	1.0	2.5	2.0
F76-8880	1.0	2.5	2.0	1.0	2.0	2.0
F76-8906	1.0	2.5	3.0	1.0	2.5	2.0
F76-9001	1.0	1.0	2.5	1.0	2.0	2.0
F76-9006	1.0	1.5	3.5	2.0	2.0	2.0
Ga75-311	1.0	1.0	2.5	1.0	2.0	2.0
Ga76-314	1.0	1.0	1.5	1.0	3.0	2.0
Ga76-316	1.0	1.5	3.5	1.0	3.0	2.0
Ga76-333	1.0	2.0	3.0	1.0	2.0	2.0
Ga76-411	1.0	1.0	2.0	1.0	2.0	2.0
GaT74-10	1.0	1.0	2.0	1.0	3.0	2.0
GaT74-58	1.0	1.0	1.5	1.0	3.5	2.0
N76-834	1.0	2.5	2.5	1.0	3.0	2.0
N76-1507	1.0	1.0	1.0	1.0	2.5	2.0
Ts77-18	1.0	1.0	1.0	1.0	2.5	2.0
Ts77-20	1.0	3.0	3.5	1.0	3.0	2.0
Ts77-24	1.0	1.0	3.0	1.0	3.0	2.0