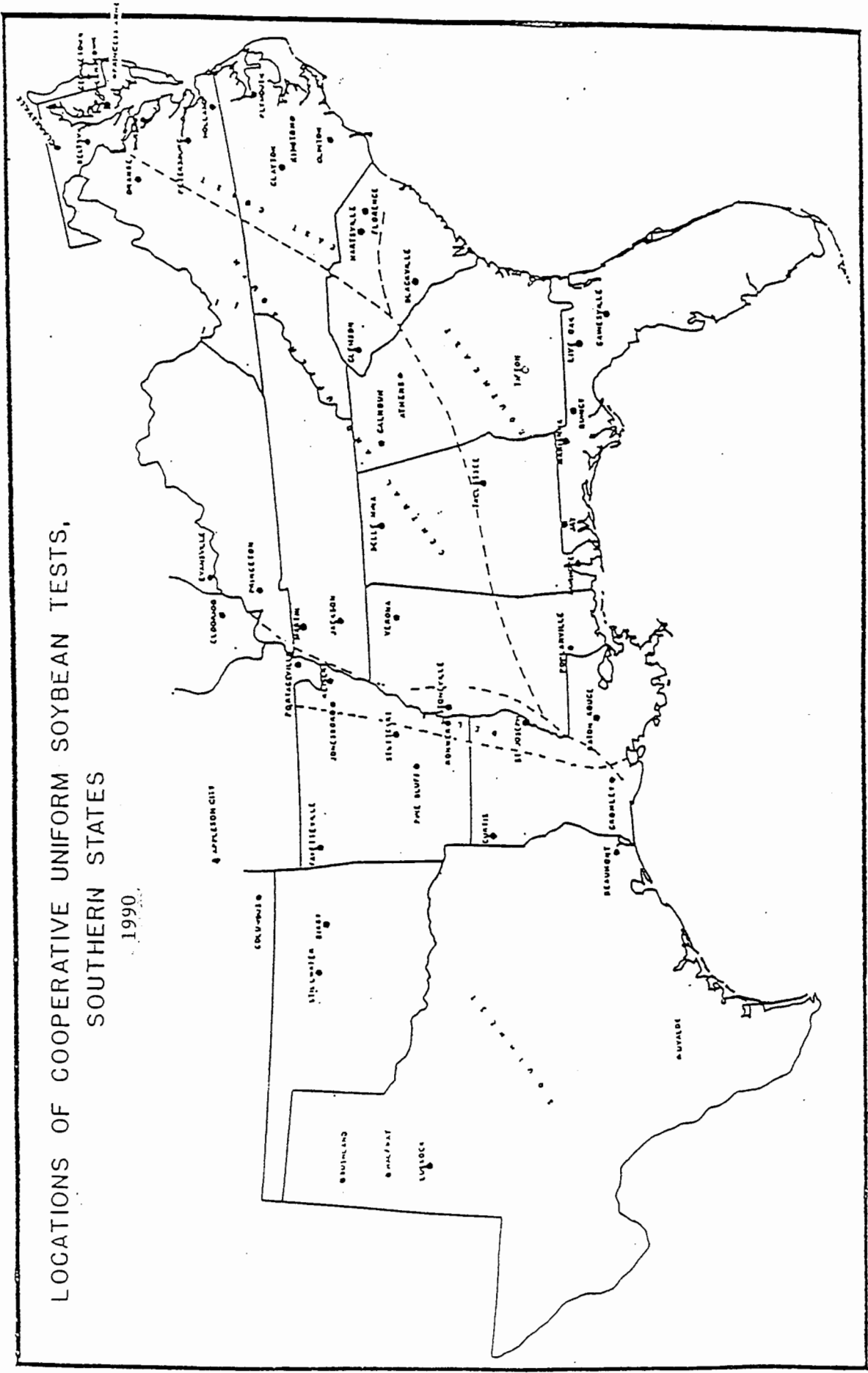


**UNIFORM SOYBEAN TESTS  
SOUTHERN STATES  
1990**

**UNITED STATES DEPARTMENT OF AGRICULTURE  
AGRICULTURAL RESEARCH SERVICE  
COOPERATING WITH  
STATE AGRICULTURAL EXPERIMENT STATIONS  
SOUTHERN STATES  
STONEVILLE, MISSISSIPPI**

LOCATIONS OF COOPERATIVE UNIFORM SOYBEAN TESTS,  
SOUTHERN STATES

1990





THE UNIFORM SOYBEAN TESTS

SOUTHERN STATES

1990

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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. Breeding lines are developed and evaluated in the several federal and state research programs. As breeding lines demonstrate specific qualities in the individual programs, they are advanced to the preliminary and southern uniform regional tests, conducted in cooperation with research workers in the southern states. This testing program enables breeders 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.

Eleven uniform test groups have been established to evaluate the best 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 and nematodes. For the groups grown in the southern area, the major check varieties are: Delsoy 4500, Md83-5008, Essex, Walters, Leflore, Sharkey, Stonewall, Thomas and Kirby. 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: Delsoy 4500, September 7; Essex, September 29; Walters, October 1; Leflore, October 16; Stonewall, October 23; and Kirby, November 4.

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 loessial 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 (S) 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 with 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:

- Au - Alabama Agricultural Experiment Station, Auburn
- Co - Coker's Pedigreed Seed Company, Hartsville, South Carolina
- D - Delta Branch Experiment Station and USDA-ARS
- F - Florida Agricultural Experiment Station and USDA-ARS
- G - Georgia Agricultural Experiment Station
- J - Delta Branch Experiment Stations, West Tennessee Experiment Station and USDA-ARS
- K - Kansas Agricultural Experiment Station
- Ky - Kentucky Agricultural Experiment Station
- L - Illinois Agricultural Experiment Station and USDA-ARS
- LS - Southern Illinois University, Carbondale
- La - Louisiana Agricultural Experiment Station
- Md - Maryland Agricultural Experiment Station and USDA-ARS
- N - North Carolina Agricultural Experiment Station and USDA-ARS
- R - Arkansas Agricultural Experiment Station
- S - Missouri Agricultural Experiment Station
- SC - Clemson Agricultural Experiment Station
- Tn - Tennessee Agricultural Experiment Station
- Ts - Texas Agricultural Experiment Station
- V - Virginia Agricultural Experiment Station

\*\*\*\*\*  
\* This annual report of activity of the Soybean Production \*  
\* Research Program, as well as that of the state stations \*  
\* which cooperate, is a progress report and as such may con- \*  
\* tain statements which may or may not be verified by subse- \*  
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\* granted previously by those concerned. \*  
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LOCATION OF SOYBEAN NURSERIES ALONG WITH SOIL TYPE

LOCATION	IV	V	VI	VII	VIII	SOIL	Highest yielding variety	Yield
East Coast								
Queenstown, MD	1*	1				Matapeake silt loam	Essex	53.5
Warsaw, VA	1*	1*	1			Kempsville loam	Essex	60.5
Holland, VA		1	1	1		Lynchburg f.s.l.	Essex	56.0
Plymouth, VA		1*	1*			Portsmouth s.l.	Essex	64.5
Kinston, ND			1	1*		Norfolk sandy loam	Stonewall	30.1
Clinton, NC			1	1		Norfolk sandy loam	Stonewall	25.5
Florence, SC (A)			1	1	1	Goldsboro sandy loam	Leflore	26.3
Florence, SC (B)				1	1	Rains fine sandy loam	Kirby	24.4
Southeast								
Blackville, SC			1	1*	1*	Norfolk sandy loam	Kirby	24.4
Tifton, GA			1	1	1	Tifton sandy loam	Thomas	47.8
Tallahassee, AL			1*	1*	1	Cahaba f.s.l.	Sharkey	31.2
Gainesville, FL				1	1*	Arredonda f. sand		
Quincy, FL			1	1	1*	Norfolk sandy loam	Kirby	25.0
Jay, FL			1*	1*	1*	Red Bay f.s.l.	Leflore	34.0
Fairhope, AL			1	1	1	Malbis f.s.l.	Stonewall	31.0
Baton Rouge, LA		1	1	1	1	Olivier silt loam	Walters	72.8
Upper & Central South								
Orange, VA	1	1				Davidson clay loam	Md83-5008	54.8
Clemson, SC		1	1	1		Cecil sandy loam	Stonewall	44.2
Calhoun, GA		1	1	1		Cedarbluff silt loam	Stonewall	62.3
Athens, GA		1	1*	1*		Appling coarse s.l.	Stonewall	51.5
Knoxville, TN	1	1				Sequatchie silt loam	Essex	47.3
Carbondale, IL	1*	1				Stoy silt loam		
Villa Ridge, IL	1	1					Md83-5008	44.0
Princeton, KY	1*	1				Crider silt loam	Md83-5008	59.0
Martin, TN	1	1				Falaja silt loam	Walters	38.5
Jackson, TN		1	1			Lexington silt loam	Walters	21.2



LOCATION	IV	V	VI	VII	VIII	SOIL	Highest yielding variety	Yield
Delta								
Portageville, MS(A)	1*	1*	1			Tiptonville s. 1.	Leflore	53.5
Portageville, MS(B)	1	1				Sharkey clay	Walters	44.2
Keiser, AR	1*	1*	1*			Sharkey clay	Walters	47.0
Jonesboro, AR	1	1	1			Calloway silt loam	Walters	40.8
Pine Tree, AR	1	1	1			Calloway silt loam	Leflore	49.7
Stoneville, MS(A)	1	1*	1*	1*	1	Bosket f. s. 1.	Walters	46.6
Stoneville, MS(B)	1*	1*	1*	1*	1*	Sharkey clay	Sharkey	48.3
Rohwer, AR			1	1*		Perry clay	Sharkey	48.2
St. Joseph, LA		1	1	1		Sharkey clay	Leflore	40.5
West								
Ottawa, KS	1*	1				Woodson s. loam	Walters	39.3
Pittsburg, KS	1	1*				Parsons silt loam	Walters	26.9
Chanute, KS	1	1				Parsons silt loam	Del.4500	36.9
Bixby, OK	1	1	1			Reinach silt loam	Leflore	47.8
Stuttgart, AR		1	1	1		Crowley silt loam	Sharkey	51.0
Bossier City, LA	1	1	1			Norwood v.f.s.1.	Leflore	69.7
Beaumont, TX		1	1	1*	1*	Beranard-Morey s.c.1.	Perrin	36.8
Lubbock TX	1	1				Acuff loam	Walters	45.7
Bushland, TX	1					Pullman clay loam	Md83-5008	40.5

1 Fertilizer applied converted to pounds N, P205, K20. For example: 400# of 2-12-12 equals 8-48-48.

\* 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 6 to 8 locations.

Planting rate - all strains were packeted for planting at the rate of 9 seeds per foot, in 36-inch rows.

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     | 4 - 9 to 19% shattered |
| 2 - 1 to 3% shattered | 5 - over 20% shattered |
| 3 - 4 to 8% 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 the 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, Delsoy 4500; Group V, Essex; Group VI, Leflore; Group VII, Thomas; and Group VIII, Kirby.

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

1 - very good; 2 - good; 3 - fair; 4 - poor; 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 and nematode ratings: Ratings are made on a 1 to 5 basis with 1 being resistant and 5 very susceptible or in other cases rated R - resistant, M - moderate, and S - susceptible.

All strains of V maturity and later are resistant to bacterial pustule. Very little injury was observed from phytophthora rot in 1990.

Plantings were made in the greenhouse at Athens, Georgia for *Meloidogyne incognita* and *M. arenaria* ratings and in the field near Blackville, South Carolina for *M. arenaria* ratings.

Plantings were made in the greenhouse at Jackson, Tennessee in soil infested with the soybean cyst nematode. Separate plantings were made to evaluate strains for reaction to SCN race 3 and 4.

Plantings were made in the field cage at Stoneville to evaluate for feeding by soybean looper. Plantings were made in single hills spaced 18 inches in the row with rows spaced 30 inches. Two replications were grown. A heavy population of moths were released at the time plants were in about the fourth to fifth trifoliolate state.

Statistical analyses - yield data are analyzed by analysis of variance. Differences necessary to indicate difference among strains (odds 19:1) are reported for each locations. 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

1990

VARIETY OR STRAIN	PARENTAGE	GENERATION COMPOSITED
1. DELSOY 4500	CUMBERLAND X FORREST	F5
2. MD83-5008	L70L-3048 X D74-7824	F5
3. S85-1163	L77-443 X L77-906	F5
4. V83-1357	ESSEX(3) X L73-906	F4
5. LS82-3646	FORREST X (DORMAN X WILL)	F5
6. S86-4499	L77-443 X L77-906	F5
7. V84-484	MD71-1643-88 X WILL	F5
8. D87-3125	D65-2262 X FORREST	F5
9. D87-5951	EPPS X D65-2262	F5
10. K1170	PEKING X RIPLEY	F5
11. LS84-0920	LS78-N245 X FAYETTE	F5
12. V85-3336	ESSEX X R75-576	F5

Background of lines used as parents:

L70L-3048 is a selection from L15 (Wayne Rps) X D64-31146.  
D74-7824 is a selection from Forrest X D70-3001. D70-3001 is  
of the same parentage as Centennial.  
L77-443 is a selection from Union X L75-8020. L75-8020 is a  
Corsoy type resistant to phytophthora rot.  
L73-811 is a Corsoy type resistant to phytophthora rot.  
L73-811 is basically Clark, determinate, resistant to  
phytophthora rot and bacterial pustule.  
Md71-1643-88 is a selection from Adelphi X PI 157483.  
D65-2262 is a selection from D54-2437 X PI 261467.  
LS78-N245 is a selection from L71L-436 X 574-5.  
574-5 is a SCN race 4 resistant parentage same as Bedford.  
R75-576 is a selection from Forrest X Mack.

UNIFORM GROUP IV-S

1990

Uniform Group IV-S nurseries were grown at 24 locations. Results from these plantings are summarized in Tables 1-7. Table 1 gives a general summary of agronomic data, protein and oil composition of the seed, reaction to nematodes and diseases, and general plant characteristics. Data from individual locations are reported in Tables 2-7.

Plantings were made in the greenhouse at Jackson, TN to evaluate strains for reaction to SCN races 3 and 4. Seven of the entries were rated resistant to SCN race 3 and four of these were also resistant to SCN race 4. Plantings were made in a field near Villa Ridge, IL where SDS was expected to develop. All strains were scored for disease development at the R6 growth stage. Scores range from 8% of plants infected with a severity score of 1.1 to 97% of the plants showing symptoms and a severity score of 2.3. S85-1163 received the lowest rating. This strain was rated resistant to SCN races 3 and 4. V85-333, which is susceptible to both SCN races received the highest SDS rating. Cyst nematodes were present in the test area.

Md83-5008 has been increased for release. Two strains, S85-1163 and V83-1357 have been evaluated three years. S85-1163 is being increased as Delsoy 4710. Three strains, LS82-3646, S86-4499, and V84-484 have been evaluated two years.

TABLE 1 - GENERAL SUMMARY OF PERFORMANCE FOR THE STRAINS GROWN IN UNIFORM GROUP IV-S, 1990

	NO. OF LOCATIONS	DELLOY 4500	MD83- 5008	S85- 1163	V83- 1357	LS82- 3646
Seed Yield - 1990						
East Coast	2	44.9	51.9	44.2	53.3	52.1
Upper and Central South	4	39.9	47.5	37.0	45.6	41.4
Delta	7	37.5	46.1	36.2	42.7	40.2
West	5	32.9	38.5	37.0	34.4	35.7
1989-90						
East Coast			49.7	46.6	51.4	49.8
Upper & Central South			47.7	40.0	45.0	44.4
Delta			50.3	43.1	44.1	45.5
West			39.1	39.9	41.2	36.1
1988-90						
East Coast			45.4	42.2	46.3	
Upper & Central South			45.1	39.3	43.6	
Delta			50.2	42.3	44.4	
West			40.5	39.9	40.5	
Oil Content - 1990						
		20.4	20.9	21.4	20.0	20.1
	1989-90		21.0	21.1	20.1	20.4
	1988-90		21.3	21.3	20.2	
Protein Content - 1990						
		41.0	38.6	37.8	41.9	40.7
	1989-90		38.8	38.7	42.1	40.7
	1988-90		38.5	38.6	41.9	
Seed size		13.6	13.9	16.0	14.0	13.5
Maturity index		9-27	+10	+4	+9	+6
Height		33	28	34	24	28
Seed quality		2.1	1.9	2.6	1.5	1.9
SDS severity score		1.2	1.7	1.1	2.0	2.1
SDS(percent with symptoms)		54	21	8	94	69
SCN race 3		R	S	R	R	R
SCN race 4		S	S	R	S	S
Flower color		W	W	P	P	P
Pubescence color		G	T	T	G	T
Pod wall color		T	T	T	T	T

TABLE 1 - (continued)

	S86- 4499	V84- 484	D87- 3125	D87- 5951	K1170	LS84- 0920	V85- 3336
Seed Yield - 1990							
East Coast	53.1	49.8	45.5	47.6	52.0	48.4	51.6
Upper and Central South	40.1	37.6	37.5	32.7	44.8	44.4	43.2
Delta	37.8	36.2	39.9	41.4	40.5	40.6	40.4
West	36.8	32.4	34.1	31.9	36.8	35.2	34.4
1989-90							
East Coast	51.0	47.3					
Upper & Central South	42.5	40.9					
Delta	44.6	40.2					
West	39.8	38.0					
1988-90							
East Coast							
Upper & Central South							
Delta							
West							
Oil Content - 1990	21.1	21.7	19.8	19.6	20.3	20.1	19.9
1989-90	21.3	21.7					
1988-90							
Protein Content -							
1990	38.9	39.2	39.8	40.4	39.9	40.6	41.2
1989-90	39.2	39.8					
1988-90							
Seed size	16.6	15.3	13.5	15.1	12.7	15.7	13.3
Maturity index	+2	0	+8	+9	+8	+5	+8
Height	35	31	29	29	25	25	27
Seed quality	2.6	2.2	1.6	1.8	1.6	1.9	1.8
SDS severity score	1.5	1.4	1.2	1.7	2.2	1.4	2.3
SDS(percent with symptoms)	13	37	25	26	81	59	97
SCN race 3	R	S	S	R	S	R	S
SCN race 4	R	S	S	R	S	R	S
Flower color	P	W	W	S	W	W	P
Pubescence color	T	G	G	G	G	T	T
Pod wall color	T	T	T	T	T	T	T

TABLE 2 - SEED YIELD, IN BUSHELS PER ACRE, FOR THE STRAINS IN UNIFORM GROUP IV-S, 1990

LOCATION	DELLOY 4500	MD83- 5008	S85- 1163	V83- 1357	LS82- 3646	S86- 4499
EAST COAST						
QUEENSTOWN, MD	49.6	53.5	.	55.5	49.5	54.0
WARSAW, VA	40.1	50.2	44.2	51.0	54.7	52.2
MEAN	44.9	51.9	44.2	53.3	52.1	53.1
UPPER AND CENTRAL SOUTH						
ORANGE, VA	49.3	54.8	47.3	51.9	43.1	49.4
VILLA RIDGE, IL	47.5	44.0	37.1	46.9	46.1	47.2
PRINCETON, KY	41.5	59.0	41.4	52.6	48.6	39.5
MARTIN, TN	21.3	32.0	22.2	31.1	28.0	24.4
MEAN	39.9	47.5	37.0	45.6	41.4	40.1
DELTA						
PORTAGEVILLE, MO (A)	51.5	59.8	55.0	45.8	46.8	52.6
PORTAGEVILLE, MO (B)	27.0	43.9	35.4	36.6	39.0	36.3
KEISER, AR	47.8	55.2	35.6	51.3	45.9	39.8
JONESBORO, AR	43.9	40.6	30.9	45.2	41.3	36.6
PINE TREE, AR	22.6	42.9	32.1	40.0	34.1	27.4
STONEVILLE, MS (A)	40.3	47.3	37.8	44.6	41.5	46.0
STONEVILLE, MS (B)	29.6	32.9	26.7	35.5	32.6	25.8
MEAN	37.5	46.1	36.2	42.7	40.2	37.8
WEST						
CHANUTE, KS	36.9	37.6	36.4	36.7	32.6	36.7
PITTSBURG, KS	19.4	24.6	19.4	23.2	23.2	22.9
BIXBY, OK	30.5	42.9	38.7	30.2	34.7	35.3
BUSHLAND, TX	37.1	40.5	47.4	42.9	45.5	45.9
LUBBOCK, TX	40.5	47.1	43.1	39.2	42.5	43.1
MEAN	32.9	38.5	37.0	34.4	35.7	36.8



TABLE 2 - (continued)

LOCATION	V84- 484	D87- 3125	D87- 5951	K1170	LS84- 0920	V85- 3336	L.S.D. (.05)	C.V. (%)
EAST COAST								
QUEENSTOWN, MD	56.8	46.7	49.2	52.8	46.5	50.4	5.6	6.4
WARSAW, VA	42.7	44.2	46.0	51.1	50.3	52.8	9.0	11.0
MEAN	49.8	45.5	47.6	52.0	48.4	51.6		
UPPER AND CENTRAL SOUTH								
ORANGE, VA	51.3	44.2	27.0	52.9	56.6	51.3	8.1	10.0
VILLA RIDGE, IL	41.6	37.5	37.9	44.9	44.1	45.0	8.3	9.6
PRINCETON, KY	36.0	41.1	40.4	45.5	49.6	49.4	9.5	12.3
MARTIN, TN	21.5	27.2	25.3	35.8	27.5	27.2	7.2	15.7
MEAN	37.6	37.5	32.7	44.8	44.4	43.2		
DELTA								
PORTAGEVILLE, MO(A)	49.2	37.9	45.0	40.5	47.9	42.7	5.4	6.7
PORTAGEVILLE, MO(B)	29.7	43.8	38.2	40.0	39.3	34.0	5.7	9.2
KEISER, AR	44.1	47.6	47.4	48.3	44.4	54.6	7.0	8.8
JONESBORO, AR	40.7	33.7	45.3	45.2	43.7	38.1	10.3	11.0
PINE TREE, AR	29.2	39.9	36.7	35.6	36.0	37.9	6.3	8.0
STONEVILLE, MS(A)	36.7	42.7	41.7	42.9	44.8	43.9	8.4	11.6
STONEVILLE, MS(B)	23.8	34.1	35.2	31.3	28.4	31.5	5.7	10.9
MEAN	36.2	39.9	41.4	40.5	40.6	40.4		
WEST								
CHANUTE, KS	32.2	34.2	31.8	33.2	38.2	32.6	3.1	5.2
PITTSBURG, KS	19.4	26.6	24.2	28.0	22.9	26.6	2.8	7.1
BIXBY, OK	34.0	34.8	28.5	33.9	26.5	29.7	5.6	9.8
BUSHLAND, TX	40.4	27.2	29.3	47.5	47.3	42.1	6.7	9.6
LUBBOCK, TX	36.1	47.8	45.5	41.4	41.0	41.2	9.8	13.7
MEAN	32.4	34.1	31.9	36.8	35.2	34.4		

TABLE 3 - CHEMICAL COMPOSITION AND SEED SIZE FOR THE STRAINS IN UNIFORM GROUP IV-S, 1990

LOCATION	DEL SOY 4500	MD83- 5008	S85- 1163	V83- 1357	LS82- 3646	S86- 4499
OIL PERCENTAGE						
QUEENSTOWN, MD	19.9	19.6	20.6	18.6	18.2	20.3
WARSAW, VA	20.2	21.1	21.2	22.7	20.9	20.7
ORANGE, VA	20.7	21.7	21.8	20.2	20.7	21.8
VILLA RIDGE, IL	20.1	20.7	21.2	19.7	19.9	21.8
PRINCETON, KY	19.4	20.0	19.7	19.5	20.1	19.8
MARTIN, TN	19.9	20.0	20.5	18.7	18.8	20.6
PORTAGEVILLE, MO(A)	21.0	21.9	22.4	20.7	20.3	21.5
KEISER, AR	21.1	21.6	23.4	19.9	20.7	22.1
LUBBOCK, TX	20.9	21.6	21.4	20.3	21.0	21.5
MEAN	20.4	20.9	21.4	20.0	20.1	21.1
PROTEIN PERCENTAGE						
QUEENSTOWN, MD	40.8	38.0	36.7	42.7	41.5	38.0
WARSAW, VA	42.5	38.0	38.9	41.0	40.5	40.2
ORANGE, VA	39.5	35.2	36.9	41.4	38.2	36.2
VILLA RIDGE, IL	41.2	39.8	38.9	43.7	41.5	39.8
PRINCETON, KY	40.0	39.9	39.0	39.8	39.6	40.6
MARTIN, TN	41.1	39.7	38.1	43.3	41.5	38.1
PORTAGEVILLE, MO(A)	41.7	39.7	37.5	41.4	42.0	39.5
KEISER, AR	40.8	39.3	35.3	42.9	41.5	38.7
LUBBOCK, TX	41.4	38.2	39.0	41.3	40.1	39.3
MEAN	41.0	38.6	37.8	41.9	40.7	38.9
GRAMS PER 100 SEED						
QUEENSTOWN, MD	14.3	13.7	16.3	13.8	13.0	16.3
WARSAW, VA	16.1	14.2	17.4	15.2	13.6	19.0
ORANGE, VA	13.8	14.8	16.6	15.1	14.6	17.7
VILLA RIDGE, IL	13.2	12.6	14.2	12.7	12.2	16.0
PRINCETON, KY	11.1	13.6	16.4	12.8	13.7	14.1
PORTAGEVILLE, MO(A)	12.6	13.6	14.8	12.8	12.5	15.9
KEISER, AR	14.0	14.0	16.0	15.0	14.0	17.0
LUBBOCK, TX	13.9	14.3	16.1	14.4	14.5	16.4
MEAN	13.6	13.9	16.0	14.0	13.5	16.6

TABLE 3 - (continued)

LOCATION	V84- 484	D87- 3125	D87- 5951	K1170	LS84- 0920	V85- 3336
OIL PERCENTAGE						
QUEENSTOWN, MD	20.9	19.0	18.0	19.0	19.1	19.4
WARSAW, VA	21.6	19.8	19.6	20.9	21.1	20.6
ORANGE, VA	21.8	20.3	20.5	20.7	20.5	20.7
VILLA RIDGE, IL	21.4	19.8	18.8	19.9	19.5	18.9
PRINCETON, KY	21.3	20.9	20.3	20.1	20.4	20.9
MARTIN, TN	20.0	18.3	18.4	19.1	19.2	17.6
PORTAGEVILLE, MO(A)	22.6	20.4	20.9	21.4	20.2	19.8
KEISER, AR	24.2	19.9	20.2	20.4	21.0	20.3
LUBBOCK, TX	21.7	20.2	20.0	20.8	19.9	20.7
MEAN	21.7	19.8	19.6	20.3	20.1	19.9
PROTEIN PERCENTAGE						
QUEENSTOWN, MD	39.0	40.5	39.7	39.8	40.5	39.7
WARSAW, VA	39.9	40.7	41.3	40.2	39.8	41.6
ORANGE, VA	38.1	37.3	37.6	38.2	39.0	39.4
VILLA RIDGE, IL	40.2	40.1	41.9	40.6	41.5	43.0
PRINCETON, KY	37.7	39.9	42.0	39.2	39.6	40.8
MARTIN, TN	40.4	39.3	39.6	41.6	41.6	42.7
PORTAGEVILLE, MO(A)	39.5	39.2	39.3	39.5	41.6	41.9
KEISER, AR	37.5	41.6	41.5	41.2	40.5	41.7
LUBBOCK, TX	40.3	39.5	40.3	39.0	40.9	40.3
MEAN	39.2	39.8	40.4	39.9	40.6	41.2
GRAMS PER 100 SEED						
QUEENSTOWN, MD	16.4	13.9	15.6	12.6	15.7	12.9
WARSAW, VA	18.7	13.1	15.6	13.2	17.4	13.7
ORANGE, VA	17.0	14.2	16.5	13.5	17.8	14.3
VILLA RIDGE, IL	14.8	12.5	14.9	11.6	12.3	12.7
PRINCETON, KY	11.0	13.6	14.0	13.4	15.4	12.3
PORTAGEVILLE, MO(A)	14.9	11.8	14.5	11.3	13.9	11.3
KEISER, AR	15.5	14.0	14.0	12.5	16.5	14.0
LUBBOCK, TX	14.4	14.7	16.0	13.1	16.3	15.0
MEAN	15.3	13.5	15.1	12.7	15.7	13.3

TABLE 4 - RELATIVE MATURITY DATA, DAYS EARLIER (-) OR LATER (+) THAN DELSOY 4500, FOR THE STRAINS IN UNIFORM GROUP IV-S, 1990

LOCATION	DELSOY 4500	MD83- 5008	S85- 1163	V83- 1357	LS82- 3646	S86- 4499
EAST COAST						
QUEENSTOWN, MD	10/03	+9	+4	+7	+4	+2
WARSAW, VA	09/30	+8	+4	+9	+6	+3
MEAN	10/02	+8	+4	+8	+5	+2
UPPER AND CENTRAL SOUTH						
ORANGE, VA	10/04	+9	+2	+7	+8	+1
VILLA RIDGE, IL	10/07	+3	-2	+0	-1	-4
PRINCETON, KY	10/02	+15	+3	+11	+11	+0
MARTIN, TN	10/29	+0	-2	+0	-3	+0
MEAN	10/10	+7	+1	+5	+4	+0
DELTA						
PORTAGEVILLE, MO(A)	09/19	+16	+5	+14	+15	+3
PORTAGEVILLE, MO(B)	10/04	+17	+7	+16	+10	+3
KEISER, AR	09/29	+9	+1	+10	+4	-1
JONESBORO, AR	09/27	+8	+1	+7	+3	+1
PINE TREE, AR	09/21	+5	+1	+4	+4	+2
STONEVILLE, MS(A)	09/10	+8	+8	+6	+2	-1
STONEVILLE, MS(B)	09/17	+6	+1	+6	+3	+0
MEAN	09/22	+10	+4	+9	+6	+1
WEST						
BIXBY, OK	09/10	+16	+10	+5	+6	+16
LUBBOCK, TX	09/16	+21	+9	+23	+13	+5
MEAN	09/13	+19	+10	+14	+10	+11

TABLE 4 - (continued)

LOCATION	V84- 484	D87- 3125	D87- 5951	K1170	LS84- 0920	V85- 3336
EAST COAST						
QUEENSTOWN, MD	+1	+6	+9	+7	+3	+6
WARSAW, VA	+4	+6	+6	+8	+5	+7
MEAN	+2	+6	+7	+7	+4	+6
UPPER AND CENTRAL SOUTH						
ORANGE, VA	+3	+8	+8	+6	+5	+7
VILLA RIDGE, IL	-3	+1	+4	+0	-2	+1
PRINCETON, KY	-5	+10	+9	+9	+8	+10
MARTIN, TN	-3	-3	-3	-3	-3	-3
MEAN	-1	+5	+5	+4	+3	+4
DELTA						
PORTAGEVILLE, MO(A)	+5	+13	+16	+15	+8	+13
PORTAGEVILLE, MO(B)	+3	+11	+13	+14	+12	+17
KEISER, AR	-3	+7	+7	+10	+4	+7
JONESBORO, AR	-1	+3	+3	+6	+2	+8
PINE TREE, AR	-1	+4	+6	+3	+5	+7
STONEVILLE, MS(A)	-2	+7	+7	+8	+5	+8
STONEVILLE, MS(B)	+0	+4	+3	+7	+2	+6
MEAN	+1	+8	+8	+9	+6	+10
WEST						
BIXBY, OK	+5	+16	+16	+3	+6	+5
LUBBOCK, TX	+1	+21	+24	+25	+7	+25
MEAN	+3	+19	+20	+14	+7	+15

TABLE 5 - PLANT HEIGHT FOR THE STRAINS IN UNIFORM GROUP IV-S, 1990

LOCATION	DELROY 4500	MD83- 5008	S85- 1163	V83- 1357	LS82- 3646	S86- 4499
EAST COAST						
QUEENSTOWN, MD	37	36	36	27	32	37
WARSAW, VA	27	23	30	21	28	30
MEAN	32	30	33	24	30	34
UPPER AND CENTRAL SOUTH						
ORANGE, VA	46	39	40	33	36	46
VILLA RIDGE, IL	37	32	40	30	31	40
PRINCETON, KY	36	33	39	31	35	41
MARTIN, TN	34	29	34	26	36	32
MEAN	38	33	38	30	34	40
DELTA						
PORTAGEVILLE, MO(A)	33	30	39	21	23	43
PORTAGEVILLE, MO(B)	27	27	35	22	26	32
KEISER, AR	30	23	28	20	21	30
PINE TREE, AR	24	22	29	19	21	27
STONEVILLE, MS(A)	35	25	36	21	25	36
STONEVILLE, MS(B)	32	19	29	21	23	28
JONESBORO, AR	47	36	43	30	37	41
MEAN	33	26	34	22	25	34
WEST						
CHANUTE, KS	39	34	36	26	29	37
PITTSBURG, KS	26	28	25	22	30	27
BIXBY, OK	37	31	37	26	25	35
BUSHLAND, TX	28	21	28	20	21	32
LUBBOCK, TX	28	22	31	21	22	32
MEAN	32	27	31	23	25	33

TABLE 5 - ( continued)

LOCATION	V84- 484	D87- 3125	D87- 5951	K1170	LS84- 0920	V85- 3336
EAST COAST						
QUEENSTOWN, MD	38	32	32	28	27	32
WARSAW, VA	25	26	25	21	23	24
MEAN	32	29	29	25	25	28
UPPER AND CENTRAL SOUTH						
ORANGE, VA	44	39	41	32	39	35
VILLA RIDGE, IL	40	31	32	30	27	33
PRINCETON, KY	39	36	33	32	34	33
MARTIN, TN	29	30	32	30	30	33
MEAN	38	34	34	31	33	33
DELTA						
PORTAGEVILLE, MO (A)	32	28	24	21	24	26
PORTAGEVILLE, MO (B)	25	30	29	22	24	22
KEISER, AR	29	25	29	20	18	22
PINE TREE, AR	25	25	26	20	22	23
STONEVILLE, MS (A)	27	27	24	21	18	26
STONEVILLE, MS (B)	23	23	25	19	19	25
JONESBORO, AR	36	35	39	32	33	32
MEAN	28	28	28	22	23	25
WEST						
CHANUTE, KS	36	33	32	25	28	28
PITTSBURG, KS	25	32	32	25	25	27
BIXBY, OK	29	30	31	24	23	29
BUSHLAND, TX	25	24	20	19	19	22
LUBBOCK, TX	25	23	24	22	18	22
MEAN	28	28	28	23	23	26

TABLE 6 - LODGING SCORES FOR THE STRAINS IN UNIFORM GROUP IV-S, 1990

LOCATION	DELLOY 4500	MD83- 5008	S85- 1163	V83- 1357	LS82- 3646	S86- 4499
EAST COAST						
QUEENSTOWN, MD	2.5	3.0	2.7	2.0	2.3	2.0
WARSAW, VA	1.0	1.5	1.3	1.0	1.0	1.0
UPPER AND CENTRAL SOUTH						
ORANGE, VA	1.3	3.3	3.0	1.7	2.0	1.7
VILLA RIDGE, IL	2.1	4.4	2.0	1.1	1.2	1.2
PRINCETON, KY	1.0	2.7	1.7	1.0	1.7	1.0
MARTIN, TN	1.0	3.7	1.0	1.0	3.0	1.3
DELTA						
PORTAGEVILLE, MO(A)	1.0	1.5	1.5	1.0	1.0	1.5
PORTAGEVILLE, MO(B)	1.0	1.5	1.0	1.0	1.0	1.0
KEISER, AR	1.0	1.0	1.0	1.0	1.0	1.0
PINE TREE, AR	1.0	1.3	1.3	1.0	1.0	1.3
STONEVILLE, MS(A)	1.3	2.0	2.7	2.0	1.7	1.7
STONEVILLE, MS(B)	1.3	2.0	1.7	1.7	1.0	1.7
JONESBORO, AR	2.7	3.3	4.0	2.0	2.7	3.3
WEST						
CHANUTE, KS	1.3	1.3	1.0	1.0	1.0	1.0
PITTSBURG, KS	1.0	1.7	1.0	1.0	1.7	1.0
BIXBY, OK	0.0	0.0	3.0	0.0	0.0	1.0
BUSHLAND, TX	1.7	4.2	2.2	1.5	1.8	2.0
LUBBOCK, TX	2.2	1.7	2.5	1.5	1.7	2.0



TABLE 6 - (continued)

LOCATION	V84- 484	D87- 3125	D87- 5951	K1170	LS84- 0920	V85- 3336
EAST COAST						
QUEENSTOWN, MD	2.5	3.5	3.5	2.0	2.2	2.5
WARSAW, VA	1.0	1.7	2.2	1.0	1.0	1.0
UPPER AND CENTRAL SOUTH						
ORANGE, VA	2.3	3.3	5.0	1.0	2.0	2.0
VILLA RIDGE, IL	1.3	4.6	4.9	1.0	2.0	1.4
PRINCETON, KY	1.0	4.0	4.0	1.0	1.0	1.0
MARTIN, TN	1.0	5.0	5.0	1.0	1.7	1.7
DELTA						
PORTAGEVILLE, MO(A)	1.5	1.0	1.0	1.0	1.0	1.0
PORTAGEVILLE, MO(B)	1.0	2.0	2.5	1.0	1.0	1.0
KEISER, AR	1.0	2.0	2.0	1.0	1.0	1.0
PINE TREE, AR	1.0	2.0	2.0	1.0	1.3	1.0
STONEVILLE, MS(A)	2.0	2.0	2.0	2.0	2.0	2.0
STONEVILLE, MS(B)	1.7	2.0	2.7	2.0	1.0	2.0
JONESBORO, AR	2.7	3.0	4.3	1.7	2.7	2.7
WEST						
CHANUTE, KS	1.0	2.3	3.0	1.0	1.0	1.0
PITTSBURG, KS	1.0	2.7	3.0	1.0	1.0	1.0
BIXBY, OK	0.0	3.0	3.0	0.0	0.0	0.0
BUSHLAND, TX	2.0	4.0	4.0	2.0	1.7	1.7
LUBBOCK, TX	2.0	3.7	4.2	1.5	1.5	1.5

TABLE 7 - SEED QUALITY SCORES FOR THE STRAINS IN UNIFORM GROUP IV-S, 1990

LOCATION	DELROY 4500	MD83- 5008	S85- 1163	V83- 1357	LS82- 3646	S86- 4499
EAST COAST						
QUEENSTOWN, MD	1.2	1.2	2.0	1.0	1.2	2.0
WARSAW, VA	1.5	1.2	1.8	1.2	1.0	2.0
UPPER AND CENTRAL SOUTH						
ORANGE, VA	1.0	1.0	1.5	1.0	1.5	1.3
VILLA RIDGE, IL	2.0	2.0	3.0	2.0	1.0	3.0
DELTA						
PORTAGEVILLE, MO(A)	2.0	2.5	2.0	2.0	2.0	2.5
PORTAGEVILLE, MO(B)	2.0	2.0	3.0	1.5	2.0	2.5
KEISER, AR	3.5	2.0	2.5	1.5	2.0	3.5
PINE TREE, AR	4.3	1.3	4.0	1.7	2.0	4.7
STONEVILLE, MS(A)	2.0	2.0	2.0	2.0	2.0	2.0
STONEVILLE, MS(B)	2.0	2.0	2.0	2.0	2.0	2.0
JONESBORO, AR	3.0	2.0	3.3	1.0	2.0	3.0
WEST						
CHANUTE, KS	3.0	3.0	3.0	1.0	3.0	4.0
PITTSBURG, KS	1.0	2.0	3.0	2.0	3.0	2.0
BUSHLAND, TX	1.5	1.5	2.5	1.0	1.7	2.5
LUBBOCK, TX	2.0	2.2	2.7	1.2	2.5	2.5

TABLE 7 - (continued)

LOCATION	V84- 484	D87- 3125	D87- 5951	K1170	LS84- 0920	V85- 3336
EAST COAST						
QUEENSTOWN, MD	1.0	1.0	1.2	1.0	2.0	1.0
WARSAW, VA	1.5	1.0	1.2	1.0	1.5	1.2
UPPER AND CENTRAL SOUTH						
ORANGE, VA	1.0	1.2	1.7	1.0	1.0	1.0
VILLA RIDGE, IL	2.0	2.0	2.0	2.0	2.0	2.0
DELTA						
PORTAGEVILLE, MO(A)	2.0	2.0	1.5	1.5	2.0	2.5
PORTAGEVILLE, MO(B)	2.0	1.5	2.0	2.0	1.5	2.5
KEISER, AR	2.5	1.5	2.5	1.5	2.0	1.5
PINE TREE, AR	4.0	1.0	1.7	1.0	1.3	2.3
STONEVILLE, MS(A)	2.0	2.0	2.0	2.0	2.0	2.0
STONEVILLE, MS(B)	2.0	2.0	2.0	2.0	2.0	2.0
JONESBORO, AR	3.0	1.3	1.3	1.0	2.7	1.7
WEST						
CHANUTE, KS	3.0	2.0	3.0	2.0	2.0	2.0
PITTSBURG, KS	2.0	2.0	2.0	2.0	2.0	2.0
BUSHLAND, TX	2.2	1.5	1.0	2.0	2.0	1.0
LUBBOCK, TX	3.0	1.7	1.7	2.2	2.5	1.7

PRELIMINARY GROUP IV-S

1990

Preliminary Group IV-S nurseries, which included Delsoy 4500 and Stafford, along with 34 experimental strains, were grown at 8 locations. Table 8 gives the parentage for each of these strains. A general summary of performance is reported in Table 9. Data from individual locations are reported in Tables 10-14.

The mean seed yield for all locations was 40.7 bushels per acre, with a range in yield among strains of 45.6 to 31.9 bushels per acre. The mean yield for Delsoy 4500 was 41.4 bushels per acre. One strain had an overall mean seed yield significantly higher than that for Delsoy 4500 and five had mean seed yields significantly below that of Delsoy 4500. Delsoy 4500 had a mean protein content of 41.6 and a mean oil percentage of 20.8. Ten strains had a significantly lower percentage protein and thirteen strains had significantly lower oil percentage. Stafford is at the late range of maturity for this group. Eight strains had an average maturity date later than that for Stafford.

Twenty-three of the strains were rated resistant to SCN race 3. Sixteen of these were also rated resistant to SCN race 4.

TABLE 8 - PARENTAGE OF THE STRAINS GROWN IN PRELIMINARY GROUP IV-S, 1990

VARIETY OR STRAIN	PARENTAGE
1. DELSOY 4500	CUMBERLAND X FORREST
2. STAFFORD	V66-318 X V68-2331
3. D83-3349	BEDFORD X sel[FORREST x sel(PEK X CENT )]
4. D87-3088	D65-2262 X FORREST
5. D87-3090	D65-2262 X FORREST
6. D87-3132	D65-2262 X FORREST
7. D87-3565	D82-3811 X J81-116
8. D87-3639	D82-3811 X J81-116
9. D87-5987	EPPS X D86-2262
10. D88-3690	EPPS X D65-2262
11. K1192	SHERMAN X BAY
12. K1193	PERSHING X K1103
13. K1194	PERSHING X K1103
14. K1195	SHERMAN X K1103
15. K1196	K1099 X PERSHING
16. KY85-5016	PENNYRILE X AP350
17. KY85-7091	SPARKS X ESSEX
18. KY85-8075	DOUGLAS X ELF
19. LS85-4950	MACK X CRAWFORD
20. LS86-0255	ESSEX X LS78-W124-1
21. LS86-0356	ESSEX X LS78-W124-1
22. LS86-0673	ESSEX X LS78-W124-1
23. LS86-1717	PYRAMID X LS78-W124-1
24. LS86-1922	PYRAMID X LS78-W124-1
25. LS86-4615	ESSEX X LS78-W124-1
26. LS87-1104	RAX15-74 X GREEN 759
27. MD87-5156	MORGAN X MD77-5675
28. MD87-5602	PERSHING X D77-5169
29. S86-4436	L77-443 X DOUGLAS
30. S87-1021	FAYETTE X S79-4296
31. S88-1458	S82-1044 X S79-4296
32. S88-1459	S82-1044 X S79-4296
33. S88-1464	S82-1044 X S79-4296
34. S88-1466	S82-1044 X S79-4296
35. TN85-117	ESSEX X D72-8927
36. V86-3255	ESSEX X N77-114

TABLE 9 - GENERAL SUMMARY OF PERFORMANCE FOR THE STRAINS GROWN IN PRELIMINARY GROUP IVS, 1990

STRAIN	SEED YIELD	MAT. INDEX	-----PERCENT-----			SCN 3	SCN 4
			HT.	OIL	PROTEIN		
DELLOY 4500	41.4	09/28	34	20.8	41.6	R	S
STAFFORD	39.8	11+	23	21.5	40.1-	S	S
D83-3349	41.7	11+	25	19.2-	42.0	R	S*
D87-3088	40.8	11+	29	20.4	40.5-	R	S
D87-3090	40.2	13+	28	19.1-	42.3	R	S
D87-3132	37.9	14+	29	18.9-	41.4	R	S
D87-3565	36.7-	15+	36	20.1	40.0-	R	S
D87-3639	42.4	13+	32	19.2-	41.7	S	S
D87-5987	36.9-	14+	29	19.5-	42.6	R	R
D88-3690	31.9-	13+	29	19.5-	42.2	R	R
K1192	44.7	7+	35	20.5	42.2	S	S
K1193	44.1	7+	22	20.2	39.6-	R	S
K1194	44.5	10+	26	19.9-	40.4-	S	S
K1195	43.8	12+	24	21.1	39.9-	S	S
K1196	45.6+	12+	26	20.7	40.8	S	S
KY85-5016	41.6	2+	39	21.3	40.9	S	S
KY85-7091	40.9	2+	28	20.7	41.5	S	S
KY85-8075	37.0-	1-	31	21.0	41.3	S	S
LS85-4950	39.7	5+	27	20.8	38.9-	R	R
LS86-0255	40.0	5+	26	20.1	40.9	R	R
LS86-0356	41.6	9+	30	19.4-	41.6	R	R
LS86-0673	37.3-	7+	28	19.4-	42.1	R	R
LS86-1717	40.3	4+	28	21.2	40.9	R	S
LS86-1922	39.8	1+	36	21.2	39.9-	R	R
LS86-4615	41.1	5+	27	20.0-	41.4	R	R
LS87-1104	40.7	4+	21	19.8-	41.9	S	S
MD87-5156	39.4	1+	29	20.8	41.9	S	S
MD87-5602	41.3	7+	25	19.9-	41.2	R	R
S86-4436	38.6	1+	30	21.0	42.1	R	R
S87-1021	42.0	2+	40	20.4	42.2	R	R
S88-1458	42.7	1+	38	20.9	42.6	R	R
S88-1459	43.1	3+	39	21.3	42.1	R	R
S88-1464	40.5	3+	37	21.7+	41.2	R	R
S88-1466	43.8	4+	39	21.4	41.7	R	R
TN85-117	39.0	10+	33	19.2-	40.2-	S	S
V86-3255	41.6	8+	26	20.6	39.2-	R	R
LSD (.05)	4.1			0.7	1.1		
C.V.	10%			2%	2%		

+ or - designations refer to differences from Delsoy 4500.

\*resistant to SCN Race 5.

TABLE 10 - SEED YIELD, IN BUSHEL PER ACRE, FOR THE STRAINS IN PRELIMINARY GROUP IVS, 1990

STRAIN	QUEENS- TOWN, MD	KEISER, AR	PORTAGE- VILLE, MO	WARSAW, VA	CARBON- DALE, IL	OTTAWA, KS	PRINCE- TON, KY	STONE- VILLE, MS (B)
DELROY 4500	47.3	53.2	41.5	44.8	39.6	32.1	41.2	31.4
STAFFORD	53.8	39.7-	47.7	52.6	32.2	33.6	36.6	22.3-
D83-3349	52.6	52.7	43.3	47.9	36.1	29.6	38.8	32.3
D87-3088	50.8	54.1	41.4	44.7	32.6	28.6	42.6	31.4
D87-3090	51.6	49.7	40.2	41.8	28.8-	27.6-	42.5	39.6+
D87-3132	52.2	46.9	42.6	41.8	20.7-	25.1-	39.1	35.1
D87-3565	38.3-	37.9-	44.0	38.0	33.0	29.4	39.3	33.7
D87-3639	50.0	47.8	49.4+	45.3	37.0	30.6	45.5	34.0
D87-5987	39.7	44.1-	44.8	37.3	29.7-	23.0-	41.7	34.6
D88-3690	37.1-	34.0-	33.6-	29.5-	34.5	20.0-	35.5	31.3
K1192	54.3	52.3	45.7	51.8	40.9	33.7	40.9	38.2+
K1193	58.0+	56.9	39.2	49.1	40.8	35.1	45.8	27.5
K1194	55.2	59.3	43.1	48.7	42.1	29.7	41.1	36.8
K1195	56.4+	51.6	40.8	54.1+	40.0	32.6	47.9	27.4
K1196	55.2	56.2	44.5	51.7	37.0	34.1	52.3+	33.5
KY85-5016	57.8+	52.9	39.7	47.2	33.5	26.1-	38.6	36.6
KY85-7091	58.8+	53.9	34.1	43.8	29.9-	33.6	36.1	37.3
KY85-8075	53.9	45.9	31.9-	46.5	30.3-	28.2	36.6	22.3-
LS85-4950	51.8	48.9	39.4	44.4	38.0	26.1-	40.3	28.3
LS86-0255	44.3	53.9	41.6	44.6	39.0	32.2	40.8	23.8-
LS86-0356	51.8	51.3	46.1	44.5	38.6	32.7	38.2	30.0
LS86-0673	47.5	51.7	40.4	39.9	32.0	24.6-	32.4	29.9
LS86-1717	56.5+	52.2	37.7	48.3	34.6	27.7-	35.8	29.7
LS86-1922	51.5	49.4	40.1	39.0	39.7	33.1	38.0	27.4
LS86-4615	47.9	48.1	43.9	49.7	40.2	30.6	41.4	27.3
LS87-1104	49.9	54.8	35.7	48.3	38.1	31.5	41.4	26.2
MD87-5156	49.5	54.2	30.9-	49.6	34.0	36.1	36.5	24.6-
MD87-5602	54.5	50.6	38.2	50.1	34.3	31.0	41.9	29.9
S86-4436	51.8	48.9	41.2	42.6	31.3-	29.2	32.8	30.6
S87-1021	47.7	43.9-	43.4	53.4+	31.5-	29.1	52.5+	34.2
S88-1458	43.2	56.0	41.0	50.6	37.6	31.8	41.3	40.1+
S88-1459	48.8	55.9	47.6	51.0	37.1	31.2	36.0	36.8
S88-1464	50.7	46.8	44.2	42.0	37.8	30.2	37.2	35.3
S88-1466	53.0	57.2	43.4	52.9+	39.6	30.7	37.5	36.2
TN85-117	43.3	52.1	43.7	40.5	38.6	27.1-	39.4	27.1
V86-3255	52.5	51.0	43.3	46.1	35.9	34.1	39.9	30.4
LSD (.05)	9.0	8.5	7.5	8.1	8.1	4.3	10.3	6.3
C.V.	9%	8%	9%	9%	12%	7%	13%	10%

TABLE 11 - OIL PERCENTAGES FOR THE STRAINS IN PRELIMINARY GROUP IVS, 1990

STRAIN	QUEENS- TOWN, MD	KEISER, AR	PORTAGE- VILLE, MO	WARSAW, VA
DELLOY 4500	19.6	21.4	21.4	20.9
STAFFORD	20.2	23.1	22.0	20.8
D83-3349	18.3	19.7	18.9	20.0
D87-3088	19.0	21.3	20.9	20.5
D87-3090	18.7	19.5	19.2	19.1
D87-3132	17.8	19.6	19.1	18.9
D87-3565	18.9	21.3	20.4	19.7
D87-3639	17.9	19.8	19.6	19.3
D87-5987	18.6	20.6	20.1	18.8
D88-3690	18.0	21.4	19.7	19.0
K1192	20.2	20.9	20.3	20.6
K1193	19.3	20.4	20.4	20.5
K1194	18.7	20.1	20.5	20.2
K1195	19.9	21.5	21.7	21.1
K1196	18.9	21.6	21.4	20.7
KY85-5016	20.9	22.3	21.4	20.4
KY85-7091	20.5	20.9	20.8	20.6
KY85-8075	20.1	22.3	20.6	21.0
LS85-4950	19.4	21.4	21.4	21.1
LS86-0255	18.6	20.7	20.9	20.2
LS86-0356	18.8	20.0	19.6	19.3
LS86-0673	18.3	20.7	18.8	19.6
LS86-1717	20.1	21.7	21.4	21.6
LS86-1922	20.4	22.5	20.8	20.9
LS86-4615	18.0	21.2	21.4	19.5
LS87-1104	18.3	20.9	20.0	20.1
MD87-5156	20.1	21.6	.	20.6
MD87-5602	18.6	20.7	19.7	20.4
S86-4436	21.0	21.7	20.6	20.8
S87-1021	19.4	21.5	20.6	20.0
S88-1458	19.9	21.9	20.8	20.9
S88-1459	19.9	22.0	21.8	21.4
S88-1464	21.2	22.2	21.9	21.3
S88-1466	20.4	22.5	21.7	20.9
TN85-117	18.6	20.0	18.9	19.2
V86-3255	19.6	21.3	21.0	20.5



TABLE 12 - PROTEIN PERCENTAGES FOR THE STRAINS IN PRELIMINARY GROUP IVS, 1990

STRAIN	QUEENS-TOWN, MD	KEISER, AR	PORTAGE-VILLE, MO	WARSAW, VA
DELLOY 4500	41.3	40.8	42.1	42.1
STAFFORD	38.9	38.3	39.4	43.8
D83-3349	40.8	42.0	43.1	41.9
D87-3088	39.6	40.6	41.3	40.5
D87-3090	41.0	42.9	42.8	42.3
D87-3132	40.7	41.6	42.3	40.8
D87-3565	38.7	40.1	40.9	40.4
D87-3639	40.9	42.2	42.5	41.0
D87-5987	42.1	42.3	42.5	43.5
D88-3690	41.4	40.9	42.9	43.5
K1192	41.8	42.1	42.5	42.5
K1193	38.9	39.6	39.8	40.0
K1194	40.5	40.4	40.3	40.3
K1195	40.2	39.6	39.5	40.2
K1196	41.2	40.7	40.5	40.7
KY85-5016	40.2	40.2	41.0	42.3
KY85-7091	40.2	41.7	41.6	42.5
KY85-8075	40.5	40.2	42.7	41.8
LS85-4950	38.1	39.0	39.3	39.2
LS86-0255	41.3	40.5	40.3	41.6
LS86-0356	41.6	41.2	41.3	42.3
LS86-0673	42.3	40.7	43.2	42.1
LS86-1717	40.5	40.7	41.6	40.7
LS86-1922	39.8	39.0	40.4	40.5
LS86-4615	41.5	40.5	40.8	42.7
LS87-1104	42.6	40.8	42.2	41.8
MD87-5156	41.1	42.4	.	42.3
MD87-5602	41.7	41.3	40.6	41.0
S86-4436	40.8	42.1	42.9	42.6
S87-1021	42.8	41.0	42.0	42.8
S88-1458	42.3	41.1	43.9	43.2
S88-1459	41.5	42.1	42.8	41.9
S88-1464	40.9	41.1	43.0	39.6
S88-1466	41.3	40.1	42.6	42.6
TN85-117	40.2	40.2	39.8	40.7
V86-3255	39.0	39.1	39.2	39.5

TABLE 13 - PLANT HEIGHT PERCENTAGES FOR THE STRAINS IN PRELIMINARY GROUP IVS, 1990

STRAIN	QUEENS-TOWN, MD	KEISER, AR	PORTAGE-VILLE, MO	WARSAW, VA	CARBON-DALE, IL	OTTAWA, KS	PRINCE-TON, KY	STONE-VILLE, MS (B)
DELLOY 4500	38.0	38.0	33.0	29.0	29.0	37.0	39.0	28.0
STAFFORD	29.0	18.0	26.0	21.0	22.0	23.0	34.0	14.0
D83-3349	29.0	23.0	23.0	27.0	21.0	28.0	31.0	18.0
D87-3088	32.0	28.0	25.0	28.0	28.0	34.0	38.0	18.0
D87-3090	34.0	24.0	22.0	34.0	26.0	33.0	35.0	20.0
D87-3132	34.0	28.0	30.0	30.0	23.0	33.0	31.0	20.0
D87-3565	42.0	33.0	33.0	37.0	27.0	40.0	46.0	28.0
D87-3639	40.0	30.0	33.0	31.0	24.0	36.0	42.0	24.0
D87-5987	38.0	27.0	29.0	27.0	25.0	31.0	35.0	23.0
D88-3690	36.0	22.0	31.0	28.0	24.0	34.0	36.0	20.0
K1192	42.0	37.0	35.0	28.0	28.0	34.0	42.0	31.0
K1193	30.0	24.0	15.0	20.0	23.0	21.0	28.0	13.0
K1194	37.0	24.0	20.0	22.0	27.0	27.0	31.0	20.0
K1195	33.0	24.0	22.0	21.0	21.0	24.0	34.0	15.0
K1196	34.0	23.0	22.0	22.0	25.0	26.0	34.0	18.0
KY85-5016	49.0	33.0	48.0	33.0	30.0	45.0	45.0	31.0
KY85-7091	34.0	28.0	28.0	24.0	24.0	29.0	32.0	22.0
KY85-8075	39.0	31.0	33.0	26.0	22.0	36.0	37.0	27.0
LS85-4950	37.0	24.0	26.0	26.0	23.0	31.0	35.0	18.0
LS86-0255	33.0	25.0	23.0	23.0	27.0	26.0	37.0	18.0
LS86-0356	38.0	32.0	26.0	27.0	30.0	38.0	37.0	16.0
LS86-0673	35.0	24.0	25.0	25.0	25.0	32.0	36.0	21.0
LS86-1717	35.0	23.0	29.0	26.0	25.0	30.0	38.0	21.0
LS86-1922	46.0	38.0	38.0	27.0	32.0	41.0	44.0	26.0
LS86-4615	32.0	25.0	27.0	24.0	25.0	29.0	35.0	16.0
LS87-1104	27.0	17.0	15.0	20.0	17.0	24.0	30.0	16.0
MD87-5156	36.0	28.0	22.0	25.0	25.0	36.0	38.0	20.0
MD87-5602	31.0	22.0	21.0	23.0	23.0	25.0	34.0	20.0
S86-4436	35.0	33.0	32.0	23.0	27.0	34.0	35.0	23.0
S87-1021	47.0	42.0	43.0	37.0	30.0	39.0	45.0	33.0
S88-1458	42.0	38.0	40.0	33.0	34.0	41.0	43.0	35.0
S88-1459	45.0	38.0	42.0	32.0	31.0	41.0	44.0	36.0
S88-1464	44.0	41.0	39.0	33.0	32.0	39.0	41.0	30.0
S88-1466	42.0	34.0	43.0	33.0	34.0	44.0	44.0	36.0
TN85-117	40.0	33.0	34.0	29.0	29.0	36.0	44.0	19.0
V86-3255	35.0	24.0	24.0	22.0	21.0	29.0	34.0	16.0

TABLE 14 - SEED QUALITY SCORES FOR THE STRAINS IN PRELIMINARY GROUP IVS, 1990

STRAIN	QUEENS-TOWN, MD	KEISER, AR	PORTAGE-VILLE, MO	WARSAW, VA	CARBON-DALE, IL	OTTAWA, KS	STONE-VILLE, MS (B)
DELLOY 4500	1.0	2.5	2.5	1.8	1.0	2.0	2.0
STAFFORD	1.0	1.5	2.0	1.8	2.0	2.0	2.0
D83-3349	1.3	1.5	2.0	1.8	3.0	2.0	2.0
D87-3088	1.5	1.0	2.0	1.2	2.0	1.0	2.0
D87-3090	1.8	1.0	2.0	1.2	3.0	2.0	2.0
D87-3132	1.5	2.0	2.5	1.2	3.0	2.0	2.0
D87-3565	2.0	2.0	2.5	2.0	4.0	3.0	2.0
D87-3639	2.0	1.5	2.5	1.8	2.0	2.0	2.0
D87-5987	1.3	2.0	3.0	1.5	2.0	1.0	2.0
D88-3690	1.0	2.5	2.0	1.0	2.0	2.0	2.0
K1192	1.0	1.5	1.5	1.0	2.0	2.0	2.0
K1193	1.0	2.0	1.5	1.0	2.0	2.0	2.0
K1194	1.0	1.5	1.5	1.2	2.0	2.0	2.0
K1195	1.0	1.5	1.5	1.0	2.0	2.0	2.0
K1196	1.0	1.0	1.5	1.0	1.0	2.0	2.0
KY85-5016	1.3	3.5	3.5	1.8	2.0	3.0	2.0
KY85-7091	1.0	2.5	2.5	1.8	4.0	2.0	3.0
KY85-8075	2.0	3.5	3.5	2.0	2.0	3.0	2.5
LS85-4950	1.0	2.5	2.0	1.0	2.0	2.0	2.0
LS86-0255	1.0	2.5	2.5	1.2	2.0	2.0	2.0
LS86-0356	1.5	1.5	2.0	1.2	2.0	3.0	2.0
LS86-0673	1.3	2.5	2.0	1.2	1.0	2.0	2.0
LS86-1717	1.0	2.5	2.5	1.8	3.0	1.0	2.0
LS86-1922	1.3	2.5	3.0	1.5	2.0	2.0	2.0
LS86-4615	1.0	2.0	2.0	1.0	2.0	2.0	2.0
LS87-1104	1.5	2.0	2.5	1.2	2.0	2.0	2.0
MD87-5156	1.0	2.5	2.0	1.2	1.0	3.0	2.0
MD87-5602	1.0	2.0	2.0	1.0	3.0	1.0	2.0
S86-4436	2.8	3.0	3.0	2.2	3.0	3.0	2.0
S87-1021	2.0	3.5	3.0	1.2	2.0	4.0	2.0
S88-1458	2.0	2.0	4.0	1.5	2.0	3.0	2.0
S88-1459	1.8	3.0	3.5	1.8	3.0	3.0	2.0
S88-1464	2.0	3.0	4.0	1.5	2.0	2.0	2.5
S88-1466	1.8	2.0	4.0	1.5	3.0	3.0	2.5
TN85-117	1.0	1.5	1.5	1.0	1.0	2.0	2.0
V86-3255	1.0	2.0	1.5	1.0	2.0	2.0	2.0

UNIFORM GROUP V

1990

VARIETY OR STRAIN	PARENTAGE	GENERATION COMPOSITED
1. ESSEX	LEE X S55-7075	F5
2. WALTERS	FORREST X NAROW	F5
3. N85-578	N77-179 X JOHNSTON	F5
4. R85-3280	NAROW X R75-579	F5
5. S85-1706	BEDFORD X ESSEX	F5
6. K81-27-278	FORREST X ESSEX	F5
7. N86-7687	N77-114 X PIXIE	F5
8. TN85-157	D72-8927 X TN80-83	F5
9. D87-5967	EPPS X D65-2262	F5
10. KY85-11020	ESSEX X ELF	F5
11. N87-325	N77-114 X N77-179	F5
12. S88-2036	FORREST(3) X PI 43765	F5

Background of lines used as parents:

S55-7075 is a selection from N48-1248 X Perry which was grown in Uniform Group VI. N48-1248 has the same parentage as Hood.  
N77-179 was grown in Uniform Group V in 1980.  
R75-579 is a selection from Forrest and Mack.  
N77-114 is a selection from Essex X N70-2173. N70-2173 was grown in Uniform Group VI in 1980.  
D72-8927 is a selection from D66-12392 X (Hill(2) x PI 90763).  
Tn80-83 is a selection from Essex X J74-40.  
D65-2262 is a selection from D54-2437 X PI 261467.

UNIFORM GROUP V

1990

Uniform Group V nurseries were grown at 32 locations. Data from these plantings are summarized in Tables 15-21. Table 15 gives a general summary of performance including agronomic data, seed composition, reaction to diseases and nematodes, and general plant characteristics. Data from individual locations are reported in Tables 16-21.

Walters replaced Forrest as a check in the 1990 plantings.

Plantings were made in the greenhouse at Jackson, TN to evaluate strains for reaction to SCN races 3 and 4. Six strains were rated resistant to SCN race 3. Four were also resistant to race 4. S88-2036 represents a breakthrough in resistance to the soybean cyst nematode. This strain has a gene combination that gives resistance to all known races of SCN. S88-2036 is being increased for release as Hartwig.

Plantings were made in the greenhouse at the University of Georgia to evaluate for reaction to the two root knot species *Meloidigyne incognita* and *M. arenaria*. Four strains received low ratings for both species of the root knot nematode. Only one strain appeared highly susceptible to *M. incognita*. This strain also had a high rating for reaction to *M. arenaria*.

A planting was made in the field at Villa Ridge, IL where SDS was expected to cause injury to susceptible strains. Ratings are reported for the R6 growth stage. Percent of plants showing disease symptoms range from 5 to 92%. But severity scores were relatively low for all strains, with scores ranging from 1.1 to 1.8. D87-5967 and S88-2036 each had 5% or less plants showing disease symptoms. Both of these are resistant to SCN races 3 and 4. SCN was present in the test area.

Three strains, N85-578, R85-3280, and S85-1706 have been evaluated three years. Two strains, N86-7687 and Tn85-157 have been evaluated two years. Four strains were evaluated one year.

TABLE 15 - GENERAL SUMMARY OF PERFORMANCE FOR THE STRAINS GROWN IN UNIFORM GROUP V, 1990

	NO. OF LOCATIONS	ESSEX	WALTERS	N85- 578	R85- 3280	S85- 1706
Seed Yield - 1990						
East Coast	5	58.3	52.9	58.4	52.2	54.4
Upper and Central South	9	40.9	41.1	44.8	38.5	39.0
Delta	9	44.9	48.0	49.8	47.8	45.5
West	6	38.6	41.7	42.5	44.6	38.7
1989-90						
East Coast		52.0	50.3	54.8	49.2	49.4
Upper & Central South		43.1	41.2	47.2	40.9	41.5
Delta		44.4	43.5	49.4	45.8	46.0
West		37.7	37.0	41.8	43.1	36.8
1988-90						
East Coast		47.2	47.7	51.1	45.4	46.3
Upper & Central South		42.4	38.0	46.0	42.2	41.7
Delta		44.3	42.7	49.7	46.9	46.7
West		38.3	38.8	42.5	43.1	38.0
Oil Content - 1990						
		20.6	20.6	21.8	19.8	20.0
	1989-90	20.5	20.4	21.7	19.7	20.2
	1988-90	20.6	20.5	21.7	20.1	20.3
Protein Content - 1990						
		42.0	39.5	37.6	40.9	38.4
	1989-90	41.9	39.7	37.8	40.9	38.5
	1988-90	41.6	40.1	37.7	40.2	38.2
Seed size		14.5	13.5	15.6	13.4	15.1
Maturity index		10-6	+4	+2	+6	+3
Height		26	32	26	30	30
Seed quality		1.5	1.7	1.8	1.6	1.7
SDS severity score		1.7	1.8	1.6	1.5	1.2
SDS(percent with symptoms)		92	83	62	75	25
M. incognita		1.5	1.0	2.2	1.5	1.0
M. arenaria		5.0	1.5	5.0	2.2	2.2
SCN race 3		S	R	S	R	R
SCN race 4		S	S	S	S	R
Flower color		P	P	P	P	W
Pubescence color		G	T	G	T	G
Pod wall color		T	T	T	T	T

TABLE 15 - (continued)

	K81- 27-278	N86- 7687	TN85- 157	D87- 5967	KY85- 11020	N87- 3250	S88- 2036
<b>Seed Yield - 1990</b>							
East Coast	58.7	58.4	49.2	50.9	57.3	60.9	49.0
Upper and Central South	44.0	43.6	40.8	34.9	42.1	44.6	37.9
Delta	44.7	49.1	44.5	40.6	46.0	51.4	45.0
West	39.9	45.3	36.6	35.9	39.9	43.5	36.3
<b>1989-90</b>							
East Coast	55.3	53.2	46.6				
Upper & Central South	52.3	45.0	42.5				
Delta	44.4	48.7	43.6				
West	40.2	43.5	34.6				
<b>1988-90</b>							
East Coast							
Upper & Central South							
Delta							
West							
<b>Oil Content - 1990</b>							
1989-90	21.4	21.6	19.8	20.5	21.0	20.9	20.3
1988-90	21.5	21.7	19.9				
<b>Protein Content - 1990</b>							
1989-90	40.5	39.4	38.9	41.0	40.6	40.1	39.2
1988-90	40.5	39.2	39.1				
Seed size	12.8	15.1	11.5	13.6	16.1	17.7	12.6
Maturity index	10-09	+2	+1	-1	-2	+0	+2
Height	27	30	34	29	28	28	30
Seed quality	1.4	1.8	1.6	1.6	1.7	1.9	2.0
SDS severity score	1.4	1.9	1.6	1.1	1.6	1.7	1.3
SDS(percent with symptoms)	39	70	52	5	59	71	5
M. incognita	1.0	1.2	4.4	2.0	2.5	2.0	1.5
M. arenaria	3.0	4.8	4.7	3.0	5.0	2.2	4.0
SCN race 3	S	S	R	R	S	S	R
SCN race 4	S	S	R	R	S	S	R
Flower color	W	P	W	P	P	W	W
Pubescence color	G	G	G	G	G	G	T
Pod wall color	T	T	T	T	T	T	T

TABLE 16 - SEED YIELD, IN BUSHEL PER ACRE, FOR THE STRAINS IN UNIFORM GROUP V, 1990

LOCATION	ESSEX	WALTERS	N85- 578	R85- 3280	S85- 1706	K81- 27-278
EAST COAST						
QUEENSTOWN, MD	53.5	48.6	51.1	49.1	50.3	57.3
GEORGETOWN, DE	54.8	56.5	53.5	45.6	51.5	58.2
WARSAW, VA	60.5	52.7	61.2	54.8	59.9	61.4
HOLLAND, VA	58.0	44.0	55.3	52.1	52.6	55.8
PLYMOUTH, NC	64.5	62.8	71.0	59.6	57.8	60.8
MEAN	58.3	52.9	58.4	52.2	54.4	58.7
UPPER AND CENTRAL SOUTH						
ORANGE, VA	48.6	43.0	52.8	36.3	46.9	51.0
KNOXVILLE, TN	47.3	38.0	45.9	46.7	53.7	50.2
CLEMSON, SC	29.6	44.3	33.1	38.7	33.6	32.6
CALHOUN, GA	45.6	39.7	51.1	22.5	29.4	42.0
ATHENS, GA	37.5	52.5	44.8	46.1	48.1	47.2
VILLA RIDGE, IL	52.7	43.7	52.7	46.1	49.6	53.1
PRINCETON, KY	51.1	49.3	57.2	49.9	39.3	60.2
MARTIN, TN	36.1	38.5	44.2	43.0	31.3	41.3
JACKSON, TN	19.7	21.2	21.7	17.1	19.0	18.3
MEAN	40.9	41.1	44.8	38.5	39.0	44.0
DELTA						
PORTAGEVILLE, MO(A)	46.1	48.5	49.9	48.9	41.3	40.9
PORTAGEVILLE, MO(B)	36.1	44.2	43.1	42.3	45.3	36.1
KEISER, AR	49.6	47.0	55.7	53.7	47.8	53.1
JONESBORO, AR	38.7	40.8	46.7	42.6	43.4	42.0
PINE TREE, AR	46.9	47.7	48.1	52.1	51.5	44.0
STONEVILLE, MS(A)	45.0	46.6	47.0	47.8	47.3	45.2
STONEVILLE, MS(B)	33.0	43.0	38.9	35.2	36.0	29.4
ST. JOSEPH, LA	45.8	41.6	48.9	43.7	30.1	47.1
BATON ROUGH, LA	62.8	72.8	69.8	63.7	67.2	64.3
MEAN	44.9	48.0	49.8	47.8	45.5	44.7
WEST						
OTTAWA, KS	39.0	39.3	38.9	39.4	37.3	36.6
PITTSBURG, KS	25.9	26.9	28.3	29.5	29.9	25.6
STUTTGART, AR	48.3	48.1	44.5	55.1	38.9	48.7
BOSSIER CITY, LA	43.7	47.2	52.7	46.5	40.1	38.7
BIXBY, OK	34.5	43.2	36.1	50.1	41.8	42.7
LUBBOCK, TX	40.3	45.7	54.6	47.2	44.0	47.0
MEAN	38.6	41.7	42.5	44.6	38.7	39.9



TABLE 16 - (continued)

LOCATION	N86- 7687	TN85- 157	D87- 5967	KY85- 11020	N87- 325	S88- 2036	L.S.D. (.05)	C.V. (%)
EAST COAST								
QUEENSTOWN, MD	50.9	47.8	52.0	54.2	60.2	43.6	.	10.2
GEORGETOWN, DE	52.2	48.7	54.6	51.3	58.1	51.8	10.9	12.1
WARSAW, VA	60.8	47.5	47.0	59.3	55.6	49.2	6.3	6.6
HOLLAND, VA	64.4	49.4	45.3	55.8	63.0	45.3	9.3	10.3
PLYMOUTH, NC	63.6	52.8	55.4	65.7	67.4	55.0	8.3	7.9
MEAN	58.4	49.2	50.9	57.3	60.9	49.0		
UPPER AND CENTRAL SOUTH								
ORANGE, VA	45.2	46.0	37.0	54.5	52.0	35.2	10.8	16.0
KNOXVILLE, TN	45.2	52.9	.	46.0	54.2	45.7	8.9	11.0
CLEMSON, SC	38.6	35.3	37.0	37.1	38.6	36.1	.	14.0
CALHOUN, GA	45.4	31.0	28.3	30.4	43.6	26.8	11.4	18.0
ATHENS, GA	48.5	49.3	45.2	52.0	43.5	46.8	9.2	11.6
VILLA RIDGE, IL	50.3	48.1	39.7	50.4	50.4	46.2	8.5	16.0
PRINCETON, KY	53.7	48.3	42.6	53.4	54.5	49.0	8.9	10.3
MARTIN, TN	44.7	35.1	31.8	39.9	43.5	37.0	10.1	15.4
JACKSON, TN	21.0	20.8	17.3	15.6	21.3	18.2	.	18.5
MEAN	43.6	40.8	34.9	42.1	44.6	37.9		
DELTA								
PORTAGEVILLE, MO(A)	44.8	42.2	38.2	44.9	48.1	51.2	7.4	9.6
PORTAGEVILLE, MO(B)	45.6	35.7	39.8	30.3	45.8	34.7	7.5	11.1
KEISER, AR	59.8	47.9	35.5	50.7	59.5	50.5	6.8	7.8
JONESBORO, AR	40.7	41.4	32.1	46.7	42.8	40.1	8.5	8.9
PINE TREE, AR	49.5	49.5	46.8	48.8	49.1	48.7	.	8.4
STONEVILLE, MS(A)	47.4	50.9	49.3	48.3	53.2	46.3	6.7	8.3
STONEVILLE, MS(B)	41.6	38.3	32.1	35.5	36.9	31.5	6.9	11.3
ST. JOSEPH, LA	43.7	41.8	27.4	39.5	49.9	39.1	5.3	7.6
BATON ROUGE, LA	69.2	52.4	63.8	69.2	77.2	63.3	5.8	5.1
MEAN	49.1	44.5	40.6	46.0	51.4	45.0		
WEST								
OTTAWA, KS	39.6	33.8	28.7	35.9	40.8	33.6	4.5	7.2
PITTSBURG, KS	28.3	26.3	23.5	25.9	27.3	25.6	2.3	5.1
STUTT GART, AR	52.4	39.9	38.2	51.3	49.5	42.2	3.9	5.0
BOSSIER CITY, LA	55.0	37.4	36.7	47.2	48.3	32.8	7.9	10.7
BIXBY, OK	44.4	40.9	41.0	36.7	50.0	41.7	8.5	12.0
LUBBOCK, TX	51.8	41.3	47.2	42.4	45.2	41.6	11.7	15.1
MEAN	45.3	36.6	35.9	39.9	43.5	36.3		

TABLE 17 - CHEMICAL COMPOSITION AND SEED SIZE FOR THE STRAINS IN UNIFORM GROUP V, 1990

LOCATION	ESSEX	WALTERS	N85- 578	R85- 3280	S85- 1706	K81- 27-278
OIL PERCENTAGE						
QUEENSTOWN, MD	19.6	18.4	19.7	18.1	18.1	20.0
WARSAW, VA	20.4	20.2	21.9	19.8	20.2	21.6
PLYMOUTH, NC	19.6	20.1	21.2	19.6	19.0	21.0
ORANGE, VA	20.7	20.9	21.3	19.9	19.5	21.5
PORTAGEVILLE, MO(A)	20.6	21.4	21.6	20.8	19.4	22.4
KEISER, AR	20.3	20.5	22.4	20.1	20.5	21.6
STONEVILLE, MS(A)	21.2	21.4	22.8	20.3	20.8	21.4
STUTTGART, AR	21.5	22.0	23.4	19.8	22.2	21.6
ATHENS, GA	21.5	20.7	22.3	19.9	20.2	21.5
MEAN	20.6	20.6	21.8	19.8	20.0	21.4
PROTEIN PERCENTAGE						
QUEENSTOWN, MD	40.7	40.3	38.3	40.3	38.1	39.6
WARSAW, VA	42.2	39.8	38.0	40.6	38.2	39.9
PLYMOUTH, NC	43.5	40.0	38.2	41.5	40.1	41.0
ORANGE, VA	40.6	36.5	36.0	38.1	36.6	38.0
PORTAGEVILLE, MO(A)	40.8	37.4	36.9	39.1	38.7	38.7
KEISER, AR	43.1	39.7	37.0	40.4	37.3	40.6
STONEVILLE, MS(A)	43.4	42.3	39.4	43.5	41.1	43.5
STUTTGART, AR	42.1	38.1	36.2	42.5	35.2	42.0
ATHENS, GA	41.3	41.1	38.0	42.3	40.0	40.9
MEAN	42.0	39.5	37.6	40.9	38.4	40.5
GRAMS PER 100 SEED						
QUEENSTOWN, MD	13.7	14.1	14.5	13.0	15.2	12.6
WARSAW, VA	14.7	13.9	16.1	13.5	16.4	12.9
PLYMOUTH, NC	16.1	14.0	16.7	14.8	15.9	13.4
ORANGE, VA	14.5	13.1	14.8	13.6	15.4	12.3
PORTAGEVILLE, MO(A)	13.0	12.4	14.3	10.8	13.8	11.3
KEISER, AR	16.5	15.0	17.5	13.5	16.5	14.5
STONEVILLE, MS(A)	13.8	12.9	16.3	13.7	14.7	12.4
STUTTGART, AR	15.0	12.1	15.3	13.2	12.6	12.7
ATHENS, GA	13.5	13.9	14.9	14.5	15.1	12.9
MEAN	14.5	13.5	15.6	13.4	15.1	12.8

TABLE 17 - (continued)

LOCATION	N86- 7687	TN85- 157	D87- 5967	KY85- 11020	N87- 325	S88- 2036
OIL PERCENTAGE						
QUEENSTOWN, MD	20.0	17.9	18.9	20.0	19.3	18.2
WARSAW, VA	21.7	19.2	20.3	21.0	20.8	20.2
PLYMOUTH, NC	21.0	18.2	19.9	20.2	20.5	19.1
ORANGE, VA	21.1	20.2	20.5	20.6	20.8	21.0
PORTAGEVILLE, MO(A)	22.0	21.0	21.1	21.6	20.6	21.6
KEISER, AR	21.7	18.9	20.5	21.1	21.3	20.5
STONEVILLE, MS(A)	22.5	21.4	20.8	21.6	21.4	19.9
STUTT GART, AR	21.9	21.6	21.6	21.5	21.7	21.1
ATHENS, GA	22.3	20.1	21.2	21.5	21.6	21.5
MEAN	21.6	19.8	20.5	21.0	20.9	20.3
PROTEIN PERCENTAGE						
QUEENSTOWN, MD	39.0	38.2	41.2	39.7	39.9	40.0
WARSAW, VA	39.2	39.6	41.8	40.1	40.4	39.0
PLYMOUTH, NC	40.6	40.4	42.5	41.8	41.1	40.1
ORANGE, VA	38.0	37.1	38.3	39.7	37.4	35.8
PORTAGEVILLE, MO(A)	37.8	37.1	39.6	38.3	40.2	37.0
KEISER, AR	39.4	38.8	41.0	40.6	40.0	39.8
STONEVILLE, MS(A)	40.5	41.2	43.2	42.7	42.0	43.8
STUTT GART, AR	40.5	37.0	40.7	42.2	40.1	38.4
ATHENS, GA	39.2	40.5	41.0	40.7	40.1	38.8
MEAN	39.4	38.9	41.0	40.6	40.1	39.2
GRAMS PER 100 SEED						
QUEENSTOWN, MD	14.3	11.5	15.2	15.6	17.0	13.3
WARSAW, VA	15.4	11.5	13.7	16.4	18.1	13.2
PLYMOUTH, NC	15.8	11.7	14.1	16.9	19.0	13.4
ORANGE, VA	14.5	11.6	14.0	15.9	17.5	12.6
PORTAGEVILLE, MO(A)	13.8	11.5	12.6	14.6	16.5	11.7
KEISER, AR	17.5	12.0	14.0	17.5	18.0	13.5
STONEVILLE, MS(A)	14.5	10.9	12.7	15.3	18.1	12.4
STUTT GART, AR	15.8	9.6	12.1	16.2	17.7	11.0
ATHENS, GA	14.7	12.8	14.3	16.1	17.1	12.6
MEAN	15.1	11.5	13.6	16.1	17.7	12.6

TABLE 18 - RELATIVE MATURITY DATA, DAYS EARLIER (-) OR LATER (+) THAN ESSEX,  
FOR THE STRAINS IN UNIFORM GROUP V, 1990

LOCATION	ESSEX	WALTERS	N85- 578	R85- 3280	S85- 1706	K81- 27-278
EAST COAST						
QUEENSTOWN, MD	10/15	+6	+0	+6	+2	+1
GEORGETOWN, DE	10/13	-2	-2	+0	+5	+2
WARSAW, VA	10/11	+2	+0	+3	+2	+0
HOLLAND, VA	10/05	+3	+0	+2	+1	+2
PLYMOUTH, NC	10/15	-4	+0	-4	-4	+0
MEAN	10/12	+1	-1	+1	+1	+1
UPPER AND CENTRAL SOUTH						
ORANGE, VA	10/11	+9	+3	+10	+10	+4
KNOXVILLE, TN	09/25	+10	+1	+13	+9	+3
CLEMSON, SC	10/06	+1	-2	+2	+0	+0
CALHOUN, GA	10/03	+1	+1	+0	-2	+1
ATHENS, GA	09/23	+7	+0	+11	+4	+4
VILLA RIDGE, IL	10/19	+1	+1	+2	+2	+1
PRINCETON, KY	10/16	+8	+3	+10	+10	+2
MARTIN, TN	10/26	+0	+4	+0	+0	+1
JACKSON, TN	09/24	+5	+0	+7	+0	+0
MEAN	10/07	+5	+1	+6	+4	+2
DELTA						
PORTAGEVILLE, MO(A)	10/19	+5	+0	+4	+1	+1
PORTAGEVILLE, MO(B)	10/19	+5	+4	+7	+9	+8
KEISER, AR	10/09	+7	+1	+5	+0	+4
JONESBORO, AR	10/05	+6	+0	+6	+1	+2
PINE TREE, AR	10/04	+3	+1	+4	+1	+1
STONEVILLE, MS(A)	09/20	+6	+2	+6	+4	+4
STONEVILLE, MS(B)	09/24	+4	+4	+7	+4	+4
ST. JOSEPH, LA	09/20	+7	+4	+7	+2	+3
BATON ROUGE, LA	09/21	+7	+12	+13	+9	+12
MEAN	10/02	+6	+3	+7	+4	+5
WEST						
STUTTGART, AR	09/30	+8	+4	+9	+4	+3
BOSSIER CITY, LA	09/20	+4	+3	+6	+0	+4
BIXBY, OK	10/17	+0	+0	+13	+0	+13
LUBBOCK, TX	10/09	+5	+5	+10	+3	+4
MEAN	10/04	+4	+3	+10	+2	+6

TABLE 18 - (continued)

LOCATION	N86- 7687	TN85- 157	D87- 5967	KY85- 11020	N87- 325	S88- 2036
EAST COAST						
QUEENSTOWN, MD	+2	+3	+2	+2	+2	+4
GEORGETOWN, DE	-4	+6	-2	+0	-1	+6
WARSAW, VA	+4	+2	+1	+1	+1	+4
HOLLAND, VA	+5	-2	-1	+2	-1	+2
PLYMOUTH, NC	+0	-4	-4	-4	-4	-4
MEAN	+1	+1	-1	+0	-1	+2
UPPER AND CENTRAL SOUTH						
ORANGE, VA	+9	+9	+2	+4	+6	+11
KNOXVILLE, TN	+4	+11	+8	+2	+4	+10
CLEMSON, SC	+3	+0	+0	+2	+0	+0
CALHOUN, GA	+1	-5	-2	-9	+1	+0
ATHENS, GA	+4	+8	+5	+4	+4	+8
VILLA RIDGE, IL	+2	+2	+2	+0	+2	+1
PRINCETON, KY	+7	+4	+4	+1	+1	+9
MARTIN, TN	+4	+1	+0	+0	+3	+0
JACKSON, TN	+0	+9	+7	+0	+0	+4
MEAN	+4	+4	+3	+0	+2	+5
DELTA						
PORTAGEVILLE, MO(A)	+3	+2	+0	+0	+2	+3
PORTAGEVILLE, MO(B)	+8	+3	-1	+3	+6	+2
KEISER, AR	+8	+1	+2	+1	+5	+5
JONESBORO, AR	+0	+5	+1	+2	+1	+5
PINE TREE, AR	+4	+3	+2	+1	+4	+2
STONEVILLE, MS(A)	+4	+5	+5	+3	+5	+4
STONEVILLE, MS(B)	+6	+5	+3	+3	+3	+4
ST. JOSEPH, LA	+7	+7	+3	+2	+3	+6
BATON ROUGE, LA	+13	+9	+9	+9	+9	+13
MEAN	+6	+5	+3	+3	+5	+5
WEST						
STUTT GART, AR	+9	+4	+4	+4	+4	+6
BOSSIER CITY, LA	+7	+4	+6	+0	+5	+5
BIXBY, OK	+1	+0	+0	+0	+13	+13
LUBBOCK, TX	+5	+5	+6	+2	+1	+7
MEAN	+9	+3	+4	+2	+6	+8

TABLE 19 - PLANT HEIGHT FOR THE STRAINS IN UNIFORM GROUP V, 1990

LOCATION	ESSEX	WALTERS	N85- 578	R85- 3280	S85- 1706	K81- 27-278
EAST COAST						
QUEENSTOWN, VA	30	36	30	35	34	33
GEORGETOWN, DE	35	32	32	32	36	32
WARSAW, VA	21	30	21	28	29	26
HOLLAND, VA	27	29	25	32	29	30
PLYMOUTH, VA	35	42	38	39	40	39
MEAN	30	34	29	33	34	32
UPPER AND CENTRAL SOUTH						
ORANGE, VA	35	43	34	41	39	36
KNOXVILLE, TN	25	33	27	31	27	29
CLEMSON, SC	17	26	17	20	23	19
CALHOUN, GA	29	35	32	36	37	34
ATHENS, GA	18	30	17	25	27	23
VILLA RIDGE, IL	32	35	28	36	34	32
PRINCETON, TN	29	37	31	37	35	25
MARTIN, TN	29	34	31	32	35	33
JACKSON, TN	29	39	27	38	34	30
MEAN	27	35	27	33	32	29
DELTA						
PORTAGEVILLE, MO(A)	27	30	29	30	29	22
PORTAGEVILLE, MO(B)	22	29	22	24	26	24
KEISER, AR	22	29	21	27	23	22
JONESBORO, AR	31	36	31	36	32	32
PINE TREE, AR	20	29	20	28	26	23
STONEVILLE, MS(A)	20	30	21	25	23	23
STONEVILLE, MS(B)	17	25	19	19	20	18
ST. JOSEPH, LA	31	33	30	33	34	34
BATON ROUGE, LA	25	33	23	24	30	23
MEAN	24	30	24	27	27	25
WEST						
OTTAWA, KS	28	38	28	33	35	30
PITTSBURG, KS	24	29	22	25	32	28
STUTTGART, AR	24	30	23	26	32	27
BOSSIER CITY, LA	19	28	23	26	24	22
BIXBY, OK	24	30	25	30	30	27
LUBBOCK, TX	21	27	20	23	28	21
MEAN	23	30	24	27	30	26

TABLE 19 - (continued)

LOCATION	N86- 7687	TN85- 157	D87- 5967	KY85- 11020	N87- 325	S88- 2036
EAST COAST						
QUEENSTOWN, MD	37	37	33	34	35	32
GEORGETOWN, DE	24	37	29	37	30	39
WARSAW, VA	27	29	28	24	25	28
HOLLAND, VA	34	34	31	28	31	30
PLYMOUTH, NC	40	41	39	35	38	40
MEAN	32	36	32	32	32	34
UPPER AND CENTRAL SOUTH						
ORANGE, VA	41	43	32	36	38	43
KNOXVILLE, TN	32	35	27	28	30	32
CLEMSON, SC	20	24	24	20	19	22
CALHOUN, GA	32	39	29	35	33	31
ATHENS, GA	22	30	28	21	20	24
VILLA RIDGE, IL	37	37	30	33	36	35
PRINCETON, KY	36	42	36	37	46	37
MARTIN, TN	34	33	30	31	31	32
JACKSON, TN	31	43	32	29	31	31
MEAN	32	36	30	30	32	32
DELTA						
PORTAGEVILLE, MO(A)	30	30	26	28	31	26
PORTAGEVILLE, MO(B)	29	29	29	21	24	21
KEISER, AR	27	28	25	26	24	25
JONESBORO, AR	36	40	34	29	31	31
PINE TREE, AR	25	31	28	24	24	29
STONEVILLE, MS(A)	24	31	24	21	25	24
STONEVILLE, MS(B)	20	23	19	19	16	20
ST. JOSEPH, LA	36	39	35	33	31	34
BATON ROUGE, LA	26	30	25	22	21	25
MEAN	28	31	27	25	25	26
WEST						
OTTAWA, KS	36	41	34	33	31	37
PITTSBURG, KS	26	29	28	25	26	28
STUTTGART, AR	27	31	28	26	26	27
BOSSIER CITY, LA	25	28	23	22	20	25
BIXBY, OK	28	35	24	24	30	28
LUBBOCK, TX	25	28	23	23	20	24
MEAN	28	32	27	26	26	28

TABLE 20 - LODGING SCORES FOR THE STRAINS IN UNIFORM GROUP V, 1990

LOCATION	ESSEX	WALTERS	N85- 578	R85- 3280	S85- 1706	K81- 27-278
EAST COAST						
QUEENSTOWN, MD	2.3	3.5	2.7	3.0	2.8	2.8
GEORGETOWN, DE	3.0	3.3	2.0	5.7	3.0	3.7
WARSAW, VA	1.0	2.5	1.0	1.5	1.3	1.0
HOLLAND, VA	1.3	2.0	1.0	3.0	1.7	1.2
PLYMOUTH, NC	3.0	4.0	3.0	3.0	3.0	2.0
UPPER AND CENTRAL SOUTH						
ORANGE, VA	2.0	4.0	2.0	4.0	2.7	2.3
KNOXVILLE, TN	1.0	2.0	1.0	1.3	2.0	1.0
CLEMSON, SC	1.0	1.3	1.0	1.0	1.0	1.0
CALHOUN, GA	1.8	3.7	3.0	4.0	4.8	1.7
ATHENS, GA	1.0	1.7	1.0	1.5	1.3	1.5
VILLA RIDGE, IL	1.3	3.8	1.4	2.7	3.1	1.7
PRINCETON, KY	1.0	2.3	2.0	3.0	4.7	1.0
MARTIN, TN	1.0	3.3	1.0	3.7	3.3	1.3
JACKSON, TN	1.0	2.0	1.0	2.0	2.0	1.0
DELTA						
PORTAGEVILLE, MO(A)	1.0	1.5	1.0	1.5	1.0	1.0
PORTAGEVILLE, MO(B)	1.0	2.0	1.0	1.0	1.5	1.0
KEISER, AR	1.0	2.2	1.0	1.0	1.7	1.0
JONESBORO, AR	1.3	2.7	1.7	3.0	3.3	2.0
PINE TREE, AR	1.0	2.0	1.0	1.7	1.7	1.0
STONEVILLE, MS(A)	2.0	2.0	2.0	2.0	2.0	2.0
STONEVILLE, MS(B)	2.0	2.7	2.0	2.0	2.0	2.0
ST. JOSEPH, LA	2.0	3.2	2.6	2.2	2.7	2.3
BATON ROUGE, LA	1.0	3.0	1.0	1.0	1.0	1.0
WEST						
OTTAWA, KS	1.0	2.7	1.0	1.0	2.0	1.3
PITTSBURG, KS	1.0	2.0	1.0	1.3	2.3	1.0
STUTTGART, AR	1.2	3.4	1.4	1.3	3.1	1.2
BOSSIER CITY, LA	1.0	1.0	1.0	1.0	1.0	1.0
BIXBY, OK	0.0	0.0	0.0	0.0	0.0	0.0
LUBBOCK, TX	2.2	2.8	1.5	2.5	2.2	2.5



TABLE 20 - (continued)

LOCATION	N86- 7687	TN85- 157	D87- 5967	KY85- 11020	N87- 325	S88- 2036
EAST COAST						
QUEENSTOWN, MD	3.0	2.8	3.8	2.7	2.8	3.5
GEORGETOWN, DE	2.3	5.3	2.3	3.7	2.7	5.7
WARSAW, VA	1.0	1.3	3.2	1.0	1.0	1.5
HOLLAND, VA	1.8	1.3	2.8	1.2	1.8	1.3
PLYMOUTH, NC	3.0	2.0	4.0	3.0	3.0	3.0
UPPER AND CENTRAL SOUTH						
ORANGE, VA	2.0	1.7	4.3	2.3	2.0	3.7
KNOXVILLE, TN	1.3	1.7	3.3	1.0	1.3	1.8
CLEMSON, SC	1.0	1.0	1.8	1.0	1.0	1.0
CALHOUN, GA	1.3	2.7	4.3	1.7	2.0	3.8
ATHENS, GA	1.3	1.5	2.2	1.5	1.3	1.5
VILLA RIDGE, IL	1.7	1.5	4.8	1.4	1.4	4.3
PRINCETON, KY	2.3	3.3	5.0	1.3	1.0	3.7
MARTIN, TN	2.2	1.0	5.0	1.0	1.3	2.7
JACKSON, TN	2.0	2.0	4.0	1.0	2.0	2.0
DELTA						
PORTAGEVILLE, MO(A)	1.0	1.0	2.0	1.0	1.0	1.0
PORTAGEVILLE, MO(B)	1.0	1.5	2.5	1.0	1.0	1.0
KEISER, AR	1.0	1.0	4.3	1.0	1.0	1.2
JONESBORO, AR	2.7	2.7	4.7	1.7	2.0	3.0
PINE TREE, AR	1.7	1.3	2.0	1.0	1.7	1.3
STONEVILLE, MS(A)	2.0	2.0	2.0	2.0	2.0	2.0
STONEVILLE, MS(B)	2.0	2.0	2.7	2.0	2.0	2.0
ST. JOSEPH, LA	2.4	2.2	4.5	2.1	2.7	3.1
BATON ROUGE, LA	1.0	1.0	3.0	1.0	2.0	1.0
WEST						
OTTAWA, KS	1.0	1.0	3.7	1.0	1.0	2.3
PITTSBURG, KS	1.3	1.7	3.0	1.0	1.3	2.0
STUTTGART, AR	1.7	2.7	3.8	1.2	1.9	1.8
BOSSIER CITY, LA	1.0	1.0	1.1	1.0	1.0	1.0
BIXBY, OK	0.0	0.0	3.0	0.0	0.0	0.0
LUBBOCK, TX	2.5	2.0	4.0	2.5	2.0	3.5

TABLE 21 - SEED QUALITY FOR THE STRAINS IN UNIFORM GROUP V, 1990

LOCATION	ESSEX	WALTERS	N85- 578	R85- 3280	S85- 1706	K81- 27-278
EAST COAST						
QUEENSTOWN, MD	1.0	1.0	1.5	1.0	1.0	1.0
GEORGETOWN, DE	1.0	1.0	1.0	1.0	1.0	1.0
WARSAW, VA	1.0	1.2	1.2	1.2	1.5	1.0
HOLLAND, VA	1.0	1.0	2.3	1.0	1.0	1.0
PLYMOUTH, NC	1.5	1.5	1.5	1.5	1.5	1.5
UPPER AND CENTRAL SOUTH						
ORANGE, VA	1.3	1.5	1.0	1.7	1.7	1.0
KNOXVILLE, TN	2.3	3.0	2.3	2.7	2.7	1.3
CALHOUN, GA	1.0	1.2	1.6	1.7	1.4	1.3
ATHENS, GA	1.5	1.5	1.5	1.5	1.5	1.5
VILLA RIDGE, IL	2.0	2.0	2.0	2.0	2.0	1.0
JACKSON, TN	2.0	3.0	3.0	2.0	3.0	2.0
DELTA						
PORTAGEVILLE, MO(A)	1.5	2.0	1.5	1.5	2.0	1.5
PORTAGEVILLE, MO(B)	2.0	1.5	2.5	1.5	2.0	1.5
KEISER, AR	1.5	2.5	2.0	2.0	2.0	2.0
JONESBORO, AR	1.3	2.0	1.3	1.7	1.0	1.3
PINE TREE, AR	1.7	1.3	1.7	1.3	2.0	1.0
STONEVILLE, MS(A)	2.0	2.0	2.0	2.0	2.0	2.0
STONEVILLE, MS(B)	2.0	2.0	2.0	2.0	2.0	2.0
ST. JOSEPH, LA	1.8	3.3	1.8	2.6	2.2	1.9
BATON ROUGE, LA	1.8	1.7	2.5	1.8	1.9	1.7
WEST						
OTTAWA, KS	1.0	2.0	2.0	2.0	2.0	2.0
PITTSBURG, KS	2.0	1.0	1.0	1.0	2.0	2.0
STUTTGART, AR	2.5	2.7	2.3	1.7	2.5	2.0
LUBBOCK, TX	1.7	1.7	2.0	1.7	1.5	1.0

TABLE 21 - (continued)

LOCATION	N86- 7687	TN85- 157	D87- 5967	KY85- 11020	N87- 325	S88- 2036
EAST COAST						
QUEENSTOWN, MD	1.0	1.0	1.0	1.0	1.7	2.0
GEORGETOWN, DE	1.0	1.0	1.0	1.0	1.0	1.0
WARSAW, VA	1.2	1.0	1.0	1.0	1.8	1.8
HOLLAND, VA	2.3	1.3	1.3	1.7	2.3	1.3
PLYMOUTH, NC	1.5	1.5	1.5	1.5	1.5	1.5
UPPER AND CENTRAL SOUTH						
ORANGE, VA	1.3	1.2	2.2	1.0	1.5	2.0
KNOXVILLE, TN	2.0	2.0	2.0	2.3	2.7	4.0
CALHOUN, GA	1.8	1.3	1.2	1.7	1.6	2.5
ATHENS, GA	2.0	1.5	1.5	1.8	1.5	1.5
VILLA RIDGE, IL	2.0	2.0	2.0	2.0	3.0	2.0
JACKSON, TN	2.0	3.0	3.0	3.0	2.0	3.0
DELTA						
PORTAGEVILLE, MO(A)	2.0	1.5	1.5	1.5	2.5	2.0
PORTAGEVILLE, MO(B)	2.0	1.5	2.0	1.5	2.5	2.0
KEISER, AR	1.5	1.5	1.5	1.5	1.5	2.5
JONESBORO, AR	2.0	2.0	1.7	2.7	1.7	1.3
PINE TREE, AR	2.3	1.0	1.7	2.0	2.3	1.0
STONEVILLE, MS(A)	2.0	2.0	2.0	2.0	2.0	2.0
STONEVILLE, MS(B)	2.0	2.0	2.7	2.0	2.0	2.0
ST. JOSEPH, LA	1.9	1.6	2.1	2.3	1.7	3.0
BATON ROUGE, LA	2.2	1.4	1.4	1.9	2.2	1.6
WEST						
OTTAWA, KS	2.0	2.0	1.0	1.0	2.0	2.0
PITTSBURG, KS	2.0	2.0	1.0	2.0	2.0	3.0
STUTTGART, AR	2.8	2.2	2.8	2.5	2.5	3.0
LUBBOCK, TX	1.2	1.0	1.5	1.5	2.0	2.0

PRELIMINARY GROUP V

1990

Preliminary Group V nurseries, which included Forrest and Stafford, along with 34 experimental lines, were grown at 8 locations. The parentage of each of the lines is reported in Table 22. A general summary of performance is reported in Table 23. Data from individual locations are reported in Tables 24-28.

Maturity for the experimental lines within the group fit well within what is considered satisfactory for maturity group V. The overall mean seed yield for the group was 43.7 bushels per acre, with a range of 49.9 to 37.5 bushels per acre. Forrest had a mean seed yield of 45 bushels per acre. Two strains had a mean seed yield significantly greater than that for Forrest, and seven had mean seed yields lower than that for Forrest. Mean protein percentage was 41.5, with a range for the experimental lines of 43.9 to 38.3. Forrest had a mean protein percentage of 40.4, with 18 strains having significantly higher protein percentage and one significantly lower. The range in oil percentage for the lines was 22.0 to 18.7, with a mean of 20.5. Oil percentage for Forrest was 20.3. Fourteen of the lines had significantly higher oil percentage, and four were significantly lower.

Seventeen of the strains were rated resistant to SCN race 3 in the greenhouse screening at Jackson, Tennessee, and eleven of these lines were rated resistant to SCN race 4. The two lines D88-5522 and D88-5611 were rated resistant to feeding by soybean looper in the field cage at Stoneville.

TABLE 22 - PARENTAGE OF THE STRAINS GROWN IN PRELIMINARY GROUP V, 1990

VARIETY OR STRAIN	PARENTAGE
1. FORREST	DYER X BRAGG
2. STAFFORD	V66-318 X V68-2331
3. D87-5968	EPPS X D65-2262
4. D88-3333	S82-98 X D82-2896
5. D88-3460	S82-98 X D82-2896
6. D88-5522	D82-3298 X D77-6056
7. D88-5611	D82-3298 X D82-5173
8. K1197	TOANO X A3659
9. K1198	TOANO X A3659
10. K1199	TOANO X A3659
11. LS85-5566	FORREST X TS76-989
12. LS86-0553	ESSEX X LS78-W124-1
13. MD87-5389	D77-18 X D77-5169
14. N86-7682	N77-114 X PIXIE
15. N88-45	NCR8170 X N81-1121
16. N88-47	NCR8170 X N81-1121
17. N88-48	NCR8170 X N81-1121
18. OK80-3015	DYER X BRAGG
19. OK81-7316	FORREST X V68-2331
20. OK87-5402	BETHEL X ESSEX
21. OK87-5418	FORREST X V68-2331
22. R88-495	EPPS X NAROW
23. R88-542	EPPS X NAROW
24. R88-626	JEFF X (PERSHING X EPPS)
25. R88-1145	PERSHING X NAROW
26. R88-2195	FORREST X (NAROW X NATHAN)
27. S86-1474	S79-4240 X ESSEX
28. S86-1488	S79-4240 X ESSEX
29. S86-2469	S79-4296 X D77-5169
30. S86-24673	S79-4296 X D77-5169
31. S88-1855	ESSEX(2) X PI 90763
32. V86-610	TN5-85 X LAWRENCE
33. V86-893	V77-2016 X HUTCHESON
34. V86-3104	ESSEX X A5474
35. V86-3240	V76-411 X LS78-143
36. V86-3247	V76-411 X LS78-143

TABLE 23 - GENERAL SUMMARY OF PERFORMANCE FOR THE STRAINS GROWN IN PRELIMINARY GROUP V, 1990

STRAIN	SEED YIELD	MAT. INDEX	-----PERCENT-----			SCN 3	SCN 4
			HT.	OIL	PROTEIN		
FORREST	45.0	10/09	31	20.3	40.4	R	S
STAFFORD	37.5-	4-	24	22.0+	40.2	S	S
D87-5968	41.0	2-	28	19.8	43.6+	R	R
D88-3333	40.1-	5-	26	18.7-	43.5+	R	S*
D88-3460	38.2-	2+	38	19.8	40.0	R	R
D88-5522	47.4	1-	30	19.6-	40.8	R	R
D88-5611	44.6	2-	30	20.2	43.0+	R	R
K1197	44.7	5-	22	21.4+	40.3	S	S
K1198	44.7	3-	25	21.4+	41.1	S	S
K1199	44.4	4-	21	21.5+	40.2	S	S
LS85-5566	42.3	4-	31	20.6	40.6	R	R
LS86-0553	39.5-	5-	26	19.9	43.1+	R	R
MD87-5389	46.6	2-	29	20.1	43.4+	R	S
N86-7682	47.8	1+	27	21.6+	40.0	S	S
N88-45	42.8	0	28	21.4+	41.6+	S	S
N88-47	45.3	3-	26	22.2+	40.8	S	S
N88-48	41.2	3-	30	20.6	41.7+	S	S
OK80-3015	45.5	5+	31	21.4+	38.3-	S	S
OK81-7316	40.2-	3-	26	21.8+	39.9	S	S
OK87-5402	42.8	2+	27	19.9	42.5+	S	S
OK87-5418	38.9-	1+	27	21.0+	40.8	S	S
R88-495	44.6	4-	28	19.0-	43.9+	R	S
R88-542	44.9	0	31	20.3	42.9+	R	S
R88-626	40.4-	3-	29	18.9-	42.1+	R	S
R88-1145	44.7	4-	28	20.1	41.0	R	S
R88-2195	41.5	0	31	20.3	41.6+	R	R
S86-1474	49.9+	1+	29	19.8	42.4+	R	R
S86-1488	48.0	1+	30	20.5	42.2+	S	S
S86-2469	47.2	1+	29	20.3	42.0+	R	R
S86-24673	45.7	1+	30	19.8	43.0+	R	R
S88-1855	49.5+	1+	31	21.2+	40.4	R	R
V86-610	45.0	1-	27	21.4+	40.4	S	S
V86-893	45.4	2-	27	21.4+	40.0	S	S
V86-3104	41.8	2-	28	19.9	42.4+	S	S
V86-3240	42.4	3-	26	20.3	42.9+	S	S
V86-3247	41.2	4-	27	21.2+	40.3	S	S
LSD (.05)	4.5			0.6	0.9		
C.V.	11%			2%	2%		

+ or - designations refer to differences from Forrest.  
 \*resistant to SCN Race 5.

TABLE 24 - SEED YIELD, IN BUSHELS PER ACRE, FOR THE STRAINS IN PRELIMINARY GROUP V, 1990

STRAIN	PLY-MOUTH, NC	KEISER, AR	PORTAGE-VILLE, MO	WARSAW, VA	PITTS-BURGH, KS	VERONA, MS	STONE-VILLE, MS (A)	STONE-VILLE, MS (B)
FORREST	57.6	54.0	57.0	47.7	28.5	40.1	41.9	33.4
STAFFORD	58.6	39.5-	46.3-	48.4	25.1	33.7	26.5-	21.8-
D87-5968	55.4	44.0-	44.9-	42.9	22.0-	32.6	48.8	37.0
D88-3333	42.8-	37.8-	51.6	41.6	28.1	33.3	50.4+	35.2
D88-3460	47.2-	44.6-	53.0	40.5-	24.0-	24.4-	38.3	33.4
D88-5522	56.7	51.1	56.3	47.6	28.5	41.9	50.2+	46.9+
D88-5611	54.6	51.4	48.6-	48.2	30.2	40.5	44.2	38.8
K1197	67.1	59.4	47.3-	44.5	27.1	38.0	43.5	31.0
K1198	62.5	57.2	49.9-	49.5	25.6	31.2-	48.1	33.8
K1199	66.7	57.2	47.4-	46.1	24.1-	33.0	45.7	34.8
LS85-5566	52.5	48.0	46.8-	44.1	26.1	38.7	49.8+	32.7
LS86-0553	53.9	48.9	44.2-	44.3	23.0-	32.6	43.0	26.2-
MD87-5389	67.5	55.2	49.5-	51.0	27.6	38.7	47.2	36.1
N86-7682	73.0+	58.3	50.7-	49.1	25.1	38.7	46.7	40.7+
N88-45	64.0	47.6	42.6-	50.2	27.6	35.5	36.5	38.3
N88-47	63.5	50.2	46.4-	51.5	28.9	35.5	49.0	37.8
N88-48	55.5	53.2	41.0-	46.8	27.1	31.9-	38.3	36.1
OK80-3015	61.4	54.3	59.0	50.9	26.9	36.2	35.2	40.0
OK81-7316	59.0	51.0	42.7-	49.4	27.1	33.3	32.9-	26.4-
OK87-5402	58.1	54.1	49.5-	47.0	22.0-	32.6	38.6	40.6+
OK87-5418	54.6	50.4	45.2-	50.7	25.1	29.8-	30.3-	25.4-
R88-495	48.1	53.5	54.1	50.2	25.1	38.0	44.7	43.0+
R88-542	55.8	44.1-	50.5-	47.9	25.1	41.6	49.4	44.6+
R88-626	48.2	50.2	51.5	39.2-	24.1-	34.1	41.2	35.1
R88-1145	55.6	42.5-	51.1-	50.7	25.1	38.0	52.7+	41.8+
R88-2195	57.8	41.2-	43.6-	48.1	29.1	31.2-	39.6	41.2+
S86-1474	59.2	55.3	59.8	57.6+	27.6	40.5	54.6+	44.3+
S86-1488	69.7+	53.8	55.1	54.2	26.7	38.0	44.8	41.5+
S86-2469	61.0	43.7-	60.5	52.4	28.4	47.0	41.9	42.6+
S86-24673	59.8	45.8-	57.8	47.9	26.5	41.9	40.2	45.8+
S88-1855	61.5	55.7	59.9	48.7	27.6	47.3	54.5+	40.5+
V86-610	63.6	56.7	46.3-	46.9	27.6	39.8	41.2	37.9
V86-893	59.8	53.7	50.8-	48.4	27.1	39.8	46.1	37.2
V86-3104	61.0	49.2	42.1-	49.5	24.1-	30.8-	46.6	31.5
V86-3240	63.6	48.4	35.9-	48.1	27.1	36.6	45.1	34.6
V86-3247	60.2	53.1	42.9-	50.9	19.4-	34.8	38.7	29.7
LSD (.05)	10.2	7.6	5.7	7.1	4.1	8.2	7.7	7.0
C.V.	9%	7%	6%	7%	8%	11%	9%	9%

TABLE 25 - OIL PERCENTAGES FOR THE STRAINS IN PRELIMINARY GROUP V, 1990

STRAIN	WARSAW, VA	PLY- MOUTH, NC	PORTAGE- VILLE, MO	KEISER, AR	STONE- VILLE, MS (A)
FORREST	19.5	20.2	20.4	20.2	21.4
STAFFORD	21.1	20.3	22.0	23.3	23.3
D87-5968	18.7	18.9	20.0	20.5	20.7
D88-3333	18.7	17.6	18.6	19.1	19.5
D88-3460	18.5	18.6	20.4	20.9	20.6
D88-5522	19.3	18.9	19.8	19.8	20.4
D88-5611	19.7	19.4	20.8	20.6	20.6
K1197	21.1	20.6	21.4	22.0	22.1
K1198	21.1	20.4	20.9	22.1	22.4
K1199	20.9	21.2	21.7	21.4	22.4
LS85-5566	19.8	19.7	20.9	20.8	21.9
LS86-0553	19.5	19.3	19.3	20.5	20.7
MD87-5389	20.2	19.5	20.1	20.1	20.5
N86-7682	21.3	20.7	21.5	21.6	23.1
N88-45	20.9	22.3	20.5	21.3	21.9
N88-47	21.4	20.8	22.6	22.6	23.7
N88-48	19.9	19.7	20.9	20.7	21.9
OK80-3015	20.2	21.0	21.6	21.4	22.9
OK81-7316	21.2	20.9	22.2	21.9	22.6
OK87-5402	19.9	19.5	19.5	20.0	20.6
OK87-5418	20.8	19.6	21.2	21.0	22.6
R88-495	18.3	18.2	19.6	19.1	19.6
R88-542	20.0	18.8	20.9	20.4	21.5
R88-626	18.7	17.8	19.1	19.0	19.9
R88-1145	20.0	18.9	20.5	19.6	21.4
R88-2195	19.7	19.3	21.3	20.5	20.6
S86-1474	19.2	19.5	20.0	19.3	20.9
S86-1488	20.0	19.8	20.8	20.0	21.7
S86-2469	19.8	20.2	20.3	20.4	20.8
S86-24673	19.1	19.3	20.6	19.8	20.4
S88-1855	20.3	20.9	21.3	21.4	22.1
V86-610	21.0	19.9	21.9	21.6	22.7
V86-893	20.8	20.3	21.6	21.7	22.4
V86-3104	19.4	18.9	20.2	19.8	21.1
V86-3240	20.5	19.7	19.9	20.4	20.9
V86-3247	20.8	20.3	21.0	21.3	22.5



TABLE 26 - PROTEIN PERCENTAGES FOR THE STRAINS IN PRELIMINARY GROUP V, 1990

STRAIN	WARSAW, VA	PLY- MOUTH, NC	PORTAGE- VILLE, MO	KEISER, AR	STONE- VILLE, MS (A)
FORREST	39.1	40.2	39.2	40.6	42.8
STAFFORD	39.8	42.2	39.4	38.0	41.5
D87-5968	43.8	44.8	42.2	42.2	44.8
D88-3333	42.5	44.0	42.3	43.0	45.9
D88-3460	39.6	40.3	37.6	40.0	42.4
D88-5522	40.5	41.4	38.9	40.1	43.1
D88-5611	42.0	43.3	41.0	42.6	46.3
K1197	39.8	41.3	39.2	39.3	41.7
K1198	40.5	42.0	40.0	40.3	42.5
K1199	40.9	41.4	37.1	40.2	41.2
LS85-5566	40.8	40.6	38.3	40.2	43.0
LS86-0553	42.2	43.6	42.6	42.2	45.0
MD87-5389	42.1	43.5	42.2	42.8	46.5
N86-7682	39.9	40.8	39.2	39.5	40.7
N88-45	40.7	40.8	42.2	40.6	43.8
N88-47	39.9	41.3	39.7	40.2	43.1
N88-48	41.7	42.8	40.2	41.0	42.8
OK80-3015	39.4	38.3	36.9	37.6	39.3
OK81-7316	38.9	40.2	38.9	39.0	42.5
OK87-5402	42.9	42.5	42.1	41.6	43.6
OK87-5418	39.5	41.7	40.1	40.2	42.3
R88-495	44.0	44.7	42.1	42.3	46.5
R88-542	42.8	44.3	41.6	41.5	44.3
R88-626	42.2	42.6	40.3	42.0	43.5
R88-1145	40.1	43.0	39.4	39.8	42.8
R88-2195	40.7	42.8	39.6	40.2	44.9
S86-1474	42.8	43.7	40.6	42.0	42.7
S86-1488	42.1	43.0	40.9	42.0	42.9
S86-2469	41.8	42.1	40.4	41.6	43.9
S86-24673	42.6	44.3	41.8	41.7	44.8
S88-1855	41.0	40.5	39.9	40.1	40.7
V86-610	40.5	42.4	38.5	39.5	41.1
V86-893	39.9	41.4	38.6	39.3	40.9
V86-3104	42.1	43.7	40.8	42.2	43.3
V86-3240	42.1	43.6	43.0	42.0	43.9
V86-3247	40.0	41.5	39.3	39.2	41.7

TABLE 27 - PLANT HEIGHT PERCENTAGES FOR THE STRAINS IN PRELIMINARY GROUP V, 1990

STRAIN	WARSAW, VA	PLY- MOUTH, NC	PORTAGE- VILLE, MO	KEISER, AR	STONE- VILLE, MS (A)	STONE- VILLE, MS (B)	PITTS- BURG, KS
FORREST	32.0	43.0	31.0	30.0	25.0	25.0	33.0
STAFFORD	20.0	39.0	30.0	16.0	21.0	13.0	26.0
D87-5968	27.0	41.0	29.0	25.0	24.0	23.0	28.0
D88-3333	28.0	35.0	26.0	25.0	22.0	18.0	27.0
D88-3460	38.0	51.0	39.0	37.0	31.0	31.0	36.0
D88-5522	27.0	43.0	31.0	28.0	27.0	22.0	32.0
D88-5611	30.0	43.0	26.0	26.0	28.0	24.0	34.0
K1197	18.0	31.0	22.0	19.0	20.0	17.0	25.0
K1198	22.0	35.0	29.0	23.0	21.0	16.0	26.0
K1199	18.0	31.0	21.0	23.0	18.0	15.0	22.0
LS85-5566	30.0	38.0	31.0	31.0	30.0	24.0	33.0
LS86-0553	25.0	39.0	27.0	25.0	22.0	19.0	27.0
MD87-5389	27.0	44.0	26.0	28.0	25.0	22.0	34.0
N86-7682	26.0	41.0	27.0	27.0	25.0	20.0	25.0
N88-45	26.0	43.0	26.0	26.0	23.0	20.0	30.0
N88-47	26.0	35.0	26.0	25.0	26.0	18.0	27.0
N88-48	28.0	44.0	26.0	30.0	28.0	22.0	31.0
OK80-3015	33.0	46.0	31.0	28.0	29.0	24.0	29.0
OK81-7316	25.0	43.0	26.0	23.0	25.0	14.0	28.0
OK87-5402	25.0	38.0	29.0	30.0	25.0	18.0	24.0
OK87-5418	25.0	41.0	26.0	27.0	26.0	18.0	27.0
R88-495	27.0	37.0	26.0	28.0	27.0	22.0	27.0
R88-542	31.0	42.0	25.0	33.0	28.0	25.0	32.0
R88-626	26.0	42.0	29.0	29.0	27.0	24.0	29.0
R88-1145	26.0	40.0	30.0	27.0	26.0	22.0	28.0
R88-2195	33.0	44.0	33.0	34.0	25.0	21.0	30.0
S86-1474	29.0	43.0	24.0	31.0	26.0	23.0	28.0
S86-1488	28.0	43.0	26.0	31.0	26.0	23.0	30.0
S86-2469	29.0	43.0	25.0	29.0	24.0	24.0	28.0
S86-24673	31.0	43.0	32.0	28.0	26.0	23.0	29.0
S88-1855	28.0	40.0	33.0	35.0	28.0	26.0	26.0
V86-610	25.0	39.0	28.0	24.0	29.0	18.0	25.0
V86-893	24.0	43.0	27.0	24.0	22.0	19.0	28.0
V86-3104	27.0	42.0	26.0	26.0	25.0	20.0	30.0
V86-3240	22.0	41.0	22.0	26.0	23.0	20.0	28.0
V86-3247	24.0	41.0	30.0	26.0	26.0	18.0	26.0

TABLE 28 - SEED QUALITY SCORES FOR THE STRAINS IN PRELIMINARY GROUP V, 1990

STRAIN	WARSAW, VA	PLY- MOUTH, NC	PORTAGE- VILLE, MO	KEISER, AR	STONE- VILLE, MS (A)	STONE- VILLE, MS (B)	PITTS- BURG, KS
FORREST	1.8	1.5	2.0	1.5	2.0	2.5	2.0
STAFFORD	1.8	1.5	2.0	1.5	2.0	2.0	2.0
D87-5968	1.0	1.5	2.0	2.0	2.0	2.0	2.0
D88-3333	1.5	1.5	1.5	1.5	2.0	2.0	1.0
D88-3460	1.5	1.5	1.5	2.0	2.0	2.0	1.0
D88-5522	1.2	1.5	1.5	1.0	2.0	2.0	1.0
D88-5611	1.5	1.5	1.5	1.0	2.0	2.0	2.0
K1197	1.5	1.5	2.0	1.5	2.0	2.0	3.0
K1198	1.8	1.5	2.0	1.5	2.0	2.0	3.0
K1199	1.0	1.5	2.0	1.5	2.0	2.0	2.0
LS85-5566	1.0	1.5	2.0	2.0	2.0	2.0	2.0
LS86-0553	1.2	1.5	1.5	1.0	2.0	2.0	2.0
MD87-5389	1.2	1.5	2.0	1.0	2.5	3.0	2.0
N86-7682	1.5	2.0	2.0	1.5	2.0	2.0	2.0
N88-45	1.2	1.5	2.0	1.5	2.0	2.0	1.0
N88-47	1.0	1.5	1.5	1.5	2.0	2.0	1.0
N88-48	1.0	1.5	1.5	1.5	2.0	2.0	2.0
OK80-3015	1.5	1.5	1.5	2.0	2.5	2.0	2.0
OK81-7316	1.2	1.5	2.0	1.5	2.0	2.0	2.0
OK87-5402	1.0	2.0	1.5	1.5	2.0	2.0	2.0
OK87-5418	1.2	1.5	1.5	2.0	2.0	2.0	2.0
R88-495	1.8	2.0	2.5	2.0	2.0	2.0	1.0
R88-542	1.0	2.0	1.5	2.0	2.0	2.0	3.0
R88-626	1.2	2.0	1.5	1.5	2.0	2.0	2.0
R88-1145	1.2	2.0	1.5	1.0	2.0	2.0	2.0
R88-2195	1.2	2.0	1.5	1.5	2.0	2.0	2.0
S86-1474	1.5	1.5	2.0	1.5	2.0	2.0	2.0
S86-1488	1.2	1.5	2.0	1.0	2.0	2.0	2.0
S86-2469	1.5	1.5	2.0	1.0	2.0	2.0	1.0
S86-24673	1.5	1.5	1.5	1.5	2.0	2.0	1.0
S88-1855	1.2	1.5	1.5	1.5	2.0	2.0	3.0
V86-610	1.2	1.5	1.5	1.5	2.0	2.0	2.0
V86-893	1.5	1.5	2.0	1.5	2.0	2.0	3.0
V86-3104	1.0	2.0	1.5	1.5	2.0	2.0	2.0
V86-3240	1.8	2.0	1.5	1.5	2.0	2.0	3.0
V86-3247	1.2	1.5	2.0	1.0	2.0	2.0	2.0

UNIFORM GROUP VI

1990

VARIETY OR STRAIN	PARENTAGE	GENERATION COMPOSITED
1. LEFLORE	CENTENNIAL X J74-47	F5
2. SHARKEY	TRACY X CENTENNIAL	F5
3. G83-198	D77-7714 X YOUNG	F6
4. N85-492	N77-179 X JOHNSTON	F6
5. S84-1876	BEDFORD X ESSEX	F5
6. SC84-1531	BRAXTON X YOUNG	F5
7. N86-397	YOUNG(2) X D76-9665	F5
8. N86-491	N77-1602 X F77-1797	F5
9. AU86-888	CO 79-760 X N77-114	F5
10. D87-5870	D82-2218 X LAMAR	F5
11. S85-1008	BEDFORD X ESSEX	F5
12. TN87-198	A5474 X V78-1355	F5

Background of lines used as parents:

J74-47 is a SCN race 4 selection of the same parentage as Bedford.  
D77-7714 is a selection from Forrest X D70-3001 which was grown in Uniform Group VI 1977-1979. D77-3001 is of the same parentage as Centennial.  
D76-9665 is a selection from Forrest X Centennial grown in Uniform Group VI 1979-1981.  
F77-1797 is a selection from Centennial X (Forrest X (Cobb X D68-216)).  
N77-114 is a selection from Essex X N70-2173. N70-2173 was grown in Uniform Group VI in 1980.  
D82-2218 is a selection from Bedford X Tracy-M.

UNIFORM GROUP VI

1990

Uniform Group VI nurseries were grown at 30 locations. A general summary of performance, which includes agronomic data, protein and oil composition of the seed, reaction to diseases and nematodes, and plant characteristics is reported in Table 29. Data from individual locations are reported in Tables 30-35.

Plantings were made in the greenhouse at Jackson, Tennessee to rate for reaction to SCN races 3 and 4, in the greenhouse at the University of Georgia to rate for reaction to the two root knot species *M. incognita* and *M. arenaria*, and in the field cage at Stoneville to rate for feeding by soybean looper. Six strains were rated resistant to the root knot nematode, *M. incognita*. Seven strains were rated resistant to SCN race 3. Six of these were also resistant to race 4. The two strains S84-1876 and D87-5870 were resistant to both species of root knot nematode and both races of SCN. D87-5870 is also resistant to feeding by soybean looper.

Four experimental lines have been evaluated three years. These are G83-198, N85-492, S84-1876, and Sc84-1531. Two strains, N86-397 and N86-491 have been evaluated two years. Four strains were evaluated one year. Of these, Tn87-198 has been increased for release.

The experimental line G81-234, from the cross Centennial X Bedford, which was evaluated in Uniform Group VI for the years 1986, 1987, and 1988, has been released for production and given the name Bryan.

TABLE 29 - GENERAL SUMMARY OF PERFORMANCE FOR THE STRAINS GROWN IN UNIFORM GROUP VI, 1990

	NO. OF LOCATIONS	LEFLORE	SHARKEY	G83- 198	N85- 492	S84- 1876
Seed Yield - 1990						
East Coast	4	43.6	45.3	46.2	51.8	49.4
Southeast	7	34.9	34.3	35.6	37.5	35.1
Upper and Central South	3	44.7	45.4	52.6	46.4	44.2
Delta	8	42.3	43.7	45.8	49.3	44.9
West	3	56.0	51.2	56.3	59.6	53.1
1989-90						
East Coast		42.6	44.4	43.8	48.0	45.4
Southeast		36.2	33.8	37.4	38.0	32.3
Upper & Central South		42.4	44.9	48.6	45.6	45.4
Delta		39.4	42.9	44.4	46.1	44.7
West		45.2	45.4	45.1	49.0	46.1
1988-90						
East Coast		40.6	41.2	42.8	45.0	42.1
Southeast		39.2	36.3	40.0	39.6	35.8
Upper & Central South		45.0	46.0	50.0	57.4	46.3
Delta		39.5	42.6	45.7	46.8	46.0
West		41.5	41.9	42.8	47.0	43.9
Oil Content - 1990						
		19.4	19.7	21.4	23.0	21.3
	1989-90	19.1	19.7	21.0	22.8	20.9
	1988-90	19.3	19.5	21.2	22.7	21.0
Protein Content - 1990						
		41.9	43.3	41.3	39.6	40.0
	1989-90	41.6	43.1	41.3	39.6	40.4
	1988-90	41.5	43.0	41.3	39.5	40.2
Seed size		13.6	15.7	12.2	15.9	12.5
Maturity index		10-17	+0	-1	-4	-5
Height		38	42	32	27	31
Seed quality		1.8	2.3	1.7	2.0	1.8
M. incognita		1.2	4.5	1.6	2.5	1.0
M. arenaria		4.6	3.6	4.6	4.6	1.1
SCN race 3		R	R	R	S	R
SCN race 4		R	S	R	S	R
Flower color		P	W	W	P	W
Pubescence color		T	T	T	T	G
Pod wall color		T	T	T	T	T

TABLE 29 - (continued)

	SC84- 1531	N86- 397	N86- 491	AU86- 888	D87- 5870	S85- 1008	TN87- 198
Seed Yield - 1990							
East Coast	45.4	46.0	50.0	47.7	45.9	44.9	46.8
Southeast	36.0	35.8	37.7	36.9	36.4	33.5	36.9
Upper and Central South	45.2	51.4	49.4	45.8	45.0	43.6	50.8
Delta	47.2	42.7	43.5	42.7	44.2	38.6	49.2
West	61.3	50.4	57.5	57.2	52.0	53.5	56.5
1989-90							
East Coast	43.1	45.7	46.0				
Southeast	36.1	35.8	39.5				
Upper & Central South	46.4	49.7	49.7				
Delta	46.7	43.3	44.1				
West	50.8	43.9	47.6				
1988-90							
East Coast	41.3						
Southeast	38.6						
Upper & Central South	47.8						
Delta	47.7						
West	47.6						
Oil Content - 1990	20.2	21.3	20.5	22.2	20.4	21.0	20.7
1989-90	19.9	20.8	20.2				
1988-90	19.9						
Protein Content - 1990	41.2	41.2	40.3	39.4	42.1	40.5	41.4
1989-90	41.2	41.6	40.3				
1988-90	41.2						
Seed size	15.0	14.6	14.5	14.6	14.2	12.7	13.9
Maturity index	+3	-2	+1	+0	-1	-3	-1
Height	38	36	39	32	35	30	35
Seed quality	1.9	1.7	1.8	2.1	1.9	2.1	1.8
M. incognita	3.0	2.2	2.0	4.5	1.5	2.6	4.5
M. arenaria	3.8	4.6	4.0	4.7	2.2	3.9	3.6
SCN race 3	S	S	S	S	R	R	R
SCN race 4	S	S	S	S	R	R	R
Flower color	P	W	P	P	W	P	W
Pubescence color	G	G	T	G	T	T	T
Pod wall color	T	T	T	T	T	T	T

TABLE 30 - SEED YIELD, IN BUSHEL PER ACRE, FOR THE STRAINS IN UNIFORM GROUP VI, 1990

LOCATION	LEFLORE	SHARKEY	G83- 198	N85- 492	S84- 1876	SC84- 1531
EAST COAST						
WARSAW, VA	48.1	45.1	54.8	59.1	56.2	53.2
HOLLAND, VA	40.8	43.1	40.3	50.8	44.4	32.2
PLYMOUTH, NC	55.5	53.6	53.0	57.1	55.9	64.3
KINSTON, NC	29.9	39.5	36.7	40.2	41.2	32.0
FLORENCE, SC*	26.3	25.3	31.4	21.2	20.3	21.7
MEAN	43.6	45.3	46.2	51.8	49.4	45.4
SOUTHEAST						
BLACKVILLE, SC	22.9	23.7	23.7	23.2	20.1	27.3
TALLASSEE, AL	22.8	31.2	27.8	32.9	29.9	26.2
TIFTON, GA	46.7	40.1	46.1	50.8	47.4	43.4
QUINCY, FL	21.4	16.7	23.2	20.8	24.8	25.1
JAY, FL	34.0	34.0	42.3	29.3	25.7	42.3
FAIRHOPE, AL	27.7	26.0	29.3	30.7	31.0	24.0
BATON ROUGE, LA	68.6	68.2	56.5	74.9	66.8	63.8
MEAN	34.9	34.3	35.6	37.5	35.1	36.0
UPPER AND CENTRAL SOUTH						
ATHENS, GA	45.9	49.4	49.8	47.6	47.1	39.3
CALHOUN, GA	46.9	44.4	61.0	50.6	46.1	50.1
CLEMSON, SC	41.3	42.4	47.0	40.9	39.4	46.1
JACKSON, TN*	16.1	15.9	20.0	13.0	17.4	19.7
MEAN	44.7	45.4	52.6	46.4	44.2	45.2
DELTA						
PORTAGEVILLE, MO(A)	53.5	45.5	52.9	51.9	53.9	48.0
KEISER, AR	40.9	44.7	46.6	54.5	52.5	50.2
JONESBORO, AR	40.2	37.8	39.7	46.9	45.3	42.7
PINE TREE, AR	49.7	44.7	49.1	51.4	46.5	50.4
STONEVILLE, MS(A)	33.3	42.7	31.9	36.4	37.7	39.6
STONEVILLE, MS(B)	42.4	48.3	50.1	52.4	47.5	53.7
ST. JOSEPH, LA	40.5	37.6	43.9	46.4	44.1	43.7
ROHWER, AR	37.6	48.2	52.2	54.4	32.0	49.0
MEAN	42.3	43.7	45.8	49.3	44.9	47.2
WEST						
STUTTGART, AR	50.6	51.0	49.1	45.9	44.1	53.3
BOSSIER CITY, LA	69.7	61.6	67.9	73.5	60.3	80.4
BIXBY, OK	47.8	41.1	51.9	59.4	54.8	50.2
MEAN	56.0	51.2	56.3	59.6	53.1	61.3

\*Not included in mean.



TABLE 30 - (continued)

LOCATION	N86- 397	N86- 491	AU86- 888	D87- 5870	S85- 1008	TN87- 198	L.S.D. (.05)	C.V. (%)
EAST COAST								
WARSAW, VA	50.1	56.0	54.2	52.9	46.7	49.3	8.2	9.3
HOLLAND, VA	45.8	49.4	42.2	37.2	44.9	38.5	9.1	12.6
PLYMOUTH, NC	55.5	55.4	56.8	58.0	56.9	60.7	.	11.2
KINSTON, NC	32.5	39.1	37.7	35.6	31.1	38.8	7.6	12.5
FLORENCE, SC*	20.8	33.1	33.6	20.8	24.6	30.2	.	37.9
MEAN	46.0	50.0	47.7	45.9	44.9	46.8		
SOUTHEAST								
BLACKVILLE, SC	25.2	24.4	27.3	27.1	20.3	28.6	.	16.4
TALLASSEE, AL	31.1	24.0	35.5	27.4	21.1	23.3	10.5	22.7
TIFTON, GA	46.3	48.0	46.9	44.5	45.6	47.1	6.0	7.6
QUINCY, FL	23.1	23.5	26.7	21.9	20.1	20.1	4.6	12.3
JAY, FL	33.0	45.0	36.0	40.0	33.3	39.0	9.6	15.6
FAIRHOPE, AL	28.3	24.0	27.0	27.7	31.0	28.7	5.2	11.1
BATON ROUGE, LA	63.8	75.1	59.1	66.4	63.0	71.4	8.7	6.9
MEAN	35.8	37.7	36.9	36.4	33.5	36.9		
UPPER AND CENTRAL SOUTH								
ATHENS, GA	49.8	43.0	34.0	50.0	51.7	53.4	10.2	12.9
CALHOUN, GA	56.3	62.0	59.5	45.4	45.4	56.8	9.1	9.9
CLEMSON, SC	48.2	43.1	43.8	39.6	33.8	42.1	5.4	7.5
JACKSON, TN*	10.1	19.0	17.3	15.3	16.4	16.7	.	25.8
MEAN	51.4	49.4	45.8	45.0	43.6	50.8		
DELTA								
PORTAGEVILLE, MO(A)	48.2	42.9	38.9	52.1	36.0	51.4	7.9	9.8
KEISER, AR	44.0	46.4	40.9	43.4	43.8	48.6	7.7	9.7
JONESBORO, AR	45.8	42.3	44.6	48.6	40.2	46.4	.	10.1
PINE TREE, AR	50.8	46.8	49.4	47.7	46.3	51.0	.	6.6
STONEVILLE, MS(A)	29.9	33.0	26.3	35.6	23.7	46.4	6.1	10.4
STONEVILLE, MS(B)	46.2	48.5	49.2	45.0	49.0	48.4	6.0	7.3
ST. JOSEPH, LA	46.2	48.0	46.6	40.9	36.1	46.1	7.6	10.7
ROHWER, AR	30.3	40.5	46.0	40.0	33.4	55.4	13.1	17.9
MEAN	42.7	43.5	42.7	44.2	38.6	49.2		
WEST								
STUTTGART, AR	47.5	43.4	47.1	47.2	39.4	48.9	4.9	6.2
BOSSIER CITY, LA	55.8	81.8	73.9	65.8	59.4	67.7	6.2	5.4
BIXBY, OK	47.8	47.4	50.6	42.9	61.8	53.0	6.4	7.4
MEAN	50.4	57.5	57.2	52.0	53.5	56.5		

\*Not included in mean.

TABLE 31 - CHEMICAL COMPOSITION AND SEED SIZE FOR THE STRAINS IN UNIFORM GROUP VI, 1990

LOCATION	LEFLORE	SHARKEY	G83- 198	N85- 492	S84- 1876	SC84- 1531
OIL PERCENTAGE						
PLYMOUTH, NC	17.8	18.9	19.9	21.5	19.9	19.3
TALLASSEE, AL	19.8	19.8	23.0	24.0	21.0	21.2
JAY, FL	21.0	21.6	22.5	23.6	23.3	21.0
PORTAGEVILLE, MO(A)	19.5	20.0	21.4	22.5	21.4	19.4
KEISER, AR	19.3	18.1	21.3	22.5	20.6	19.6
STONEVILLE, MS(B)	20.0	20.4	21.7	23.7	22.5	20.8
STUTTGART, AR	19.1	20.4	20.9	23.6	21.2	20.4
ATHENS, GA	18.7	18.3	20.4	22.7	20.4	19.6
MEAN	19.4	19.7	21.4	23.0	21.3	20.2
PROTEIN PERCENTAGE						
PLYMOUTH, NC	42.6	43.0	42.4	40.1	40.2	41.3
TALLASSEE, AL	41.6	42.9	40.4	38.4	40.3	39.4
JAY, FL	42.3	43.3	42.2	41.0	41.5	42.6
PORTAGEVILLE, MO(A)	40.4	41.3	40.5	40.1	39.4	41.9
KEISER, AR	40.6	43.6	40.5	38.5	39.1	40.9
STONEVILLE, MS(B)	42.2	44.0	42.3	40.2	39.1	41.4
STUTTGART, AR	43.3	43.3	40.4	38.7	39.3	40.5
ATHENS, GA	42.5	45.3	41.8	39.7	41.0	41.5
MEAN	41.9	43.3	41.3	39.6	40.0	41.2
GRAMS PER 100 SEED						
PLYMOUTH, NC	13.6	15.7	11.7	15.7	13.3	15.7
TALLASSEE, AL	11.8	13.6	11.4	16.6	11.8	12.9
JAY, FL	16.0	17.0	13.0	19.0	14.0	18.0
PORTAGEVILLE, MO(A)	13.5	15.3	12.7	14.6	12.6	15.6
KEISER, AR	13.5	16.5	11.5	15.5	11.5	14.5
STONEVILLE, MS(B)	12.4	14.9	12.5	15.5	12.2	14.2
STUTTGART, AR	14.2	15.5	12.5	15.1	11.8	14.5
ATHENS, GA	13.9	17.1	12.5	14.9	13.0	14.7
MEAN	13.6	15.7	12.2	15.9	12.5	15.0

TABLE 31 - (continued)

LOCATION	N86- 397	N86- 491	AU86- 888	D87- 5870	S85- 1008	TN87- 198
OIL PERCENTAGE						
PLYMOUTH, NC	19.5	19.5	20.6	18.9	19.4	19.6
TALLASSEE, AL	22.5	20.5	23.7	21.4	21.8	22.1
JAY, FL	22.6	21.7	23.6	22.5	21.9	22.4
PORTAGEVILLE, MO(A)	21.1	19.8	21.9	19.7	21.4	20.1
KEISER, AR	20.8	19.4	21.4	19.3	20.9	19.6
STONEVILLE, MS(A)	21.5	21.7	23.0	21.1	21.3	20.9
STUTTGART, AR	21.9	21.6	21.9	20.6	20.9	20.9
ATHENS, GA	20.4	19.6	21.6	19.5	20.4	20.2
MEAN	21.3	20.5	22.2	20.4	21.0	20.7
PROTEIN PERCENTAGE						
PLYMOUTH, NC	43.0	41.2	40.2	43.1	42.0	41.2
TALLASSEE, AL	40.3	40.8	38.1	42.5	40.0	41.1
JAY, FL	42.4	41.1	39.5	42.1	41.7	41.8
PORTAGEVILLE, MO(A)	40.5	39.7	39.5	41.6	38.0	40.7
KEISER, AR	39.3	40.5	39.3	41.4	40.1	40.1
STONEVILLE, MS(A)	41.9	40.2	39.5	42.2	41.1	42.5
STUTTGART, AR	39.8	37.3	39.6	41.5	40.3	42.4
ATHENS, GA	42.0	41.8	39.7	42.6	41.1	41.1
MEAN	41.2	40.3	39.4	42.1	40.5	41.4
GRAMS PER 100 SEED						
PLYMOUTH, NC	15.4	15.8	15.0	14.5	13.5	14.8
TALLASSEE, AL	14.7	12.6	14.1	12.0	11.4	12.1
JAY, FL	16.0	15.0	16.0	15.0	14.0	14.0
PORTAGEVILLE, MO(A)	15.0	13.4	13.1	13.8	13.0	14.1
KEISER, AR	14.0	15.5	14.5	15.0	11.0	15.5
STONEVILLE, MS(A)	13.6	15.1	14.9	13.8	12.8	12.6
STUTTGART, AR	14.0	13.4	15.4	14.7	12.7	14.5
ATHENS, GA	13.9	15.5	13.8	14.5	13.3	13.8
MEAN	14.6	14.5	14.6	14.2	12.7	13.9

TABLE 32 - RELATIVE MATURITY DATA, DAYS EARLIER (-) OR LATER (+) THAN LEFLORE, FOR THE STRAINS IN UNIFORM GROUP VI, 1990

LOCATION	LEFLORE	SHARKEY	G83- 198	N85- 492	S84- 1876	SC84- 1531
EAST COAST						
WARSAW, VA	10/22	+2	+1	-4	-5	+4
HOLLAND, VA	10/20	+0	-3	-6	-4	+10
PLYMOUTH, NC	10/18	+2	+2	+2	+2	+2
KINSTON, NC	10/25	-1	+0	-2	-3	+5
FLORENCE, SC*	10/09	+2	+0	-2	-3	+3
MEAN	10/21	+1	+0	-2	-2	+6
SOUTHEAST						
BLACKVILLE, SC	10/09	+0	-3	-2	-4	+7
TIFTON, GA	10/05	+1	-5	-5	-12	+2
FAIRHOPE, AL	10/08	+2	+0	-9	-9	+3
TALLASSEE, AL	10/07	-1	-2	-3	-4	+2
JAY, FL	10/14	-2	-2	+2	-6	+2
BATON ROUGE, LA	10/17	-11	-5	+1	-5	+0
MEAN	10/10	-2	-3	-3	-7	+3
UPPER AND CENTRAL SOUTH						
ATHENS, GA	10/09	+1	+1	-3	-4	+3
CALHOUN, GA	10/15	+1	-2	-2	-6	+0
CLEMSON, SC	10/20	+0	-1	-4	-8	+3
JACKSON, TN*	11/13	+1	-8	-47	-41	+3
MEAN	10/15	+0	-1	-3	-6	+2
DELTA						
PORTAGEVILLE, MO(A)	10/27	+2	+3	-6	-5	+4
KEISER, AR	10/25	+0	-2	-4	-6	+0
JONESBORO, AR	10/21	-2	-1	-4	-4	+2
PINE TREE, AR	10/16	+0	+4	+0	-4	+3
STONEVILLE, MS(A)	10/09	+0	-4	-8	-8	+6
STONEVILLE, MS(B)	10/16	-1	-2	-2	-5	+2
ST. JOSEPH, LA	10/14	+0	-1	-11	-12	+5
ROHWER, AR	10/17	+0	+3	-2	-4	+2
MEAN	10/18	+0	+0	-4	-6	+3
WEST						
STUTTGART, AR	10/17	+0	+3	-4	-7	+2
BOSSIER CITY, LA	10/16	+0	-2	-8	-8	+1
BIXBY, OK	11/05	+3	+7	+0	+7	+7
MEAN	10/23	+1	+3	-4	-3	+3

\*Not included in mean.

TABLE 32 - (continued)

LOCATION	N86- 397	N86- 491	AU86- 888	D87- 5870	S85- 1008	TN87- 198
EAST COAST						
WARSAW, VA	+7	+0	+0	+0	-3	+1
HOLLAND, VA	+3	+0	+2	+3	-6	+4
PLYMOUTH, NC	+2	+2	+2	+2	+2	+2
KINSTON, NC	-1	-1	+0	-2	-2	+0
FLORENCE, SC*	-1	+4	+0	-1	-3	+1
MEAN	+3	+1	+1	+1	-2	+2
SOUTHEAST						
BLACKVILLE, SC	-4	+1	-1	-1	-4	-4
TIFTON, GA	-5	+1	+0	-7	-11	-5
FAIRHOPE, AL	-5	+3	+0	+2	-5	-4
TALLASSEE, AL	-5	+2	+2	+0	-1	-4
JAY, FL	-5	+1	+1	-3	+2	-4
BATON ROUGE, LA	-12	-3	-1	+0	+1	-4
MEAN	-6	+1	+0	-1	-3	-4
UPPER AND CENTRAL SOUTH						
ATHENS, GA	+0	+0	-2	+0	-2	+0
CALHOUN, GA	+0	-2	+0	+0	-6	-2
CLEMSON, SC	-5	+1	+2	+0	-8	-5
JACKSON, TN*	-11	+3	-3	-6	-30	-9
MEAN	-2	-1	+0	+0	-6	-3
DELTA						
PORTAGEVILLE, MO(A)	+1	+0	-6	+1	-1	-1
KEISER, AR	+0	+2	-2	-3	-5	-1
JONESBORO, AR	+1	+0	+2	-2	-4	-1
PINE TREE, AR	+2	+2	+3	-1	-2	+2
STONEVILLE, MS(A)	-7	+0	-7	+0	-8	+0
STONEVILLE, MS(B)	-5	+2	+0	+0	-4	-1
ST. JOSEPH, LA	-9	+2	-6	-2	-2	+0
ROHWER, AR	-4	+0	+2	-2	-2	+2
MEAN	-3	+1	-2	-1	-3	+0
WEST						
STUTTGART, AR	+0	+2	+0	+1	+1	+1
BOSSIER CITY, LA	-1	-1	+0	-10	+0	-8
BIXBY, OK	+0	+7	+7	+7	+7	+7
MEAN	+0	+3	+2	-1	+3	+0

\*Not included in mean.

TABLE 33 - PLANT HEIGHT FOR THE STRAINS IN UNIFORM GROUP VI, 1990

LOCATION	LEFLORE	SHARKEY	G83- 198	N85- 492	S84- 1876	SC84- 1531
EAST COAST						
WARSAW, VA	40	50	30	28	28	43
HOLLAND, VA	44	52	36	30	33	42
PLYMOUTH, NC	45	49	39	35	44	46
KINSTON, NC	42	43	40	33	38	44
FLORENCE, SC*	24	34	23	12	17	22
MEAN	43	48	36	32	36	44
SOUTHEAST						
BLACKVILLE, SC	26	34	22	20	24	29
TIFTON, GA	31	35	31	25	29	33
FAIRHOPE, AL	38	45	37	29	35	40
TALLASSEE, AL	27	36	25	22	28	30
JAY, FL	33	28	31	22	24	35
BATON ROUGE, LA	34	31	37	26	40	31
MEAN	32	35	31	24	30	33
UPPER AND CENTRAL SOUTH						
ATHENS, GA	32	38	30	23	27	37
CALHOUN, GA	44	42	35	33	39	44
CLEMSON, SC	27	34	23	19	24	27
JACKSON, TN*	38	46	37	29	39	43
MEAN	34	38	29	25	30	36
DELTA						
PORTAGEVILLE, MO(A)	47	52	35	28	32	47
KEISER, AR	40	40	28	25	30	40
JONESBORO, AR	47	49	37	32	37	46
PINE TREE, AR	35	40	30	25	25	34
STONEVILLE, MS(A)	36	43	22	22	21	39
STONEVILLE, MS(B)	40	47	35	27	27	41
ST. JOSEPH, LA	44	45	36	34	37	40
ROHWER, AR	39	45	35	30	30	38
MEAN	41	45	32	28	30	41
WEST						
STUTTGART, AR	40	43	32	26	31	38
BOSSIER CITY, LA	34	38	33	33	30	32
BIXBY, OK	42	45	31	31	33	40
MEAN	39	42	32	30	31	37

\*Not included in mean.

TABLE 33 - (continued)

LOCATION	N86- 397	N86- 491	AU86- 888	D87- 5870	S85- 1008	TN87- 198
EAST COAST						
WARSAW, VA	46	41	31	34	29	33
HOLLAND, VA	39	41	39	42	33	40
PLYMOUTH, NC	42	47	43	45	40	43
KINSTON, NC	37	41	34	40	33	43
FLORENCE, SC*	25	27	18	22	15	22
MEAN	41	43	37	40	34	40
SOUTHEAST						
BLACKVILLE, SC	25	28	23	25	21	25
TIFTON, GA	31	32	26	34	21	29
FAIRHOPE, AL	36	37	36	40	31	39
TALLASSEE, AL	30	31	27	29	25	25
JAY, FL	26	32	28	24	28	34
BATON ROUGE, LA	39	40	32	29	33	39
MEAN	31	33	29	30	27	32
UPPER AND CENTRAL SOUTH						
ATHENS, GA	35	39	28	34	33	34
CALHOUN, GA	35	44	37	43	36	40
CLEMSON, SC	27	32	19	27	24	26
JACKSON, TN*	39	45	37	37	34	38
MEAN	32	38	28	35	31	33
DELTA						
PORTAGEVILLE, MO(A)	47	39	38	45	35	39
KEISER, AR	37	40	34	37	30	36
JONESBORO, AR	46	48	41	43	36	41
PINE TREE, AR	31	34	29	41	26	33
STONEVILLE, MS(A)	27	35	28	25	17	29
STONEVILLE, MS(B)	38	45	33	39	27	38
ST. JOSEPH, LA	38	41	38	37	36	40
ROHWER, AR	37	46	37	37	31	39
MEAN	38	41	35	38	30	37
WEST						
STUTTGART, AR	37	41	34	35	30	35
BOSSIER CITY, LA	38	44	28	31	31	33
BIXBY, OK	34	40	34	32	26	34
MEAN	36	42	32	33	29	34

\*Not included in mean.

TABLE 34 - LODGING SCORES FOR THE STRAINS IN UNIFORM GROUP VI, 1990

LOCATION	LEFLORE	SHARKEY	G83- 198	N85- 492	S84- 1876	SC84- 1531
EAST COAST						
WARSAW, VA	2.5	2.7	1.3	1.0	1.0	1.8
HOLLAND, VA	2.5	3.3	1.7	1.2	1.3	2.3
PLYMOUTH, NC	3.0	4.0	3.0	2.0	3.0	3.0
KINSTON, NC	2.0	4.0	2.0	1.0	1.0	2.0
SOUTHEAST						
TIFTON, GA	1.5	2.2	1.3	1.0	1.0	1.3
FAIRHOPE, AL	1.0	1.0	1.0	1.0	1.0	1.0
TALLASSEE, AL	1.0	1.0	1.0	1.0	1.0	1.0
JAY, FL	2.0	4.0	3.0	2.0	1.0	2.0
BATON ROUGE, LA	3.0	1.0	4.0	2.0	4.0	3.0
UPPER AND CENTRAL SOUTH						
ATHENS, GA	1.7	2.3	1.8	1.2	1.2	1.5
CALHOUN, GA	2.2	3.3	2.2	1.8	1.2	1.3
CLEMSON, SC	1.0	2.3	1.0	1.0	1.0	1.0
JACKSON, TN	2.0	2.0	2.0	1.0	1.0	3.0
DELTA						
PORTAGEVILLE, MO(A)	3.0	3.0	1.0	1.0	1.0	1.5
KEISER, AR	2.0	2.8	1.8	1.0	1.0	1.3
JONESBORO, AR	4.3	4.7	4.0	3.0	3.0	3.0
PINE TREE, AR	2.0	3.3	1.7	1.0	1.0	1.3
STONEVILLE, MS(A)	2.3	3.0	2.0	2.0	2.0	2.3
STONEVILLE, MS(B)	2.7	3.0	2.3	2.0	2.0	2.7
ST. JOSEPH, LA	2.5	3.4	2.9	2.1	1.8	2.3
ROHWER, AR	1.7	4.0	1.0	1.0	1.0	1.0
WEST						
STUTTGART, AR	2.9	3.5	2.5	1.2	1.3	2.5
BOSSIER CITY, LA	1.0	1.8	1.0	1.0	1.0	1.2
BIXBY, OK	3.0	3.0	2.0	2.0	0.0	2.0



TABLE 34 - (continued)

LOCATION	N86- 397	N86- 491	AU86- 888	D87- 5870	S85- 1008	TN87- 198
EAST COAST						
WARSAW, VA	2.7	2.3	1.0	2.3	1.3	1.0
HOLLAND, VA	2.5	2.3	1.3	2.3	2.5	1.5
PLYMOUTH, NC	3.0	3.0	3.0	3.0	3.0	3.0
KINSTON, NC	3.0	3.0	1.0	3.0	2.0	1.0
SOUTHEAST						
TIFTON, GA	1.3	2.2	1.0	1.8	1.2	1.3
FAIRHOPE, AL	1.0	1.0	1.0	1.0	1.0	1.0
TALLASSEE, AL	1.0	1.0	1.0	1.0	1.0	1.0
JAY, FL	4.0	3.0	1.0	4.0	3.0	2.0
BATON ROUGE, LA	4.0	3.0	2.0	3.0	2.0	4.0
UPPER AND CENTRAL SOUTH						
ATHENS, GA	1.5	1.8	1.3	1.8	1.8	1.5
CALHOUN, GA	2.3	2.2	2.0	3.8	2.5	1.7
CLEMSON, SC	1.0	1.7	1.0	1.7	1.2	1.0
JACKSON, TN	2.0	3.0	2.0	3.0	2.0	1.0
DELTA						
PORTAGEVILLE, MO(A)	2.5	2.0	1.5	2.0	2.0	1.5
KEISER, AR	2.0	2.5	1.0	1.8	2.0	1.3
JONESBORO, AR	5.0	3.7	3.3	4.7	3.7	3.0
PINE TREE, AR	1.3	2.3	1.0	1.7	1.0	1.0
STONEVILLE, MS(A)	2.0	2.0	2.0	2.7	2.0	2.0
STONEVILLE, MS(B)	2.0	3.3	2.7	3.0	2.0	2.3
ST. JOSEPH, LA	3.1	2.5	2.7	3.1	2.3	2.3
ROHWER, AR	1.0	1.7	1.0	1.3	1.0	1.0
WEST						
STUTTGART, AR	2.7	2.5	2.2	3.5	2.2	2.1
BOSSIER CITY, LA	1.5	1.7	1.0	1.0	1.0	1.2
BIXBY, OK	3.0	3.0	3.0	1.0	2.0	1.0

TABLE 35 - SEED QUALITY SCORES FOR THE STRAINS IN UNIFORM GROUP VI, 1990

LOCATION	LEFLORE	SHARKEY	G83- 198	N85- 492	S84- 1876	SC84- 1531
EAST COAST						
WARSAW, VA	1.5	1.5	1.2	1.5	1.0	1.8
HOLLAND, VA	1.3	2.0	1.0	1.3	1.3	2.7
PLYMOUTH, NC	1.5	1.5	1.5	1.5	1.5	1.5
KINSTON, NC	2.0	1.5	1.5	1.5	1.5	1.5
SOUTHEAST						
TIFTON, GA	2.1	3.1	1.7	2.5	2.5	2.1
TALLASSEE, AL	1.5	3.0	1.5	2.0	1.5	1.5
JAY, FL	3.0	4.0	3.0	4.0	2.0	3.0
BATON ROUGE, LA	1.7	2.0	1.2	2.0	1.8	1.8
UPPER AND CENTRAL SOUTH						
ATHENS, GA	1.5	1.7	1.5	1.5	1.5	1.5
CALHOUN, GA	1.7	3.5	1.2	2.0	1.0	1.5
JACKSON, TN	3.0	3.0	3.0	2.0	2.0	3.0
DELTA						
PORTAGEVILLE, MO(A)	2.0	2.0	2.0	2.5	2.0	1.5
KEISER, AR	2.0	2.0	2.0	2.5	2.5	1.5
JONESBORO, AR	1.3	2.0	1.3	1.3	1.7	1.3
PINE TREE, AR	1.0	2.7	1.0	1.7	1.7	1.0
STONEVILLE, MS(A)	2.0	2.0	2.0	2.0	2.0	2.0
STONEVILLE, MS(B)	2.0	2.0	2.0	2.0	2.0	2.0
ST. JOSEPH, LA	2.1	2.4	1.9	1.7	2.2	2.4
ROHWER, AR	2.2	2.5	2.0	2.0	2.3	2.3
WEST						
STUTTGART, AR	2.0	2.3	2.0	2.3	2.0	2.5

TABLE 35 - (continued)

LOCATION	N86- 397	N86- 491	AU86- 888	D87- 5870	S85- 1008	TN87- 198
EAST COAST						
WARSAW, VA	1.2	1.5	1.8	1.2	1.2	1.2
HOLLAND, VA	1.0	1.0	2.3	1.7	1.7	1.7
PLYMOUTH, NC	1.5	1.5	1.5	1.5	1.5	1.5
KINSTON, NC	1.5	1.5	1.5	1.5	1.5	1.5
SOUTHEAST						
TIFTON, GA	1.8	2.2	2.3	2.4	2.8	2.0
TALLASSEE, AL	1.5	1.5	2.0	1.5	2.0	2.0
JAY, FL	3.0	3.0	4.0	3.0	4.0	3.0
BATON ROUGE, LA	1.5	1.5	1.3	1.8	2.5	1.5
UPPER AND CENTRAL SOUTH						
ATHENS, GA	1.5	1.5	1.5	1.5	1.5	1.5
CALHOUN, GA	1.0	1.3	2.8	3.0	2.2	1.3
JACKSON, TN	2.0	3.0	3.0	3.0	2.0	3.0
DELTA						
PORTAGEVILLE, MO(A)	1.5	2.0	1.5	2.0	2.0	2.5
KEISER, AR	2.0	2.0	2.5	2.0	2.5	1.5
JONESBORO, AR	1.0	1.0	1.0	1.3	1.3	1.3
PINE TREE, AR	1.3	1.3	2.3	1.3	1.0	1.7
STONEVILLE, MS(A)	2.0	2.0	2.0	2.0	2.0	2.0
STONEVILLE, MS(B)	2.0	2.0	2.0	2.0	2.0	2.0
ST. JOSEPH, LA	1.8	2.0	1.9	2.2	1.9	1.9
ROHWER, AR	2.5	2.3	3.0	2.5	3.2	1.7
WEST						
STUTTGART, AR	2.5	2.2	3.0	2.3	2.5	2.5

PRELIMINARY GROUP VI

1990

Preliminary Group VI nurseries, which included Sharkey and Bedford, along with 34 experimental lines, were grown at 7 locations. Parentage for each of the lines is reported in Table 36. A general summary of performance is reported in Table 37. Data from individual locations are reported in Tables 38-42.

There were no lines appreciably later in maturity than Sharkey. Two lines approached the maturity of Bedford. The mean seed yields over all locations was 41.7 bushels per acre, with a range among lines of 48.2 to 34.4 bushels per acre. Sharkey had a mean seed yield of 41.7 bushels per acre. Two strains had seed yields significantly above that for Sharkey, and one had a mean seed yield significantly below that for Sharkey. Protein percentage among lines ranged from 43.9 to 37.9, with a mean of 41.0. Sharkey had a mean protein percentage of 43.7. There were no lines having a protein percentage significantly above that of Sharkey, but 29 lines had a significantly lower protein concentration in the seed. Oil percentage among lines ranged from 22.6 to 18.9, with a mean of 20.9. Oil percentage for Sharkey was 19.2. Twenty-eight lines had a significantly higher oil percentage than Sharkey, but none were lower.

Twenty-four lines were rated resistant to SCN race 3 in the greenhouse plantings in Jackson, Tennessee. Seven of these were also rated resistant to SCN race 4.

TABLE 36 - PARENTAGE OF THE STRAINS GROWN IN PRELIMINARY GROUP VI, 1990

VARIETY OR STRAIN	PARENTAGE
1. SHARKEY	TRACY X CENTENNIAL
2. BEDFORD	FORREST(2) X (D68-18 X PI 88788)
3. AU87-11	J80-293 X N81-1756
4. AU87-167	J80-293 X N81-1756
5. AU87-727	J80-293 X N81-320
6. AU87-831	J80-293 X N81-320
7. AU87-1050	J80-293 X N81-320
8. D86-8069	EPPS X sel(PEKING X CENTENNIAL)
9. D86-8841	D79-6058 X LEFLORE
10. D87-4429	SHARKEY X LEFLORE
11. D87-4681	SHARKEY X D80-7987
12. D88-4085	LAMAR X CENTENNIAL
13. G86-1195	D76-9665 X BRAXTON
14. G86-1359	D76-9665 X BRAXTON
15. G86-1579	GORDON X D79-6058
16. G86-1758	GORDON X D79-6058
17. G86-1936	GORDON X BRAXTON
18. N88-59	N79-856 X N81-1121
19. N88-192	N79-856 X N81-320
20. N88-198	N79-856 X N81-320
21. N88-275	NCR8170 X N81-1121
22. N88-300	YOUNG X N80-50232
23. R88-75S	R81-266 X D81-8912
24. R88-106	R76-479 X R80-437
25. R88-827	(R80-437 X D79-6162) X (JEFF X R80-64K)
26. R88-876S	R79-727 X D82-285
27. R88-4892	DAVIS X DARE
28. S86-1238	FORREST X S79-4240
29. S86-14773	S79-4240 X ESSEX
30. S87-1551	ESSEX X EPPS
31. SC84-931	CENTENNIAL X YOUNG
32. SC87-1554	COKER 368 X FORREST
33. SC87-1675	COKER 368 X FORREST
34. SC87-2715	KIRBY X (GORDON X D77-6056)
35. SC87-2937	COKER 368 X (F77-7142 X D76-9665)
36. TN85-205	A5474 X TN82-94

TABLE 37 - GENERAL SUMMARY OF PERFORMANCE FOR THE STRAINS GROWN IN PRELIMINARY GROUP VI, 1990

STRAIN	SEED YIELD	MAT. INDEX	-----PERCENT-----			SCN 3	SCN 4
			HT.	OIL	PROTEIN		
SHARKEY	41.7	10/14	40	19.2	43.7	R	S
BEDFORD	37.7	6-	31	20.8+	39.9-	R	R
AU87-11	34.4-	3-	33	22.3+	40.2-	S	S
AU87-167	38.2	1-	35	22.5+	38.8-	S	S
AU87-727	43.0	2-	36	22.6+	40.1-	R	R
AU87-831	40.5	3-	36	20.7+	42.0-	R	S
AU87-1050	42.4	4-	32	19.5	43.8	R	S
D86-8069	40.8	1+	34	19.9	41.0-	R	R
D86-8841	42.0	0	35	19.1	43.4	R	R
D87-4429	43.9	1-	31	20.7+	41.3-	R	S
D87-4681	41.0	1-	37	19.9	42.7	R	S
D88-4085	42.3	2+	36	18.9	43.9	R	S
G86-1195	44.8	0	32	20.7+	41.5-	R	S
G86-1359	42.9	2+	39	21.6+	38.1-	R	S
G86-1579	38.0	1+	35	20.3+	42.0-	R	S
G86-1758	43.7	1-	36	20.7+	41.0-	R	S
G86-1936	41.6	0	37	21.6+	37.9-	R	S
N88-59	42.9	2-	30	22.2+	40.9-	S	S
N88-192	48.2+	2-	39	21.1+	43.0	S	S
N88-198	42.6	1-	38	19.9	43.8	S	S
N88-275	45.6	1-	29	21.0+	40.7-	S	S
N88-300	41.7	1+	33	21.5+	41.4-	S	S
R88-75S	40.6	2-	33	21.5+	39.4-	R	R
R88-106	38.8	0	35	20.2+	39.5-	R	S
R88-827	41.3	2-	30	20.9+	40.8-	R	S
R88-876S	39.7	1+	36	19.6	41.3-	R	S
R88-4892	42.4	4-	38	22.0+	40.8-	S	S
S86-1238	44.8	6-	29	20.6+	40.7-	R	R
S86-14773	42.9	4-	27	21.1+	41.0-	S	S
S87-1551	45.6	6-	27	21.0+	41.4-	R	R
SC84-931	47.7+	3-	33	21.4+	41.5-	S	S
SC87-1554	40.1	0	37	21.3+	40.2-	R	S
SC87-1675	37.3	1+	35	21.1+	38.7-	R	S
SC87-2715	40.7	0	36	20.4+	41.1-	R	S
SC87-2937	42.5	0	39	22.4+	38.5-	R	S
TN85-205	37.4	2-	35	21.1+	40.6-	R	R
LSD (.05)	4.8			0.8	1.3		
C.V.	11%			3%	2%		

+ or - designations refer to differences from Sharkey

TABLE 38 - SEED YIELD, IN BUSHEL PER ACRE, FOR THE STRAINS IN PRELIMINARY GROUP VI, 1990

STRAIN	PLY- MOUTH, NC	ATHENS, GA	TALLAS- SEE, AL	JAY, FL	KEISER, AR	STONE- VILLE, MS (A)	STONE- VILLE, MS (B)
SHARKEY	52.5	57.1	25.3	29.5	42.2	41.0	44.1
BEDFORD	45.3	46.9	11.5-	30.5	45.9	44.7	39.2
AU87-11	39.8	47.5	22.5	24.0	39.3	29.6-	38.2
AU87-167	47.3	42.1-	27.4	41.0	34.9-	31.7-	43.1
AU87-727	56.5	53.2	28.0	30.0	50.1+	43.2	40.3
AU87-831	56.4	46.6	23.1	28.0	44.3	36.4	48.7
AU87-1050	46.9	60.6	26.0	22.5	51.1+	42.1	47.7
D86-8069	51.7	49.0	25.4	32.5	40.8	43.0	42.9
D86-8841	48.1	50.7	21.0	32.5	46.3	47.3+	48.5
D87-4429	47.2	52.6	33.0	40.0	47.1	43.8	43.8
D87-4681	49.1	47.5	24.7	30.0	46.5	46.7	42.2
D88-4085	50.6	48.7	29.3	37.5	42.9	41.6	45.6
G86-1195	58.6	55.6	26.6	37.5	49.1+	44.9	41.7
G86-1359	59.7	54.1	25.6	34.0	45.8	39.6	41.8
G86-1579	51.5	48.4	14.7	27.5	44.6	39.3	39.9
G86-1758	57.0	52.7	23.9	39.0	47.9+	39.3	46.3
G86-1936	50.0	49.2	28.5	37.0	43.8	42.4	40.5
N88-59	54.1	52.1	11.6-	39.5	49.2+	40.0	54.0+
N88-192	60.4	60.1	31.4	44.0+	48.2+	44.8	48.8
N88-198	59.4	44.0	25.9	32.5	48.5+	42.2	45.9
N88-275	64.5	54.0	21.3	34.0	52.7+	44.8	48.1
N88-300	54.2	47.5	19.1	37.0	44.9	42.0	47.0
R88-75S	50.8	50.9	15.7	33.0	41.7	47.5+	44.7
R88-106	56.0	48.2	18.4	28.5	44.2	34.2-	41.9
R88-827	56.7	46.4	27.1	28.0	46.7	38.6	45.6
R88-876S	53.9	47.8	20.4	34.5	43.9	38.9	38.9
R88-4892	55.9	54.3	22.8	31.5	41.0	47.3+	44.2
S86-1238	49.1	63.6	20.1	35.0	53.1+	45.7	47.0
S86-14773	52.7	45.4	22.6	31.5	49.3+	44.8	54.3+
S87-1551	55.9	54.4	17.8	25.5	57.2+	59.3+	49.2
SC84-931	63.8	50.1	25.4	37.0	49.7+	53.9+	54.0+
SC87-1554	51.1	44.6	24.9	35.5	43.9	36.6	44.4
SC87-1675	54.0	43.7	22.9	38.0	38.6	26.1-	37.7
SC87-2715	64.3	47.4	15.6	35.0	42.9	38.6	41.4
SC87-2937	53.1	50.1	26.4	.	44.9	39.6	40.7
TN85-205	46.5	51.1	11.4-	31.5	41.7	38.2	41.4
LSD (.05)	N.S.	13.8	11.6	11.9	5.3	5.8	7.3
C.V.	12%	14%	25%	18%	6%	7%	8%

TABLE 39 - OIL PERCENTAGES FOR THE STRAINS IN PRELIMINARY GROUP VI, 1990

STRAIN	PLY-MOUTH, NC	TALLAS-SEE, AL	JAY, FL	KEISER, AR	STONE-VILLE, MS (A)
SHARKEY	17.6	19.4	21.1	18.0	19.7
BEDFORD	19.2	21.3	21.6	20.2	21.9
AU87-11	19.4	24.9	22.8	21.4	23.2
AU87-167	20.8	24.4	23.4	21.1	22.9
AU87-727	20.9	25.0	24.0	21.1	22.1
AU87-831	18.9	22.4	21.7	19.8	20.5
AU87-1050	17.7	20.1	19.3	19.2	21.2
D86-8069	18.2	20.6	20.4	19.5	20.9
D86-8841	18.0	19.9	20.1	18.4	19.2
D87-4429	19.3	21.3	22.4	19.6	21.1
D87-4681	18.1	19.0	22.7	19.3	20.5
D88-4085	16.7	19.7	21.1	17.4	19.6
G86-1195	19.6	20.8	21.0	20.9	21.0
G86-1359	20.5	22.5	21.8	21.3	21.8
G86-1579	18.7	22.7	20.8	19.2	20.3
G86-1758	19.1	22.4	21.2	20.0	20.6
G86-1936	19.8	23.4	22.4	21.0	21.5
N88-59	20.6	23.8	22.8	21.4	22.2
N88-192	18.9	23.1	22.0	20.2	21.4
N88-198	19.1	21.0	20.7	18.8	19.7
N88-275	19.4	22.1	21.8	20.5	21.0
N88-300	20.5	22.9	21.9	20.7	21.7
R88-75S	19.5	22.2	22.1	21.2	22.4
R88-106	19.3	21.0	19.9	20.1	20.5
R88-827	19.9	22.6	20.8	20.4	20.8
R88-876S	17.9	20.2	20.5	18.9	20.7
R88-4892	20.2	23.7	23.1	20.5	22.7
S86-1238	19.4	20.9	21.4	19.9	21.5
S86-14773	18.8	22.3	22.3	19.8	22.1
S87-1551	18.8	22.4	21.3	20.4	21.9
SC84-931	20.1	22.4	21.9	20.9	21.7
SC87-1554	19.4	22.6	22.3	20.8	21.4
SC87-1675	19.6	22.0	22.4	20.4	21.1
SC87-2715	19.2	21.1	21.6	19.7	20.3
SC87-2937	21.0	23.8	.	22.1	22.6
TN85-205	19.6	21.6	22.4	20.1	21.9



TABLE 40 - PROTEIN PERCENTAGES FOR THE STRAINS IN PRELIMINARY GROUP VI, 1990

STRAIN	PLY-MOUTH, NC	TALLAS-SEE, AL	JAY, FL	KEISER, AR	STONE-VILLE, MS (B)
SHARKEY	44.0	42.9	43.8	43.7	44.2
BEDFORD	38.8	39.7	42.7	38.8	39.3
AU87-11	42.6	37.1	41.3	40.0	40.2
AU87-167	40.0	36.3	39.2	39.0	39.7
AU87-727	40.9	36.6	39.8	41.1	42.0
AU87-831	42.5	39.3	42.0	42.2	43.9
AU87-1050	44.0	43.3	46.4	42.8	42.5
D86-8069	41.5	40.0	42.3	40.6	40.4
D86-8841	42.3	43.0	44.3	43.0	44.5
D87-4429	40.9	40.9	41.2	41.4	42.1
D87-4681	42.6	43.3	41.6	42.5	43.3
D88-4085	44.2	42.5	44.2	44.0	44.6
G86-1195	41.1	41.8	43.5	39.1	41.8
G86-1359	38.5	36.2	40.2	37.7	38.1
G86-1579	42.0	38.3	43.3	42.5	44.0
G86-1758	41.3	38.0	42.6	40.5	42.4
G86-1936	38.7	35.4	38.7	37.7	39.2
N88-59	40.7	38.6	41.8	41.4	42.0
N88-192	45.5	40.0	42.8	43.5	43.2
N88-198	44.4	41.3	44.3	44.3	44.5
N88-275	41.1	39.6	41.2	40.0	41.7
N88-300	41.3	40.1	42.6	40.7	42.1
R88-75S	41.0	38.3	40.0	39.4	38.3
R88-106	40.3	39.0	40.8	37.6	39.7
R88-827	40.8	38.8	42.0	40.5	42.0
R88-876S	41.7	40.3	42.5	41.5	40.6
R88-4892	41.3	38.7	41.4	40.9	41.5
S86-1238	40.0	41.4	41.7	40.1	40.5
S86-14773	43.0	40.7	40.2	40.8	40.3
S87-1551	42.4	40.8	42.3	40.9	40.5
SC84-931	41.3	40.7	43.6	40.5	41.5
SC87-1554	40.9	39.2	41.0	39.8	40.2
SC87-1675	39.8	37.5	38.8	37.7	39.7
SC87-2715	41.0	39.7	41.0	41.4	42.2
SC87-2937	39.6	37.0	.	37.7	39.6
TN85-205	40.0	41.0	41.5	39.7	40.9

TABLE 41 - PLANT HEIGHT PERCENTAGES FOR THE STRAINS IN PRELIMINARY GROUP VI, 1990

STRAIN	PLY-MOUTH, NC	ATHENS, GA	TALLAS- SEE, AL	JAY, FL	KEISER, AR	STONE- VILLE, MS (A)	STONE- VILLE, MS (B)
SHARKEY	46.0	38.0	32.0	31.0	44.0	42.0	45.0
BEDFORD	47.0	36.0	20.0	29.0	30.0	25.0	33.0
AU87-11	45.0	28.0	23.0	29.0	38.0	29.0	36.0
AU87-167	43.0	32.0	28.0	35.0	39.0	34.0	36.0
AU87-727	49.0	36.0	29.0	31.0	35.0	33.0	39.0
AU87-831	46.0	36.0	28.0	31.0	40.0	34.0	39.0
AU87-1050	40.0	29.0	27.0	30.0	35.0	26.0	34.0
D86-8069	45.0	32.0	28.0	27.0	37.0	34.0	36.0
D86-8841	45.0	28.0	23.0	33.0	39.0	37.0	37.0
D87-4429	40.0	29.0	24.0	27.0	34.0	27.0	35.0
D87-4681	42.0	36.0	32.0	28.0	38.0	43.0	42.0
D88-4085	46.0	36.0	28.0	32.0	39.0	33.0	39.0
G86-1195	45.0	30.0	24.0	29.0	31.0	32.0	35.0
G86-1359	46.0	39.0	30.0	36.0	40.0	38.0	41.0
G86-1579	40.0	34.0	23.0	29.0	40.0	41.0	40.0
G86-1758	49.0	31.0	25.0	30.0	46.0	30.0	39.0
G86-1936	46.0	33.0	27.0	31.0	48.0	36.0	39.0
N88-59	41.0	26.0	17.0	29.0	45.0	23.0	31.0
N88-192	54.0	34.0	29.0	35.0	49.0	33.0	39.0
N88-198	49.0	32.0	30.0	35.0	39.0	37.0	42.0
N88-275	43.0	24.0	22.0	27.0	32.0	27.0	30.0
N88-300	42.0	29.0	24.0	29.0	34.0	37.0	35.0
R88-75S	44.0	29.0	25.0	28.0	35.0	28.0	39.0
R88-106	51.0	33.0	24.0	33.0	35.0	30.0	38.0
R88-827	40.0	28.0	23.0	23.0	35.0	24.0	34.0
R88-876S	49.0	33.0	26.0	33.0	37.0	36.0	41.0
R88-4892	51.0	34.0	24.0	37.0	41.0	37.0	39.0
S86-1238	43.0	28.0	23.0	29.0	31.0	23.0	29.0
S86-14773	39.0	23.0	24.0	26.0	26.0	23.0	28.0
S87-1551	40.0	24.0	18.0	27.0	30.0	24.0	26.0
SC84-931	45.0	28.0	26.0	31.0	31.0	33.0	35.0
SC87-1554	50.0	36.0	29.0	31.0	35.0	38.0	40.0
SC87-1675	47.0	30.0	26.0	34.0	35.0	34.0	36.0
SC87-2715	47.0	34.0	24.0	34.0	41.0	33.0	40.0
SC87-2937	48.0	40.0	27.0	.	39.0	40.0	40.0
TN85-205	47.0	32.0	25.0	33.0	40.0	31.0	38.0

TABLE 42 - SEED QUALITY SCORES FOR THE STRAINS IN PRELIMINARY GROUP VI, 1990

STRAIN	PLY-MOUTH, NC	ATHENS, GA	TALLAS- SEE, AL	JAY, FL	KEISER, AR	STONE- VILLE, MS (A)	STONE- VILLE, MS (B)
SHARKEY	1.5	1.8	3.0	4.0	2.0	2.0	3.0
BEDFORD	1.5	1.8	4.0	4.0	2.0	2.0	2.0
AU87-11	1.5	1.5	1.5	2.0	2.5	2.0	2.0
AU87-167	1.5	1.5	1.0	2.0	1.5	2.0	2.0
AU87-727	1.5	1.5	1.5	3.0	1.5	2.0	2.0
AU87-831	1.5	1.5	1.0	2.0	2.0	2.0	2.0
AU87-1050	1.5	1.5	2.0	4.0	2.0	2.0	2.0
D86-8069	1.5	1.5	1.5	2.0	2.0	2.0	2.0
D86-8841	1.5	1.5	1.5	2.0	1.5	2.0	2.0
D87-4429	1.5	1.5	1.5	3.0	1.5	2.0	2.0
D87-4681	1.5	1.5	3.0	3.0	2.0	2.0	2.0
D88-4085	1.5	2.0	2.0	4.0	1.5	2.0	2.0
G86-1195	1.5	1.5	1.5	4.0	1.5	2.0	2.0
G86-1359	1.5	1.5	2.0	3.0	1.5	2.0	2.0
G86-1579	1.5	1.5	1.5	2.0	2.0	2.0	2.0
G86-1758	1.5	1.5	1.5	3.0	2.0	2.0	2.0
G86-1936	1.5	1.5	1.5	4.0	1.5	2.0	2.0
N88-59	1.5	1.5	1.5	4.0	2.0	2.0	2.0
N88-192	1.5	1.5	1.5	3.0	2.0	2.0	2.0
N88-198	1.5	1.5	1.5	3.0	1.5	2.0	2.0
N88-275	1.5	1.5	1.0	2.0	1.0	2.0	2.0
N88-300	1.5	1.5	1.5	3.0	2.0	2.0	2.0
R88-75S	1.5	1.5	1.5	4.0	2.0	2.0	2.0
R88-106	1.5	1.5	1.0	3.0	2.0	2.0	2.0
R88-827	1.5	1.5	1.0	3.0	2.0	2.0	2.0
R88-876S	1.5	1.5	2.0	3.0	2.0	2.0	2.0
R88-4892	1.5	1.5	1.5	4.0	2.0	2.0	2.0
S86-1238	1.5	1.5	3.0	4.0	1.5	2.0	2.0
S86-14773	1.5	2.2	1.5	4.0	2.5	2.0	2.0
S87-1551	1.5	2.2	2.0	3.0	2.5	2.0	2.0
SC84-931	1.5	1.5	1.5	3.0	2.0	2.0	2.0
SC87-1554	1.5	1.5	1.5	3.0	2.0	2.0	2.0
SC87-1675	1.5	1.5	1.5	2.0	1.5	2.0	2.0
SC87-2715	1.5	1.5	1.5	3.0	2.0	2.0	2.0
SC87-2937	1.5	1.5	1.0	.	2.0	2.0	2.0
TN85-205	1.5	1.5	1.5	2.0	1.5	2.0	2.0

UNIFORM GROUP VII

1990

VARIETY OR STRAIN	PARENTAGE	GENERATION COMPOSITED
1. THOMAS	CENTENNIAL X F77-1138	F6
2. STONEWALL	N73-693 X F76-8757	F6
3. N85-574	N77-179 X JOHNSTON	F6
4. SC84-818	CENTENNIAL X YOUNG	F5
5. AU85-1814	D77-6103 X BRAXTON	F6
6. G84-3185	JOHNSTON X BRAXTON	F5
7. N86-452	N77-940 X N79-856	F5
8. SC84-583	D76-9665 X JOHNSTON	F5
9. AU86-1686	CO 79-760 X JOHNSTON	F6
10. D87-4389	SHARKEY X LEFLORE	F5
11. G85-373	GORDEN X BRAXTON	F6
12. N87-445	DAVIS X N73-1102	F5

Background of lines used as parents:

F77-1138 is a selection from the same cross as Braxton and was grown in Uniform Group Vii 1975-1978.

N73-693 is a selection from D68-216 X Ransom which was grown in Uniform Group VI in 1977. D68-216 is a SCN race 3 resistant selection of the same parentage as Forrest.

F76-8757 is a SCN race 3 resistant line from Centennial X (Forrest X (Cobb X D68-216)).

N77-179 was grown in Uniform Group V in 1980.

D77-6103 is a selection from Centennial X J74-57.

N77-940 is a selection from N77-1540 X Centennial grown in Uniform Group Vii in 1980.

N79-856 is a selection from Essex X N70-3037.

D76-9665 is a selection from Forrest X Centennial.

Co79-760 is a selection from Co73-475 X Centennial. Co73-475 is a selection from Hampton 266 X Bragg.

N73-1102 is a selection from Tracy X Ransom.

UNIFORM GROUP VII

1990

Uniform Group VII nurseries were grown at 24 locations. A general summary of performance, protein and oil concentration in the seed, reaction to diseases and nematodes, and general agronomic characteristics are reported in Table 43. Data from individual locations are reported in Tables 44-49.

Plantings were made in the greenhouse at the University of Georgia to rate for the two species of root knot nematode, and in the greenhouse at Jackson, Tennessee to rate for reaction to SCN races 3 and 4. Au85-1814 and G85-373 were both resistant to both species of root knot nematode and to SCN race 3.

N85-574 and Sc84-818 have been evaluated three years. Sc84-818 has been released as Hagood. Three strains, G84-3185, N86-452, and Sc84-583 have been evaluated two years. Four strains were evaluated their first year.

TABLE 43 - GENERAL SUMMARY OF PERFORMANCE FOR THE STRAINS GROWN IN UNIFORM GROUP VII, 1990

	NO. OF LOCATIONS	THOMAS	STONE- WALL	N85- 574	SC84- 818	AU85- 1814
Seed Yield - 1990						
East Coast	4	28.3	29.9	36.0	28.3	27.5
Southeast	8	32.3	32.8	34.9	32.9	33.6
Upper and Central South	3	44.0	52.7	45.5	48.1	45.9
Delta and West	6	42.1	49.6	49.4	47.9	46.7
1989-90						
East Coast		33.2	37.0	37.3	35.0	32.6
Southeast		33.9	33.5	36.2	35.8	36.5
Upper and Central South		43.6	51.6	45.8	48.5	44.7
Delta and West		39.0	46.4	46.1	43.7	42.3
1988-90						
East Coast		32.4	36.2	35.5	34.7	
Southeast		37.6	37.4	39.3	39.7	
Upper and Central South		46.3	53.2	49.1	48.8	
Delta and West		38.5	45.9	46.7	42.8	
Oil Content - 1990						
		20.2	20.7	21.9	20.0	20.1
	1989-90	19.7	20.6	21.7	19.9	19.9
	1988-90	19.6	20.9	21.7	20.1	
Protein Content - 1990						
		41.0	42.0	40.6	42.7	42.3
	1989-90	41.0	41.6	40.4	42.4	42.4
	1988-90	40.9	41.3	40.4	42.3	
Seed size		15.1	15.2	14.9	14.0	14.6
Maturity index		10-21	-3	+0	+2	+2
Height		34	34	34	39	38
Seed quality		2.1	1.9	1.9	1.7	2.0
M. incognita		1.2	3.0	2.0	1.2	1.0
M. arenaria		2.2	4.4	5.0	4.0	1.8
SCN race 3		R	R	R	R	R
SCN race 4		S	S	S	S	S
Flower color		P	W	P	P	W
Pubescence color		T	T	G	T	T
Pod wall color		T	T	Br	T	T

TABLE 43 - (continued)

	G84- 3185	N86- 452	SC84- 583	AU86- 1686	D87- 4389	G85- 373	N87- 445
<b>Seed Yield - 1990</b>							
East Coast	33.8	35.2	33.7	31.8	29.6	33.3	28.0
Southeast	34.8	34.7	35.1	36.4	33.2	33.3	29.3
Upper and Central South	50.2	53.1	46.4	46.8	50.0	54.6	48.8
Delta and West	50.1	48.8	46.7	44.0	48.9	44.4	45.6
1989-90							
East Coast	38.0	37.7	38.2				
Southeast	37.4	36.5	36.1				
Upper and Central South	45.9	51.0	46.5				
Delta and West	47.6	44.9	42.6				
1988-90							
East Coast							
Southeast							
Upper and Central South							
Delta and West							
<b>Oil Content - 1990</b>							
1989-90	21.1	20.2	21.0	20.7	19.8	20.6	19.5
1988-90	20.9	19.7	20.8				
<b>Protein Content - 1990</b>							
1989-90	39.8	42.0	40.1	40.7	43.2	40.3	41.9
1988-90	39.7	41.9	39.7				
Seed size	14.8	13.6	13.8	14.1	14.7	13.2	14.7
Maturity index	-1	-2	+1	+1	-3	-4	-1
Height	35	33	37	32	35	38	48
Seed quality	1.9	2.0	1.9	1.9	1.9	1.8	2.0
M. incognita	1.2	3.9	1.0	3.0	1.2	1.0	3.0
M. arenaria	2.0	2.4	1.0	5.0	4.2	2.4	2.2
SCN race 3	S	S	S	S	R	R	S
SCN race 4	S	S	S	S	R	S	S
Flower color	P	W	P	P	P	W	P
Pubescence color	T	T	T	G	T	T	T
Pod wall color	T	T	T	T	T	T	T

TABLE 44 - SEED YIELD, IN BUSHELS PER ACRE, FOR THE STRAINS IN UNIFORM GROUP VII, 1990

LOCATION	THOMAS	STONE- WALL	N85- 574	SC84- 818	AU85- 1814	G84- 3185
EAST COAST						
HOLLAND, VA	38.1	34.0	47.1	34.5	37.2	39.0
KINSTON, NC	29.7	41.3	40.1	32.8	31.5	38.5
CLINTON, NC	23.1	25.3	26.3	22.9	20.2	27.0
FLORENCE, SC(A)	22.4	18.8	30.4	22.9	21.2	30.8
FLORENCE, SC(B)*	22.0	22.2	17.1	22.2	20.0	17.4
MEAN	28.3	29.9	36.0	28.3	27.5	33.8
SOUTHEAST						
BLACKVILLE, SC(A)	23.3	23.6	24.3	22.8	22.2	23.7
BLACKVILLE, SC(B)	20.2	24.3	18.9	22.8	25.8	21.4
TALLASSEE, AL	25.2	26.1	37.2	28.5	31.7	35.3
TIFTON, GA	47.8	40.3	40.0	45.7	46.6	45.7
GAINESVILLE, FL*	0.7	5.1	8.6	8.3	11.6	8.5
QUINCY, FL	22.5	21.8	29.2	27.2	24.7	24.2
JAY, FL	31.3	25.3	40.0	32.0	33.0	29.0
FAIRHOPE, AL	28.3	31.3	34.7	26.7	26.3	32.3
BATON ROUGE, LA	59.4	70.1	54.8	57.5	58.1	67.1
MEAN	32.3	32.8	34.9	32.9	33.6	34.8
UPPER & CENTRAL SOUTH						
ATHENS, GA	49.2	51.5	40.6	51.5	42.1	35.9
CALHOUN, GA	47.0	62.3	57.2	50.6	55.9	72.0
CLEMSON, SC	35.8	44.2	38.7	42.3	39.8	42.8
MEAN	44.0	52.7	45.5	48.1	45.9	50.2
DELTA & WEST						
STONEVILLE, MS(A)	41.4	47.3	42.8	33.8	41.9	46.5
STONEVILLE, MS(B)	36.7	54.4	45.4	43.6	47.5	49.9
STUTTGART, AR	38.6	48.8	47.1	50.0	41.0	44.8
ROHWER, AR	35.3	41.1	56.3	52.0	48.3	52.0
ST. JOSEPH, LA	30.4	40.5	41.7	35.0	34.2	38.9
BOSSIER CITY, LA	69.9	65.4	63.4	73.1	67.2	68.6
MEAN	42.1	49.6	49.4	47.9	46.7	50.1

\*Not included in mean.



TABLE 44 - (continued)

LOCATION	N86- 452	SC84- 583	AU86- 1686	D87- 4389	G85- 373	N87- 445	L.S.D. (.05)	C.V. (%)
EAST COAST								
HOLLAND, VA	44.9	42.2	45.8	38.5	39.9	39.9	5.2	7.6
KINSTON, NC	36.6	37.2	29.7	34.7	38.5	29.5	7.0	11.8
CLINTON, NC	28.4	25.7	25.9	21.7	22.9	22.0	.	17.5
FLORENCE, SC(A)	31.1	29.7	25.8	23.4	31.9	20.5	9.0	19.4
FLORENCE, SC(B)*	14.0	21.7	18.6	21.5	20.5	16.6	.	24.2
MEAN	35.2	33.7	31.8	29.6	33.3	28.0		
SOUTHEAST								
BLACKVILLE, SC(A)	24.3	21.8	24.8	23.7	24.9	18.2	.	15.1
BLACKVILLE, SC(B)	19.5	23.4	24.8	23.6	18.7	16.3	.	20.6
TALLASSEE, AL	31.0	29.2	36.7	30.5	27.6	19.3	9.2	18.1
TIFTON, GA	51.1	48.8	52.5	40.5	44.0	41.3	8.3	7.9
GAINESVILLE, FL*	13.0	15.3	3.2	6.3	14.0	2.5	5.0	36.0
QUINCY, FL	24.0	23.7	23.3	21.3	24.0	24.9	3.1	7.6
JAY, FL	33.3	40.0	33.7	30.0	34.0	31.7	10.1	18.2
FAIRHOPE, AL	34.7	30.7	30.3	32.7	32.7	22.3	4.0	7.8
BATON ROUGE, LA	59.4	63.1	65.3	63.4	60.8	60.1	7.6	7.4
MEAN	34.7	35.1	36.4	33.2	33.3	29.3		
UPPER & CENTRAL SOUTH								
ATHENS, GA	44.3	36.1	42.4	48.3	55.8	37.8	6.4	8.4
CALHOUN, GA	73.3	62.1	59.7	55.1	66.0	69.2	8.2	7.0
CLEMSON, SC	41.8	40.9	38.2	46.5	42.0	39.4	5.7	8.2
MEAN	53.1	46.4	46.8	50.0	54.6	48.8		
DELTA & WEST								
STONEVILLE, MS(A)	40.5	37.4	39.8	46.4	43.6	33.4	5.7	8.2
STONEVILLE, MS(B)	44.8	49.5	40.2	46.6	47.9	43.7	7.9	10.1
STUTTGART, AR	42.6	46.0	49.5	47.7	40.2	38.8	4.1	5.4
ROHWER, AR	51.5	51.5	31.7	42.1	34.3	48.8	6.2	8.1
ST. JOSEPH, LA	43.7	35.4	34.7	38.4	35.9	32.8	6.7	11.1
BOSSIER CITY, LA	69.5	60.3	68.3	72.4	64.7	76.1	.	13.7
MEAN	48.8	46.7	44.0	48.9	44.4	45.6		

\*Not included in mean.

TABLE 45 - CHEMICAL COMPOSITION AND SEED SIZE FOR THE STRAINS IN UNIFORM GROUP VII, 1990

LOCATION	THOMAS	STONE- WALL	N85- 574	SC84- 818	AU85- 1814	G84- 3185
OIL PERCENTAGE						
KINSTON, NC	22.0	19.6	20.4	18.7	18.8	19.4
FLORENCE, SC(A)	20.1	20.0	20.9	19.8	19.8	20.2
TALLASSEE, AL	20.7	21.0	23.2	20.9	20.7	22.1
ATHENS, GA	18.0	20.4	21.6	18.9	18.7	20.5
CLEMSON, SC	18.0	19.2	20.8	19.3	18.9	19.3
JAY, FL	21.0	22.4	23.3	21.8	21.4	22.4
STONEVILLE, MS(B)	19.9	22.0	22.6	21.0	21.0	22.0
STUTTGART, AR	21.5	21.1	22.6	19.5	21.6	23.0
MEAN	20.2	20.7	21.9	20.0	20.1	21.1
PROTEIN PERCENTAGE						
KINSTON, NC	40.8	43.6	42.7	42.9	44.3	41.8
FLORENCE, SC(A)	42.8	41.5	41.1	41.9	43.1	41.4
TALLASSEE, AL	40.2	42.6	40.7	42.3	41.8	39.7
ATHENS, GA	41.5	42.0	40.2	43.1	43.6	40.2
CLEMSON, SC	43.5	42.7	42.1	43.3	43.0	41.1
JAY, FL	41.6	42.6	39.9	42.3	42.8	39.9
STONEVILLE, MS(B)	41.9	40.5	39.9	42.4	42.1	39.0
STUTTGART, AR	35.9	40.5	38.5	43.6	37.8	34.9
MEAN	41.0	42.0	40.6	42.7	42.3	39.8
GRAMS PER 100 SEED						
KINSTON, NC	18.6	17.2	16.4	17.3	18.1	17.1
FLORENCE, SC(A)	12.9	13.0	13.3	12.4	13.2	14.4
TALLASSEE, AL	12.7	12.8	14.9	11.8	12.7	13.6
ATHENS, GA	14.9	16.0	14.0	13.0	14.3	14.0
CLEMSON, SC	16.2	14.9	14.0	13.4	15.3	13.5
JAY, FL	18.0	19.0	18.0	16.0	15.0	18.0
STONEVILLE, MS(B)	14.2	14.2	14.1	13.2	14.6	13.9
STUTTGART, AR	13.6	14.7	14.7	14.8	13.7	14.1
MEAN	15.1	15.2	14.9	14.0	14.6	14.8

TABLE 45 - (continued)

LOCATION	N86- 452	SC84- 583	AU86- 1686	D87- 4389	G85- 373	N87- 445
OIL PERCENTAGE						
KINSTON, NC	20.5	19.0	18.8	17.5	18.4	16.8
FLORENCE, SC(A)	19.7	20.4	20.9	21.6	20.1	20.6
TALLASSEE, AL	20.5	21.3	20.8	20.6	21.6	18.9
ATHENS, GA	18.9	20.5	20.1	18.3	19.5	18.8
CLEMSON, SC	18.4	19.5	19.4	18.4	19.0	17.8
JAY, FL	21.5	22.9	22.5	21.4	21.4	21.5
STONEVILLE, MS(B)	20.9	22.2	21.7	20.7	21.7	20.6
STUTT GART, AR	21.3	21.9	21.1	19.7	22.9	21.1
MEAN	20.2	21.0	20.7	19.8	20.6	19.5
PROTEIN PERCENTAGE						
KINSTON, NC	42.5	42.1	42.7	44.7	43.6	43.8
FLORENCE, SC(A)	43.0	43.0	42.1	39.3	42.1	42.2
TALLASSEE, AL	41.5	40.7	41.0	43.5	39.5	42.0
ATHENS, GA	42.8	39.0	39.4	44.2	41.1	42.8
CLEMSON, SC	43.4	40.6	41.3	44.5	41.4	43.5
JAY, FL	41.3	39.2	39.3	43.5	41.5	41.1
STONEVILLE, MS(B)	42.5	39.6	39.1	42.4	39.2	41.5
STUTT GART, AR	38.8	36.5	40.4	43.6	34.3	38.5
MEAN	42.0	40.1	40.7	43.2	40.3	41.9
GRAMS PER 100 SEED						
KINSTON, N	14.9	15.4	16.6	17.0	15.7	16.0
FLORENCE, SC(A)	12.0	14.6	12.7	12.2	12.7	13.2
TALLASSEE, AL	11.4	12.1	12.1	14.3	10.7	12.5
ATHENS, GA	13.8	12.7	14.0	14.8	13.1	14.4
CLEMSON, SC	12.9	13.6	13.7	13.9	13.3	15.7
JAY, FL	16.0	15.0	16.0	16.0	16.0	17.0
STONEVILLE, MS(B)	14.9	14.1	12.2	14.3	12.9	14.3
STUTT GART, AR	13.1	12.6	15.1	15.0	11.2	14.4
MEAN	13.6	13.8	14.1	14.7	13.2	14.7

TABLE 46 - RELATIVE MATURITY DATA, DAYS EARLIER (-) OR LATER (+) THAN THOMAS, FOR THE STRAINS IN UNIFORM GROUP VII, 1990

LOCATION	THOMAS	STONE- WALL	N85- 574	SC84- 818	AU85- 1814	G84- 3185
EAST COAST						
HOLLAND, VA	10/31	+2	-1	-1	-2	+0
KINSTON, NC	11/07	-10	-8	+0	+0	-12
CLINTON, NC	10/28	+0	+0	+0	+5	+0
FLORENCE, SC(A)	10/22	-5	-3	+0	+1	-3
FLORENCE, SC(B)*	10/21	-5	-1	+7	+7	-2
MEAN	10/30	-3	-3	+0	+1	-4
SOUTHEAST						
BLACKVILLE, SC(A)	10/18	-2	-1	+1	+1	-3
TALLASSEE, AL	10/15	-5	+0	-1	+1	-1
TIFTON, GA	10/08	-3	+3	+4	+2	+1
GAINESVILLE, FL*	10/05	+0	+2	+3	+5	-2
JAY, FL	10/17	-1	+1	+4	+2	-1
FAIRHOPE, AL	10/17	-4	+0	+2	+1	-5
MEAN	10/15	-3	+1	+2	+1	-2
UPPER AND CENTRAL SOUTH						
ATHENS, GA	10/16	-2	+1	+2	+1	-2
CALHOUN, GA	10/21	+0	+0	+0	+0	+0
CLEMSON, SC	10/27	-3	-2	+2	+2	-3
MEAN	10/21	-1	+0	+2	+1	-1
DELTA AND WEST						
STONEVILLE, MS(A)	10/15	+0	+3	+3	+7	+1
STONEVILLE, MS(B)	10/18	+0	+2	+5	+5	+5
STUTTGART, AR	10/24	-3	+2	+4	+3	-1
ROHWER, AR	10/19	+0	+3	+4	+4	+3
ST. JOSEPH, LA	10/27	-10	-2	-3	+3	-2
BOSSIER CITY, LA	10/17	-2	+7	+6	+8	+8
MEAN	10/20	-2	+3	+3	+5	+2

\*Not included in mean.

TABLE 46 - (continued)

LOCATION	N86- 452	SC84- 583	AU86- 1686	D87- 4389	G85- 373	N87- 445
EAST COAST						
HOLLAND, VA	-5	-1	-2	-6	-3	-5
KINSTON, NC	-7	-4	+0	-7	-10	-8
CLINTON, NC	+1	-1	+5	+0	-1	+0
FLORENCE, SC(A)	-6	+1	+0	-6	-11	-6
FLORENCE, SC(B)*	-3	+3	+4	-4	-3	+0
MEAN	-4	-1	+1	-5	-6	-5
SOUTHEAST						
BLACKVILLE, SC(A)	-4	+0	-1	-3	-3	-1
TALLASSEE, AL	-5	-1	+0	-6	-6	+1
TIFTON, GA	+0	+1	+0	+0	+0	-3
GAINESVILLE, FL*	+6	+7	+5	+0	-1	-2
JAY, FL	-1	+1	+4	-2	-2	-2
FAIRHOPE, AL	-8	-2	+1	-2	-4	-2
MEAN	-4	+0	+1	-3	-3	-1
UPPER AND CENTRAL SOUTH						
ATHENS, GA	-3	+1	+0	-3	-2	+0
CALHOUN, GA	+1	+0	+0	-2	-3	+0
CLEMSON, SC	-3	-1	-1	-4	-4	-1
MEAN	-1	+0	+0	-3	-3	+0
DELTA AND WEST						
STONEVILLE, MS(A)	+2	+1	+0	+0	+0	+6
STONEVILLE, MS(B)	+0	+5	+2	+2	-2	+2
STUTT GART, AR	+1	+3	+3	+2	-5	-1
ROHWER, AR	+1	+4	+0	-1	-2	+3
ST. JOSEPH, LA	-10	+0	-1	-10	-10	-10
BOSSIER CITY, LA	+2	+6	+2	-3	-4	+1
MEAN	-1	+3	+1	-2	-4	+0

\*Not included in mean.

TABLE 47 - PLANT HEIGHT FOR THE STRAINS IN UNIFORM GROUP VII, 1990

LOCATION	THOMAS	STONE- WALL	N85- 574	SC84- 818	AU85- 1814	G84- 3185
EAST COAST						
HOLLAND, VA	40	39	42	46	42	40
KINSTON, NC	40	40	44	42	43	43
CLINTON, NC	32	33	32	36	35	36
FLORENCE, SC(A)	27	26	25	38	33	26
FLORENCE, SC(B)*	25	23	20	27	27	23
MEAN	35	35	36	40	38	36
SOUTHEAST						
BLACKVILLE, SC(A)	23	27	28	27	29	28
BLACKVILLE, SC(B)	24	25	27	25	30	26
TALLASSEE, AL	30	29	30	33	37	32
TIFTON, GA	32	33	27	41	38	33
GAINESVILLE, FL*	19	19	19	25	26	23
JAY, FL	29	28	31	32	33	29
FAIRHOPE, AL	39	37	40	43	44	39
MEAN	30	30	31	34	35	31
UPPER AND CENTRAL SOUTH						
ATHENS, GA	34	34	33	41	39	35
CALHOUN, GA	41	40	38	44	44	41
CLEMSON, SC	25	28	23	34	34	26
MEAN	33	34	31	40	39	34
DELTA AND WEST						
STONEVILLE, MS(A)	37	36	37	47	47	43
STONEVILLE, MS(B)	40	38	37	40	39	38
STUTTGART, AR	36	34	35	38	40	37
ROHWER, AR	41	39	40	44	42	42
ST. JOSEPH, LA	42	41	45	42	44	43
BOSSIER CITY, LA	35	36	39	45	38	36
MEAN	38	37	39	43	42	40

\*Not included in mean.

TABLE 47 - (continued)

LOCATION	N86 - 452	SC84 - 583	AU86 - 1686	D87 - 4389	G85 - 373	N87 - 445
EAST COAST						
HOLLAND, VA	37	43	36	38	43	57
KINSTON, NC	38	44	36	41	46	48
CLINTON, NC	33	38	31	35	35	36
FLORENCE, SC(A)	28	27	24	26	30	47
FLORENCE, SC(B)*	22	25	22	25	26	34
MEAN	34	38	32	35	39	47
SOUTHEAST						
BLACKVILLE, SC(A)	25	30	23	28	31	35
BLACKVILLE, SC(B)	23	29	25	25	26	27
TALLASSEE, AL	28	31	27	32	34	47
TIFTON, GA	31	39	31	36	37	52
GAINESVILLE, FL*	19	23	20	21	24	33
JAY, FL	28	31	29	31	33	32
FAIRHOPE, AL	40	41	39	40	44	52
MEAN	29	34	29	32	34	41
UPPER AND CENTRAL SOUTH						
ATHENS, GA	31	32	31	33	40	52
CALHOUN, GA	39	43	33	38	40	57
CLEMSON, SC	26	30	25	30	34	50
MEAN	32	35	30	34	38	53
DELTA AND WEST						
STONEVILLE, MS(A)	35	41	35	38	47	60
STONEVILLE, MS(B)	41	37	34	41	41	52
STUTTGART, AR	33	39	35	34	40	47
ROHWER, AR	38	44	35	40	44	52
ST. JOSEPH, LA	41	45	46	44	46	54
BOSSIER CITY, LA	35	38	35	37	39	49
MEAN	37	41	37	39	43	52

\*Not included in mean.

TABLE 48 - LODGING SCORES FOR THE STRAINS IN UNIFORM GROUP VII, 1990

LOCATION	THOMAS	STONE- WALL	N85- 574	SC84- 818	AU85- 1814	G84- 3185
EAST COAST						
HOLLAND, VA	2.0	1.8	2.3	2.0	1.7	1.8
KINSTON, NC	2.0	1.0	1.0	1.0	2.0	2.0
CLINTON, NC	1.0	2.0	1.0	2.0	2.0	3.0
SOUTHEAST						
TALLASSEE, AL	1.0	1.0	1.0	1.0	1.0	1.0
TIFTON, GA	1.7	1.3	1.7	2.2	2.2	1.7
GAINESVILLE, FL	1.0	1.0	1.0	1.0	1.0	1.0
JAY, FL	3.0	2.0	2.0	3.0	3.0	3.0
FAIRHOPE, AL	1.0	1.0	1.0	2.0	1.0	2.0
UPPER AND CENTRAL SOUTH						
ATHENS, GA	1.5	1.5	1.5	1.5	1.8	1.7
CALHOUN, GA	1.8	3.5	1.7	1.5	1.8	3.3
CLEMSON, SC	1.0	1.0	1.0	1.0	1.2	1.5
DELTA AND WEST						
STONEVILLE, MS(A)	2.0	2.0	2.7	3.3	2.7	3.0
STONEVILLE, MS(B)	3.0	2.7	2.7	2.7	2.3	3.3
STUTTGART, AR	2.5	3.3	3.5	4.2	3.7	3.3
ROHWER, AR	1.3	1.0	2.3	2.3	2.0	3.3
ST. JOSEPH, LA	3.0	3.1	3.0	2.4	2.0	3.0
BOSSIER CITY, LA	1.0	1.5	2.2	1.8	1.6	2.5



TABLE 48 - (continued)

LOCATION	N86- 452	SC84- 583	AU86- 1686	D87- 4389	G85- 373	N87- 445
EAST COAST						
HOLLAND, VA	2.8	1.8	1.8	1.5	1.7	3.2
KINSTON, NC	2.0	2.0	2.0	1.0	2.0	3.0
CLINTON, NC	2.0	2.0	2.0	1.0	2.0	3.0
SOUTHEAST						
TALLASSEE, AL	1.0	1.0	1.0	1.0	1.0	1.0
TIFTON, GA	1.8	1.3	1.2	1.3	1.7	3.2
GAINESVILLE, FL	1.0	1.0	1.0	1.0	1.0	3.0
JAY, FL	2.0	2.0	3.0	1.0	3.0	3.0
FAIRHOPE, AL	2.0	2.0	2.0	1.0	1.0	4.0
UPPER AND CENTRAL SOUTH						
ATHENS, GA	1.5	1.5	1.5	1.5	1.7	1.7
CALHOUN, GA	2.3	2.8	1.3	1.3	3.0	4.8
CLEMSON, SC	1.0	1.0	1.0	1.0	1.0	2.8
DELTA AND WEST						
STONEVILLE, MS (A)	3.7	2.7	3.0	2.3	2.7	3.3
STONEVILLE, MS (B)	4.0	2.7	4.0	2.3	2.7	3.3
STUTTIGART, AR	4.2	3.7	4.2	3.2	3.0	3.9
ROHWER, AR	4.0	3.0	1.0	1.0	1.7	4.0
ST. JOSEPH, LA	2.8	3.0	2.6	1.4	2.0	3.8
BOSSIER CITY, LA	3.0	2.6	2.2	1.0	1.8	3.0

TABLE 49 - SEED QUALITY SCORES FOR THE STRAINS IN UNIFORM GROUP VII, 1990

LOCATION	THOMAS	STONE- WALL	N85- 574	SC84- 818	AU85- 1814	G84- 3185
EAST COAST						
HOLLAND, VA	2.0	2.3	1.0	1.7	2.0	1.3
KINSTON, NC	1.5	1.5	1.5	1.5	1.5	1.5
CLINTON, NC	2.0	1.5	2.0	1.5	1.5	2.0
SOUTHEAST						
TALLASSEE, AL	1.5	1.5	1.5	1.5	1.5	1.5
TIFTON, GA	2.2	2.3	2.1	2.0	2.2	1.9
JAY, FL	4.0	2.0	3.0	2.0	3.0	3.0
BATON ROUGE, LA	1.5	1.3	2.0	1.3	1.8	1.8
UPPER AND CENTRAL SOUTH						
ATHENS, GA	2.0	2.0	1.5	1.7	1.5	1.8
CALHOUN, GA	2.0	1.5	1.5	1.0	1.7	1.2
DELTA AND WEST						
STONEVILLE, MS (A)	2.0	2.0	2.0	2.0	2.0	2.0
STONEVILLE, MS (B)	2.0	2.0	2.0	2.0	2.0	2.0
STUTTGART, AR	1.7	2.2	2.5	2.0	2.0	2.0
ROHWER, AR	2.3	2.7	2.5	2.0	2.3	2.7
ST. JOSEPH, LA	2.7	2.4	1.8	1.9	2.4	2.2

TABLE 49 - (continued)

LOCATION	N86- 452	SC84- 583	AU86- 1686	D87- 4389	G85- 373	N87- 445
EAST COAST						
HOLLAND, VA	1.3	1.0	1.7	1.3	1.3	1.3
KINSTON, NC	1.5	1.5	1.5	1.5	1.5	1.5
CLINTON, NC	1.5	1.5	1.5	1.5	1.5	2.0
SOUTHEAST						
TALLASSEE, AL	1.5	1.5	1.5	1.5	1.5	2.0
TIFTON, GA	2.1	2.1	2.1	2.2	2.2	2.3
JAY, FL	3.0	3.0	3.0	3.0	3.0	3.0
BATON ROUGE, LA	2.0	1.5	1.2	1.6	1.3	1.7
UPPER AND CENTRAL SOUTH						
ATHENS, GA	2.0	1.5	2.0	2.0	1.8	1.8
CALHOUN, GA	1.5	2.0	1.3	1.2	1.3	2.0
DELTA AND WEST						
STONEVILLE, MS(A)	2.0	2.0	2.0	2.0	2.0	2.0
STONEVILLE, MS(B)	2.0	2.0	2.0	2.0	2.0	2.0
STUTTART, AR	2.5	1.8	2.2	2.0	1.8	2.0
ROHWER, AR	3.5	3.0	2.5	2.2	2.0	3.0
ST. JOSEPH, LA	2.0	2.2	2.4	2.1	2.1	1.8

PRELIMINARY GROUP VII

1990

Preliminary Group VII nurseries, which included Stonewall and Sharkey along with 34 experimental lines, were grown at 9 locations. The parents for each of these lines are reported in Table 50. A general summary of performance is reported in Table 51. Performance data for individual locations is reported in Tables 52-56.

Maturity for the experimental lines included within the group appear satisfactory for maturity group VII. The mean seed yield over all locations was 34 bushels per acre, with a range among lines from 37.9 to 28.5 bushels. Stonewall had a mean seed yield of 37.3 bushels. There were no strains having a significantly higher mean seed yield, and eleven strains with significantly lower seed yields. Overall mean protein percentage was 41.4, with a range among lines of 44.1 to 36.9. Protein percentage for Stonewall was 41.0. Six experimental lines had a significantly higher protein percentage, and one was significantly lower. The mean oil percentage was 20.7, with a range of 23.4 to 18.7. One experimental line had a significantly higher oil percentage, and eight were significantly lower.

Nineteen of the entries were rated resistant to SCN race 3, with three of the lines also resistant to SCN race 4. Two lines, D78-4411 and D82-9720, were rated resistant to feeding by soybean looper in the field cage at Stoneville. Both of these lines were among the lowest in seed yield.

D49-772 was included to see how one of our older lines performed in relation to some of the newer lines. In earlier studies, D49-772 appeared to have a high level of resistance to frogeye leafspot. Frogeye leafspot did not develop at a sufficient level for making ratings at any of the locations this past season. Its mean seed yield was 29.4 bushels per acre as compared with 37.3 for Stonewall.

TABLE 50 - PARENTAGE OF THE STRAINS GROWN IN PRELIMINARY GROUP VII, 1990

VARIETY OR STRAIN	PARENTAGE
1. STONEWALL	N73-693 X F76-8757
2. SHARKEY	TRACY X CENTENNIAL
3. AU87-528	J80-293 X N81-1756
4. AU87-547	J80-293 X N81-1756
5. AU87-757	J80-293 X N81-320
6. AU87-787	J80-293 X N81-320
7. AU87-992	J80-293 X N81-320
8. AU87-3333	J80-293 X N81-320
9. D49-772	ROANOKE X sel(OGAN X CNS)
10. D78-4411	D73-10243 X sel(PICKETT 71(2) X PI 227687)
11. D86-8484	SHARKEY X D79-10158
12. D86-9720	D82-9965 X D82-4382
13. D87-5127	D82-5613 X D82-5351
14. G86-1267	D76-9665 X BRAXTON
15. G86-1434	D79-6058 X TWIGGS
16. G86-1768	GORDON X D79-6058
17. G86-1958	GORDON X BRAXTON
18. G86-2288	GORDON X BRAXTON
19. G86-2315	GORDON X BRAXTON
20. G87-5184	N80-5023 X D81-8875
21. N86-7540	GASOY 17 X N77-114
22. N86-7574	GASOY 17 X N77-114
23. N88-279	NCR8170 X N81-320
24. N88-285	NCR8170 X N81-320
25. N88-355	N84-1256 X N84-1299
26. N88-431	N84-1299 X N82-2037
27. N88-480	
28. R88-298S	R80-437 X D79-6162
29. R88-407	D77-6166 X R80-4
30. R88-1109S	R82-466S X LEFLORE
31. SC87-454	FORREST X (GORDON X JOHNSTON)
32. SC87-541	LEFLORE X (N79-491 X KIRBY)
33. SC87-1811	COKER 368 X FORREST
34. SC87-1886	COKER 368 X FORREST
35. SC87-2583	KIRBY X (GORDON X D77-6056)
36. SC87-2807	COKER 368 X (F77-7142 X D76-9665)

TABLE 51 - GENERAL SUMMARY OF PERFORMANCE FOR THE STRAINS GROWN IN PRELIMINARY GROUP VII, 1990

STRAIN	SEED YIELD	MAT. INDEX	-----PERCENT-----			SCN 3	SCN 4
			HT.	OIL	PROTEIN		
STONEWALL	37.3	10/18	34	21.3	41.0	R	S
SHARKEY	34.0	3-	39	19.7-	43.2+	R	S
AU87-528	36.5	1-	35	21.8	39.3	R	S
AU87-547	37.8	2-	31	20.7	42.3	R	R
AU87-757	31.6-	2-	38	20.6	42.3	S	S
AU87-787	33.6	3-	38	20.1	42.9+	S	S
AU87-992	35.0	3-	38	20.8	41.8	R	R
AU87-3333	32.2-	2-	36	20.1	42.4	R	S
D49-772	29.4-	1+	39	20.6	40.4	S	S
D78-4411	28.5-	3-	38	18.7-	44.1+	S	S
D86-8484	32.5-	1+	45	21.2	42.0	R	S
D86-9720	28.8-	3+	32	19.8-	42.8	S	S
D87-5127	30.7-	2-	34	20.0-	43.6+	S	S
G86-1267	37.9	1-	33	20.9	40.1	S	S
G86-1434	37.2	1-	35	20.2	42.1	R	S
G86-1768	34.4	1-	36	20.2	42.4	R	S
G86-1958	35.5	2-	39	20.3	41.5	R	S
G86-2288	34.9	1-	33	20.7	39.5	R	S
G86-2315	32.5-	1-	35	21.2	40.8	R	S
G87-5184	29.7-	1+	37	20.2	41.7	R	S
N86-7540	36.1	2-	35	21.1	40.4	S	S
N86-7574	37.1	1-	29	21.7	40.1	S	S
N88-279	36.3	2-	35	21.4	42.5	S	S
N88-285	35.8	3-	37	21.5	39.6	S	S
N88-355	33.9	2+	40	21.3	41.3	S	S
N88-431	37.0	1+	36	21.0	44.0+	S	S
N88-480	32.9	1+	35	23.4+	36.9-	S	S
R88-298S	35.8	1+	34	19.6-	41.9	S	S
R88-407	33.4	2-	36	20.0-	41.5	R	S
R88-1109S	31.7-	0	37	20.3	40.5	R	R
SC87-454	34.3	1-	34	20.6	41.1	R	S
SC87-541	34.2	1-	37	19.5-	43.0+	R	S
SC87-1811	30.9-	0	35	20.6	41.2	R	S
SC87-1886	35.2	1-	38	19.9-	41.8	R	S
SC87-2583	35.2	2-	37	21.2	40.5	R	S
SC87-2807	33.3	1-	39	21.1	39.7	R	S
LSD (.05)	4.6			1.3	1.8		
C.V.	15%			4%	3%		

+ or - designations refer to differences from Stonewall.

TABLE 52 - SEED YIELD, IN BUSHELS PER ACRE, FOR THE STRAINS IN PRELIMINARY GROUP VII, 1990

STRAIN	CLINTON, NC	BLACK- VILLE, SC	ATHENS, GA	TALLAS- SEE, AL	JAY, FL	ROHWER, AR	STONE- VILLE, MS (A)	STONE- VILLE, MS(B)	BEAU- MONT, TX
STONEWALL	30.1	26.8	53.4	24.5	31.5	41.9	50.2	46.7	30.2
SHARKEY	21.3-	21.8	43.5	21.1	29.0	49.4	47.4	50.7	22.2
AU87-528	29.5	25.9	52.8	16.8	31.0	47.2	45.4	50.6	29.3
AU87-547	38.2+	26.4	53.7	25.3	31.0	44.4	51.8	46.3	22.8
AU87-757	25.4	20.8	34.6-	7.5-	29.5	53.3+	38.3-	50.6	24.2
AU87-787	22.2-	25.1	40.8-	19.9	35.0	44.9	39.8-	49.4	25.7
AU87-992	24.4	25.2	50.6	13.2-	30.5	48.6	49.2	49.8	23.3
AU87-3333	23.4	25.8	43.5	21.3	27.0	40.2	40.3-	45.5	22.9
D49-772	23.5	18.8-	39.7-	21.6	27.0	45.1	26.7-	40.7	21.6
D78-4411	20.6-	18.3-	34.1-	17.4	19.0	39.6	39.8-	44.5	23.1
D86-8484	23.5	19.8	41.0-	19.1	26.5	39.2	44.3	52.2	26.5
D86-9720	22.6	22.8	33.4-	17.3	29.0	49.4	28.2-	35.1-	21.1
D87-5127	22.1-	27.0	37.1-	14.4	21.0	47.0	41.1-	42.5	24.2
G86-1267	26.3	36.3+	49.2	30.0	27.5	44.1	52.8	46.0	29.3
G86-1434	29.9	25.6	53.7	24.1	33.5	40.5	47.3	43.0	37.1
G86-1768	26.2	25.0	49.6	29.5	32.5	32.3-	45.2	45.0	24.5
G86-1958	27.0	32.1	49.7	29.8	25.0	41.6	48.0	35.0-	31.6
G86-2288	28.4	26.6	54.3	20.5	36.0	38.9	44.7	41.6	23.3
G86-2315	20.3-	26.5	45.8	24.2	25.5	44.0	37.1-	45.2	24.3
G87-5184	16.6-	18.0-	36.6-	18.0	44.5	28.3-	39.1-	39.7	26.1
N86-7540	33.6	28.3	35.8-	33.0	27.5	55.1+	37.1-	43.1	31.7
N86-7574	34.6	30.7	42.4-	23.7	33.0	47.6	43.7	50.6	27.5
N88-279	24.5	27.4	46.0	27.6	24.0	55.7+	44.7	49.0	27.4
N88-285	27.3	25.5	51.0	20.7	38.0	45.4	41.5-	49.8	22.7
N88-355	30.5	18.7-	36.8-	21.3	33.5	49.9	45.3	43.9	25.2
N88-431	32.3	25.3	37.4-	28.9	33.5	52.8+	45.0	52.2	25.8
N88-480	24.0	20.3	46.3	21.4	29.0	47.6	41.1-	37.0-	29.2
R88-298S	24.1	23.8	45.0	18.0	35.0	53.3+	49.7	47.7	25.6
R88-407	29.8	25.9	47.3	16.4	34.5	30.2-	42.3	46.9	27.0
R88-1109S	23.4	19.0-	39.5-	22.5	28.5	39.9	39.3-	39.0	34.1
SC87-454	29.8	25.2	44.8	23.1	28.5	51.9+	38.5-	45.8	21.2
SC87-541	20.5-	30.9	52.5	25.7	30.0	34.4	44.5	42.6	27.1
SC87-1811	28.3	25.1	41.1-	25.7	16.0-	27.8-	40.3-	40.7	33.0
SC87-1886	28.2	23.6	53.1	23.0	33.5	46.5	37.2-	41.2	30.7
SC87-2583	30.4	27.5	51.0	25.5	21.5	41.7	47.6	45.9	26.1
SC87-2807	21.1-	22.3	45.0	24.0	31.0	44.9	42.5	40.2	28.3
LSD (.05)	7.7	7.8	10.0	10.4	13.7	9.5	8.1	7.8	10.7
C.V.	15%	15%	11%	23%	23%	11%	9%	9%	20%

TABLE 53 - OIL PERCENTAGES FOR THE STRAINS IN PRELIMINARY GROUP VII, 1990

STRAIN	CLINTON, NC	JAY, FL	STONE- VILLE, MS (B)
STONEWALL	19.7	21.9	22.4
SHARKEY	16.8	21.9	20.3
AU87-528	20.4	21.9	23.2
AU87-547	19.9	20.6	21.7
AU87-757	18.9	21.4	21.6
AU87-787	17.7	21.3	21.3
AU87-992	19.1	21.9	21.5
AU87-3333	17.7	21.5	21.1
D49-772	17.6	21.9	22.2
D78-4411	17.0	19.8	19.4
D86-8484	18.4	23.4	21.8
D86-9720	18.5	22.6	18.4
D87-5127	17.6	23.2	19.2
G86-1267	18.7	22.3	21.6
G86-1434	18.6	21.7	20.4
G86-1768	17.2	22.3	21.2
G86-1958	18.3	21.9	20.8
G86-2288	18.6	23.0	20.5
G86-2315	19.0	22.4	22.3
G87-5184	17.6	22.4	20.5
N86-7540	19.7	21.9	21.8
N86-7574	19.9	23.0	22.3
N88-279	20.0	23.3	21.0
N88-285	19.4	24.0	21.1
N88-355	18.9	23.1	21.9
N88-431	19.9	21.4	21.8
N88-480	21.2	25.1	23.9
R88-298S	16.6	22.0	20.2
R88-407	18.4	20.8	20.7
R88-1109S	17.8	21.7	21.3
SC87-454	18.9	22.4	20.4
SC87-541	16.7	21.6	20.2
SC87-1811	18.9	21.9	20.9
SC87-1886	17.7	21.5	20.5
SC87-2583	19.4	23.1	21.2
SC87-2807	19.3	22.1	22.0



TABLE 54 - PROTEIN PERCENTAGES FOR THE STRAINS IN PRELIMINARY GROUP VII, 1990

STRAIN	CLINTON, NC	JAY, FL	STONE- VILLE, MS (B)
STONEWALL	42.3	40.5	40.2
SHARKEY	45.7	40.2	43.8
AU87-528	40.0	39.3	38.5
AU87-547	43.0	41.8	42.1
AU87-757	43.3	41.3	42.2
AU87-787	45.0	41.3	42.3
AU87-992	43.4	39.5	42.4
AU87-3333	45.0	42.4	39.7
D49-772	42.9	38.9	39.4
D78-4411	45.0	44.3	42.9
D86-8484	44.1	40.1	41.8
D86-9720	43.0	41.3	44.2
D87-5127	45.4	41.0	44.3
G86-1267	41.6	39.7	39.1
G86-1434	42.4	42.2	41.8
G86-1768	45.2	40.2	41.8
G86-1958	42.6	41.8	40.2
G86-2288	40.2	38.5	39.7
G86-2315	43.3	39.0	40.0
G87-5184	43.7	40.0	41.5
N86-7540	41.3	40.5	39.5
N86-7574	41.3	38.9	40.1
N88-279	42.4	42.5	42.5
N88-285	40.3	38.6	40.0
N88-355	43.5	39.7	40.7
N88-431	45.3	43.3	43.5
N88-480	38.5	35.9	36.3
R88-298S	43.2	41.2	41.2
R88-407	41.5	43.0	40.1
R88-1109S	42.4	40.9	38.2
SC87-454	41.3	41.7	40.4
SC87-541	45.5	42.3	41.3
SC87-1811	42.6	40.0	41.0
SC87-1886	43.0	41.9	40.6
SC87-2583	40.5	40.2	40.8
SC87-2807	40.5	39.6	39.0

TABLE 55 - PLANT HEIGHT PERCENTAGES FOR THE STRAINS IN PRELIMINARY GROUP VII, 1990

STRAIN	CLINTON, NC	BLACK- VILLE, SC	ATHENS, GA	TALLAS- SEE, AL	JAY, FL	ROHWER, AR	STONE- VILLE, MS (A)	STONE- VILLE, MS (B)	BEAU- MONT, TX
STONEWALL	36.0	28.0	36.0	32.0	32.0	37.0	38.0	37.0	32.0
SHARKEY	42.0	28.0	42.0	36.0	34.0	43.0	45.0	45.0	36.0
AU87-528	38.0	33.0	34.0	30.0	31.0	39.0	40.0	39.0	29.0
AU87-547	39.0	26.0	28.0	28.0	30.0	31.0	37.0	35.0	27.0
AU87-757	44.0	29.0	31.0	36.0	28.0	42.0	47.0	47.0	35.0
AU87-787	38.0	31.0	36.0	34.0	38.0	41.0	44.0	43.0	35.0
AU87-992	36.0	32.0	38.0	39.0	32.0	44.0	45.0	42.0	34.0
AU87-3333	42.0	28.0	34.0	34.0	33.0	38.0	43.0	40.0	30.0
D49-772	41.0	30.0	41.0	43.0	31.0	43.0	45.0	40.0	37.0
D78-4411	41.0	30.0	38.0	37.0	30.0	39.0	46.0	44.0	33.0
D86-8484	51.0	38.0	49.0	43.0	36.0	51.0	52.0	47.0	42.0
D86-9720	35.0	27.0	29.0	31.0	31.0	34.0	41.0	35.0	25.0
D87-5127	36.0	30.0	34.0	31.0	23.0	42.0	38.0	38.0	35.0
G86-1267	35.0	28.0	30.0	31.0	29.0	40.0	38.0	38.0	25.0
G86-1434	40.0	24.0	38.0	34.0	31.0	39.0	41.0	38.0	34.0
G86-1768	39.0	31.0	36.0	37.0	34.0	39.0	40.0	41.0	29.0
G86-1958	40.0	34.0	37.0	40.0	34.0	44.0	48.0	47.0	31.0
G86-2288	36.0	24.0	32.0	29.0	30.0	39.0	39.0	37.0	27.0
G86-2315	37.0	28.0	35.0	33.0	31.0	39.0	40.0	43.0	33.0
G87-5184	40.0	28.0	40.0	36.0	29.0	42.0	44.0	45.0	32.0
N86-7540	37.0	27.0	28.0	33.0	32.0	42.0	42.0	41.0	33.0
N86-7574	37.0	20.0	26.0	22.0	31.0	34.0	32.0	35.0	22.0
N88-279	38.0	26.0	34.0	33.0	33.0	40.0	41.0	44.0	28.0
N88-285	42.0	32.0	35.0	36.0	29.0	37.0	42.0	43.0	34.0
N88-355	41.0	29.0	48.0	41.0	32.0	50.0	47.0	38.0	34.0
N88-431	42.0	30.0	33.0	32.0	31.0	42.0	39.0	44.0	32.0
N88-480	37.0	32.0	38.0	34.0	30.0	36.0	37.0	36.0	33.0
R88-298S	37.0	28.0	33.0	30.0	34.0	38.0	35.0	41.0	31.0
R88-407	44.0	30.0	40.0	31.0	35.0	41.0	42.0	37.0	28.0
R88-1109S	39.0	30.0	36.0	33.0	28.0	45.0	44.0	42.0	35.0
SC87-454	44.0	29.0	32.0	32.0	27.0	39.0	42.0	38.0	27.0
SC87-541	41.0	30.0	38.0	35.0	32.0	46.0	38.0	43.0	32.0
SC87-1811	37.0	30.0	32.0	30.0	31.0	42.0	41.0	41.0	32.0
SC87-1886	41.0	32.0	38.0	35.0	30.0	41.0	43.0	46.0	37.0
SC87-2583	36.0	32.0	37.0	34.0	31.0	41.0	44.0	40.0	35.0
SC87-2807	38.0	32.0	39.0	37.0	34.0	44.0	49.0	42.0	32.0

TABLE 56 - SEED QUALITY SCORES FOR THE STRAINS IN PRELIMINARY GROUP VII, 1990

STRAIN	CLINTON, NC	ATHENS, GA	TALLAS- SEE, AL	JAY, FL	ROHWER, AR	STONE- VILLE, MS (A)	STONE- VILLE, MS (B)	BEAU- MONT, TX
STONEWALL	1.5	1.5	1.5	3.0	2.5	2.0	2.0	2.3
SHARKEY	1.5	1.8	3.0	4.0	3.5	2.0	2.0	3.3
AU87-528	1.5	1.5	1.5	3.0	2.3	2.0	2.0	2.3
AU87-547	1.5	1.5	1.5	3.0	2.3	2.0	2.0	1.3
AU87-757	1.5	1.5	1.5	3.0	2.5	2.0	2.0	2.8
AU87-787	1.5	1.5	2.0	2.0	2.8	2.0	2.0	3.0
AU87-992	1.5	1.5	1.5	3.0	2.5	2.0	2.0	2.0
AU87-3333	1.5	1.5	1.5	4.0	2.0	2.0	2.0	2.3
D49-772	1.5	1.5	1.5	3.0	2.3	2.0	2.0	1.5
D78-4411	2.0	1.5	2.0	4.0	2.5	2.0	2.0	1.5
D86-8484	1.5	1.5	2.5	3.0	3.5	2.0	2.0	2.8
D86-9720	1.5	1.5	1.0	3.0	2.3	2.0	2.0	1.0
D87-5127	1.5	1.5	1.5	3.0	2.0	2.0	2.5	1.0
G86-1267	1.5	1.5	1.5	3.0	2.3	2.0	2.0	2.3
G86-1434	1.5	1.5	1.5	3.0	2.3	2.0	2.0	1.5
G86-1768	1.5	1.5	2.0	3.0	3.0	2.0	2.0	2.3
G86-1958	1.5	1.5	1.5	2.0	2.8	2.0	2.0	2.0
G86-2288	1.5	1.5	1.5	3.0	2.5	2.0	2.0	2.8
G86-2315	2.0	2.2	1.5	3.0	1.5	2.0	2.0	2.5
G87-5184	1.5	1.5	1.0	3.0	2.8	2.0	2.0	1.5
N86-7540	1.5	2.0	1.5	3.0	2.8	2.0	2.0	1.5
N86-7574	1.5	1.5	1.5	3.0	2.0	2.0	2.0	1.5
N88-279	1.5	1.5	1.5	3.0	2.5	2.0	2.0	1.8
N88-285	1.5	1.5	1.5	3.0	2.8	2.0	2.0	2.3
N88-355	1.5	1.5	1.5	3.0	2.0	2.0	2.0	1.8
N88-431	1.5	1.5	2.0	4.0	2.8	2.0	2.0	1.5
N88-480	1.5	1.8	1.5	3.0	2.8	2.0	2.0	2.3
R88-298S	1.5	1.5	1.5	3.0	2.5	2.0	2.0	2.0
R88-407	1.5	1.5	2.0	3.0	2.0	2.0	2.0	2.5
R88-1109S	2.0	1.5	1.5	3.0	2.5	2.0	2.0	1.5
SC87-454	1.5	1.5	1.5	3.0	2.0	2.0	2.0	2.0
SC87-541	1.5	1.5	1.5	3.0	2.5	2.0	2.0	1.5
SC87-1811	1.5	1.5	1.5	2.0	2.5	2.0	2.0	1.3
SC87-1886	1.5	1.5	2.5	3.0	2.0	2.0	2.0	2.5
SC87-2583	1.5	1.5	1.5	3.0	2.5	2.0	2.0	2.5
SC87-2807	1.5	1.5	2.0	3.0	2.5	2.0	2.0	2.3

UNIFORM GROUP VIII

1990

VARIETY OR STRAIN	PARENTAGE	GENERATION COMPOSITED
1. KIRBY	CENTENNIAL X [FORREST X (COBB X D68-216)	F6
2. CO 6738	BRAXTON X CO 368	F5
3. CROCKETT	PI 171451 X HAMPTON 266	F14
4. G83-266	BRAXTON X YOUNG	F6
5. G83-644	D77-6103 X F77-6903	F6
6. AU85-1797	F76-8757 X BRAXTON	F5
7. F86-1456	KIRBY(2) X TRACY-M	F5
8. G84-234	KIRBY X WRIGHT	F6
9. SC84-679	D76-9665 X JOHNSTON	F5
10. AU86-1874	BRAXTON X JOHNSTON	F6
11. AU86-2126	BRAXTON X JOHNSTON	F6
12. SC85-123	CENTENNIAL X YOUNG	F6

Background of breeding lines used as parents:

D68-216 is a selection from Dyer X Bragg  
Co368 is a selection from Co71-211 X Centennial evaluated in  
Uniform Group VIII in 1982.  
D77-6103 is a selection from Centennial X J74-57.  
F77-6903 is a selection from Forrest X Cobb X D68-216.  
F76-8757 is a SCN race 3 resistant line from Centennial X (Forrest X  
(Cobb X D86-216)).  
D76-9665 is a selection from Forrest X Centennial.

UNIFORM GROUP VIII

1990

Uniform Group VIII nurseries were grown at 16 locations. A general summary of agronomic performance, oil and protein concentration, disease and nematode reaction, and general agronomic characteristics are reported in Table 57. Data from individual locations are reported in Tables 58-63.

The mean seed yield for all entries over 14 locations was 31.5 bushels per acre. The range in yield among entries was 36.6 to 24.3 bushels per acre. Kirby had a mean seed yield of 29.2 bushels per acre. Three entries, Crockett, G83-266, and G83-644, have been evaluated three years. Crockett was released because of its resistance to foliar feeding insects, and has produced reasonably well in the Beaumont, Texas region. Four strains were evaluated in their second year, and two strains in their first year.

All entries were evaluated for the two species of root knot nematode at the University of Georgia, and for races 3 and 4 of SCN at Jackson, Tennessee. Four entries were resistant to both species of root knot nematode. Two of these, Kirby and F86-1456, were also resistant to SCN race 3. G83-644 is resistant to *M. incognita* and race 3 of SCN. Crockett demonstrated good resistance to soybean looper feeding in the field cage at Stoneville. G83-266 is being increased for release and named Cook.

TABLE 57 - GENERAL SUMMARY OF PERFORMANCE FOR THE STRAINS GROWN IN UNIFORM GROUP VIII, 1990

	NO. OF LOCATIONS	KIRBY	CO 6738	CROCKETT	G83- 266	G83- 644
Seed Yield - 1990	14	29.2	33.1	24.3	36.6	31.1
1989-90		30.6	35.0	27.8	39.3	33.5
1988-90		33.0	37.0	29.4	41.3	35.3
Oil Content - 1990		20.1	21.0	18.5	20.2	20.5
1989-90		19.6	20.9	18.7	20.2	20.3
1988-90		20.1	21.3	19.1	20.3	20.4
Protein Content - 1990		41.9	40.4	42.6	42.0	42.7
1989-90		42.2	40.2	42.4	41.7	42.4
1988-90		41.7	39.8	42.0	41.7	42.2
Seed size		12.8	13.2	10.7	14.6	12.9
Maturity index		10-24	-2	+4	-3	-1
Height		35	36	36	36	37
Seed quality		1.8	1.6	1.9	1.7	1.7
M. incognita		1.2	1.5	1.5	1.5	1.0
M. arenaria		2.8	4.0	2.5	3.1	5.0
SCN race 3		R	R	S	S	R
SCN race 4		S	S	S	S	S
Flower color		P	P	P	P	P
Pubescence color		T	T	T	T	T
Pod wall color		T	T	T	T	T

TABLE 57 - (continued)

	AU85- 1797	F86- 1456	G84- 234	SC84- 679	AU86- 1874	AU86- 2126	SC85- 123
Seed Yield - 1990	30.7	30.0	34.0	34.0	30.0	33.5	31.5
1989-90	32.8	32.7	34.7	36.8			
1988-90							
Oil Content - 1990	20.1	20.2	20.0	20.7	20.9	21.2	19.5
1989-90	20.1	20.1	19.7	20.8			
1988-90							
Protein Content - 1989	42.2	42.2	42.0	41.0	39.8	41.4	43.6
1988-89	41.7	42.0	41.8	40.6			
1988-89							
Seed size	14.8	12.6	13.4	13.6	13.6	13.1	12.9
Maturity index	-2	-3	-3	-2	-2	-3	-3
Height	36	36	33	34	32	29	39
Seed quality	1.9	1.9	1.9	2.0	1.6	1.7	2.0
M. incognita	1.2	1.8	1.5	2.5	2.2	1.5	3.6
M. arenaria	4.1	3.4	1.9	5.0	3.4	2.5	2.2
SCN race 3	S	R	R	R	S	S	R
SCN race 4	S	S	S	S	S	S	S
Flower color	S	P	P	P	W	W	W
Pubescence color	T	T	T	T	G	T	G
Pod wall color	T	T	T	T	T	T	T

TABLE 58 - SEED YIELD, IN BUSHELS PER ACRE, FOR THE STRAINS IN UNIFORM GROUP VIII, 1990

LOCATION	KIRBY	CO 6738	CROCKETT	G83- 266	G83- 644	AU85- 1797
CLINTON, NC	21.3	19.4	19.9	26.1	21.3	16.9
FLORENCE, SC(A)*	14.2	11.8	17.4	15.4	15.0	15.2
FLORENCE, SC(B)	24.4	15.6	11.4	17.1	24.0	18.4
BLACKVILLE, SC(A)	24.1	23.7	17.2	27.8	19.3	21.7
BLACKVILLE, SC(B)	17.5	26.4	18.7	28.4	23.6	25.4
ATHENS, GA	34.3	46.0	21.9	46.4	39.2	37.6
TALLASSEE, AL	21.8	30.5	17.3	30.4	25.6	23.2
TIFTON, GA	37.8	37.5	27.1	48.0	38.4	29.8
GAINESVILLE, FL*	3.6	3.6	2.8	24.0	5.8	6.8
QUINCY, FL	25.0	27.4	23.7	24.8	21.8	24.4
JAY, FL	37.0	42.7	32.7	42.3	27.7	34.7
FAIRHOPE, AL	25.3	28.3	14.3	27.0	25.7	20.3
BATON ROUGE, LA	52.2	57.1	42.1	66.1	61.6	62.6
STONEVILLE, MS(A)	33.1	41.6	32.5	48.6	42.7	44.8
STONEVILLE, MS(B)	39.8	38.2	34.1	54.3	40.0	44.1
BEAUMONT, TX	15.5	28.5	28.0	24.4	25.3	26.2
MEAN	29.2	33.1	24.3	36.6	31.1	30.7

\*Not included in mean.



TABLE 58 - (continued)

LOCATION	F86- 1456	G84- 234	SC84- 679	AU86- 1874	AU86- 2126	SC85- 123	L.S.D. (.05)	C.V. (%)
CLINTON, NC	17.9	24.0	24.7	19.7	23.9	19.7	.	18.9
FLORENCE, SC(A)*	17.9	14.2	15.2	16.6	19.6	9.9	.	33.4
FLORENCE, SC(B)	22.3	21.4	21.0	17.7	22.7	20.5	6.2	18.4
BLACKVILLE, SC(A)	18.0	25.5	26.3	22.3	27.1	22.3	4.3	11.0
BLACKVILLE, SC(B)	22.2	20.8	22.8	20.0	24.2	27.1	6.0	15.4
ATHENS, GA	41.0	43.3	43.9	27.2	48.0	41.6	8.8	13.2
TALLASSEE, AL	20.3	30.5	31.9	23.4	33.4	23.9	5.5	12.5
TIFTON, GA	39.8	44.5	44.2	33.6	43.5	32.8	6.9	10.6
GAINESVILLE, FL*	5.6	6.0	4.1	7.8	16.6	3.3	5.6	45.0
QUINCY, FL	19.7	23.4	23.9	28.0	27.6	23.9	2.9	6.9
JAY, FL	25.7	35.7	44.7	31.0	39.7	34.0	8.2	13.5
FAIRHOPE, AL	20.3	26.3	23.3	22.0	29.0	22.7	2.9	7.1
BATON ROUGE, LA	66.1	66.0	60.0	64.7	55.3	65.6	6.2	6.1
STONEVILLE, MS(A)	40.5	43.2	40.7	37.8	38.9	39.7	6.6	9.6
STONEVILLE, MS(B)	45.8	44.5	42.9	42.7	35.2	45.1	5.3	7.5
BEAUMONT, TX	20.9	27.1	25.2	30.4	20.7	21.9	7.4	13.7
MEAN	30.0	34.0	34.0	30.0	33.5	31.5		

\*Not included in mean.

TABLE 59 - CHEMICAL COMPOSITION AND SEED SIZE FOR THE STRAINS IN UNIFORM GROUP VIII, 1990

LOCATION	KIRBY	CO 6738	CROCKETT	G83- 266	G83- 644	AU85- 1797
OIL PERCENTAGE						
CLINTON, NC	19.4	20.3	20.6	19.5	19.3	18.4
BLACKVILLE, SC(A)	19.6	18.6	19.9	20.1	19.1	20.7
ATHENS, GA	19.4	20.3	15.9	18.8	20.1	19.2
TALLASSEE, FL	20.1	21.9	15.4	19.9	20.7	20.4
JAY, FL	21.0	22.8	20.0	21.2	22.0	21.6
STONEVILLE, MS(B)	20.8	22.3	19.3	21.4	22.0	20.3
MEAN	20.1	21.0	18.5	20.2	20.5	20.1
PROTEIN PERCENTAGE						
CLINTON, NC	42.1	40.5	40.0	42.6	43.2	43.3
BLACKVILLE, SC(A)	43.3	44.1	42.7	42.0	42.8	42.5
ATHENS, GA	41.2	39.4	43.0	42.0	42.7	42.5
TALLASSEE, FL	41.8	40.6	47.6	43.7	43.8	42.5
JAY, FL	41.4	38.5	40.5	40.7	42.0	40.9
STONEVILLE, MS(B)	41.6	39.4	41.8	41.1	41.5	41.6
MEAN	41.9	40.4	42.6	42.0	42.7	42.2
GRAMS PER 100 SEED						
CLINTON, NC	15.8	15.1	14.8	14.2	14.9	14.1
ATHENS, GA	12.5	12.7	9.1	13.6	13.2	15.3
TALLASSEE, FL	11.0	11.8	8.1	14.2	10.5	13.2
JAY, FL	14.0	14.0	12.0	16.0	14.0	17.0
STONEVILLE, MS(B)	10.9	12.3	9.7	14.8	12.1	14.5
MEAN	12.8	13.2	10.7	14.6	12.9	14.8

TABLE 59 - (continued)

LOCATION	F86- 1456	G84- 234	SC84- 679	AU86- 1874	AU86- 2126	SC85- 123
OIL PERCENTAGE						
CLINTON, NC	20.2	18.5	19.2	19.1	19.8	17.8
BLACKVILLE, SC(A)	19.3	20.0	21.5	20.4	19.4	19.0
ATHENS, GA	18.9	19.4	19.8	19.8	20.1	18.9
TALLASSEE, FL	19.0	19.9	19.4	21.1	22.0	20.3
JAY, FL	22.0	21.7	22.4	22.8	23.2	21.1
STONEVILLE, MS(B)	21.5	20.4	22.0	21.9	22.5	19.6
MEAN	20.2	20.0	20.7	20.9	21.2	19.5
PROTEIN PERCENTAGE						
CLINTON, NC	42.3	43.9	42.0	40.3	41.8	44.3
BLACKVILLE, SC(A)	44.6	42.8	41.3	41.1	43.9	45.2
ATHENS, GA	42.0	41.5	40.0	40.1	41.8	43.4
TALLASSEE, FL	43.7	42.8	43.8	41.0	41.8	43.8
JAY, FL	39.5	39.9	39.3	36.5	38.7	41.2
STONEVILLE, MS(B)	41.0	41.1	39.8	39.7	40.6	43.9
MEAN	42.2	42.0	41.0	39.8	41.4	43.6
GRAMS PER 100 SEED						
CLINTON, NC	12.7	12.4	12.9	13.5	12.9	14.3
ATHENS, GA	12.9	13.9	13.2	13.0	12.9	12.4
TALLASSEE, FL	12.1	12.6	12.6	12.7	12.1	11.7
JAY, FL	13.0	15.0	16.0	15.0	14.0	14.0
STONEVILLE, MS(B)	12.5	12.9	13.3	13.6	13.6	11.9
MEAN	12.6	13.4	13.6	13.6	13.1	12.9

TABLE 60 - RELATIVE MATURITY, DAYS EARLIER, (-) OR LATER (+) THAN KIRBY, FOR THE STRAINS IN UNIFORM GROUP VIII, 1990.

LOCATION	KIRBY	CO 6738	CROCKETT	G83- 266	G83- 644	AU85- 1797
CLINTON, NC	11/03	-2	-1	-9	+0	+0
FLORENCE, SC(A)*	10/30	-3	+1	-7	-3	-5
FLORENCE, SC(B)	10/30	-3	+1	-8	-1	-2
BLACKVILLE, SC(A)	10/24	-2	+5	-6	+1	-7
ATHENS, GA	10/20	+0	+5	-3	-1	-2
TALLASSEE, AL	10/20	-2	+1	-3	-3	-3
TIFTON, GA	10/12	-3	+5	+0	+2	+0
GAINESVILLE, FL*	10/11	-1	+5	+1	+0	+0
JAY, FL	10/22	-3	+11	-4	-2	-3
FAIRHOPE, AL	10/20	-1	+11	-5	-3	-1
BATON ROUGE, LA	10/24	+0	+8	+2	+2	+3
STONEVILLE, MS(A)	10/23	-5	+2	-2	-3	-1
STONEVILLE, MS(B)	10/23	+0	+4	+0	+0	+0
BEAUMONT, TX	10/31	+3	+5	+2	-3	+3
MEAN	10/24	-2	+4	-3	-1	-2

\*Not included in mean.

TABLE 60 - (continued)

LOCATION	F86- 1456	G84- 234	SC84- 679	AU86- 1874	AU86- 2126	SC85- 123
CLINTON, NC	-3	-7	-2	+1	-2	+1
FLORENCE, SC(A)*	-5	-6	-6	-5	-6	-4
FLORENCE, SC(B)	-7	-6	-5	-3	-5	-5
BLACKVILLE, SC(A)	-6	-6	-7	-6	-6	-5
ATHENS, GA	-3	-5	-2	-3	-4	-3
TALLASSEE, AL	-3	-2	-3	-3	-3	-3
TIFTON, GA	-1	-2	-2	-1	-3	-3
GAINESVILLE, FL*	+0	-1	-4	+0	+0	-6
JAY, FL	-7	-4	-3	-2	-7	-4
FAIRHOPE, AL	-3	-2	-1	-1	-5	-1
BATON ROUGE, LA	+0	+2	+3	+2	+2	+0
STONEVILLE, MS(A)	-3	-4	-1	-5	-2	-2
STONEVILLE, MS(B)	+0	+0	+0	+0	+0	+0
BEAUMONT, TX	+0	+0	+0	+3	-2	-3
MEAN	-3	-3	-2	-2	-3	-3

\*Not included in mean.

TABLE 61 - PLANT HEIGHT FOR THE STRAINS IN UNIFORM GROUP VIII, 1990

LOCATION	KIRBY	CO 6738	CROCKETT	G83- 266	G83- 644	AU85- 1797
FLORENCE, SC(A)*	28	26	33	29	31	29
FLORENCE, SC(B)	29	23	28	25	33	28
BLACKVILLE, SC(A)	26	33	30	34	32	32
BLACKVILLE, SC(B)	24	26	29	26	28	26
ATHENS, GA	37	36	36	36	37	38
TALLASSEE, AL	36	35	34	35	37	33
TIFTON, GA	39	39	36	39	40	34
GAINESVILLE, FL*	21	20	27	23	23	23
JAY, FL	33	34	28	35	27	32
FAIRHOPE, AL	41	42	43	44	43	45
BATON ROUGE, LA	39	50	43	41	50	42
STONEVILLE, MS(A)	44	46	43	45	41	44
STONEVILLE, MS(B)	44	43	41	39	41	43
BEAUMONT, TX	32	29	35	30	33	30
MEAN	35	36	36	36	37	36

\*Not included in mean.

TABLE 61 - (continued)

LOCATION	F86- 1456	G84- 234	SC84- 679	AU86- 1874	AU86- 2126	SC85- 123
FLORENCE, SC(A)*	29	24	27	22	21	29
FLORENCE, SC(B)	27	27	22	26	24	32
BLACKVILLE, SC(A)	32	30	30	26	25	34
BLACKVILLE, SC(B)	25	23	24	23	22	26
ATHENS, GA	38	37	35	29	33	40
TALLASSEE, AL	37	34	35	31	26	38
TIFTON, GA	42	32	33	33	31	48
GAINESVILLE, FL*	24	19	21	19	18	25
JAY, FL	32	29	31	26	28	34
FAIRHOPE, AL	43	36	42	37	38	46
BATON ROUGE, LA	38	37	38	44	34	54
STONEVILLE, MS(A)	42	41	41	39	34	50
STONEVILLE, MS(B)	43	42	39	41	33	43
BEAUMONT, TX	31	29	34	25	23	28
MEAN	36	33	34	32	29	39

\*Not included in mean.

TABLE 62 - LODGING SCORES FOR THE STRAINS IN UNIFORM GROUP VII, 1990

LOCATION	KIRBY	CO 6738	CROCKETT	G83- 266	G83- 644	AU85- 1797
ATHENS, GA	1.5	1.5	2.2	1.7	2.7	1.5
TALLASSEE, AL	1.0	1.0	1.0	1.0	1.0	1.0
TIFTON, GA	2.0	1.8	2.6	2.6	1.6	1.7
GAINESVILLE, FL	1.0	1.0	2.0	1.0	1.0	1.0
JAY, FL	3.0	2.0	3.0	2.0	3.0	2.0
FAIRHOPE, AL	1.0	1.0	3.0	1.0	2.0	1.0
BATON ROUGE, LA	3.0	4.0	4.0	5.0	5.0	5.0
STONEVILLE, MS (A)	2.0	2.0	3.0	2.7	3.0	2.0
STONEVILLE, MS (B)	2.3	2.0	2.7	3.0	3.0	3.0
BEAUMONT, TX	1.3	1.3	2.3	1.0	1.8	1.0



TABLE 62 - (continued)

LOCATION	F86- 1456	G84- 234	SC84- 679	AU86- 1874	AU86- 2126	SC85- 123
ATHENS, GA	1.5	1.8	1.5	1.5	1.7	1.7
TALLASSEE, AL	1.0	1.0	1.0	1.0	1.0	1.0
TIFTON, GA	1.8	1.8	2.0	1.7	1.3	1.8
GAINESVILLE, FL	1.0	1.0	1.0	1.0	1.0	1.3
JAY, FL	2.0	2.0	2.0	2.0	1.0	2.0
FAIRHOPE, AL	1.0	1.0	1.0	1.0	1.0	2.0
BATON ROUGE, LA	4.0	3.0	4.0	4.0	5.0	4.0
STONEVILLE, MS (A)	2.7	3.0	2.3	2.7	4.0	3.0
STONEVILLE, MS (B)	2.7	2.7	3.0	3.0	3.3	3.0
BEAUMONT, TX	1.3	1.0	1.0	1.3	1.3	1.3

TABLE 63 - SEED QUALITY SCORES FOR THE STRAINS IN UNIFORM GROUP VIII, 1990

LOCATION	KIRBY	CO 6738	CROCKETT	G83- 266	G83- 644	AU85- 1797
CLINTON, NC	2.0	1.5	2.0	1.5	1.5	2.0
ATHENS, GA	1.5	1.5	1.7	1.5	1.5	1.5
TALLASSEE, AL	1.5	1.0	1.0	1.0	1.5	1.0
TIFTON, GA	2.1	2.1	2.3	2.2	2.1	2.3
JAY, FL	3.0	2.0	3.0	2.0	2.0	3.0
BATON ROUGE, LA	1.5	1.4	2.0	1.8	2.0	1.7
STONEVILLE, MS (A)	2.0	2.0	2.0	2.0	2.0	2.0
STONEVILLE, MS (B)	2.0	2.0	2.0	2.0	2.0	2.0
BEAUMONT, TX	1.0	1.0	1.0	1.3	1.0	1.5

TABLE 63 - (continued)

LOCATION	F86- 1456	G84- 234	SC84- 679	AU86- 1874	AU86- 2126	SC85- 123
CLINTON, NC	1.5	1.5	1.5	1.5	1.5	2.0
ATHENS, GA	1.5	1.5	2.0	1.5	1.5	1.5
TALLASSEE, AL	1.5	1.5	2.0	1.0	1.5	1.5
TIFTON, GA	2.3	2.3	2.2	1.9	1.9	2.2
JAY, FL	3.0	3.0	3.0	2.0	2.0	3.0
BATON ROUGE, LA	1.6	2.2	1.8	1.2	1.2	2.2
STONEVILLE, MS (A)	2.0	2.0	2.0	2.0	2.0	2.0
STONEVILLE, MS (B)	2.0	2.0	2.0	2.0	2.0	2.0
BEAUMONT, TX	1.5	1.5	1.8	1.0	1.8	1.3

PRELIMINARY GROUP VIII

1990

Preliminary Group VIII lines, which included Kirby, Braxton, Perrin, and Crockett, along with 32 experimental lines were grown at 6 locations. Parentage for each of these lines is reported in Table 64. Table 65 gives a general summary of performance. Data from individual locations are reported in Tables 66-70.

Maturity of the experimental lines included was satisfactory for group VIII. The overall mean seed yield was 29.8 bushels per acre, with a range of 33.8 to 26.8. Kirby had a mean seed yield of 30.6 bushels per acre and Perrin a mean of 31.3 bushels. There were no strains with a mean seed yield significantly higher than that of Kirby, or significantly lower. The mean protein percentage was 40.8, with a range from 43.3 to 37.0. Kirby had a mean protein percentage of 41.3. There was one experimental line having a significantly higher protein percentage, and five with a lower protein percentage. The mean oil percentage was 21.0, with a range of 23.0 to 19.2. Oil percentage for Kirby was 21.0. Five experimental lines had a significantly higher oil concentration and six had a significantly lower percentage.

Twenty-seven lines were rated resistant to SCN race 3, with two of these also resistant to SCN race 4. Crockett and D88-3775 demonstrated a high level of resistance to feeding by soybean looper in the field cage at Stoneville. D88-3775 is a sub-line of D75-10169, which was released as a germplasm line because of its resistance to a broad range of foliar feeding insects. The mean seed yield of Crockett and D88-3775 are nearly similar.

TABLE 64 - PARENTAGE OF THE STRAINS GROWN IN PRELIMINARY GROUP VIII, 1990

VARIETY OR STRAIN	PARENTAGE
1. KIRBY	CENTENNIAL X [FORREST X (COBB X D68-216)]
2. BRAXTON	F59-1505 X (BRAGG(3) X D60-7965)
3. PERRIN	COKER 488 X BRAXTON
4. CROCKETT	HAMPTON 266 X PI 171451
5. AU87-2165	F77-7142 X N81-1756
6. AU87-3321	F77-7142 X LEFLORE
7. D88-3775	subline D75-10169 X F
8. F87-1426	F77-6790 X KIRBY
9. F87-1430	F77-6790 X KIRBY
10. F87-1434	F77-6790 X KIRBY
11. F87-1630	F83-1969 X (KIRBY X TRACY-M)
12. F87-1977	FORREST(3) X D77-12480
13. F87-3053	D81-9788 X F81-5923
14. F88-8469	F80-5179 X F83-1960
15. F88-8627	F83-1969 X F79-6429
16. F88-8632	F83-1969 X F79-6439
17. F88-8671	KIRBY X F84-1569
18. F88-8692	KIRBY X F84-1569
19. F88-8723	KIRBY X F84-1569
20. F88-8727	KIRBY X F84-1569
21. F88-8739	KIRBY X F83-7968
22. F88-8741	KIRBY X F83-7968
23. F88-8773	KIRBY X F83-7968
24. F88-8778	KIRBY X F83-7968
25. F88-9160	F77-2000 X BRAXTON
26. G86-2231	GORDON X BRAXTON
27. G87-5032	N80-5027 X D81-8815
28. G87-5164	N80-5027 X D79-10494
29. SC84-9310	CENTENNIAL X YOUNG
30. SC87-1432	BRAXTON X FORREST
31. SC87-2211	BRAXTON X (GORDON X JOHNSTON)
32. SC87-2220	BRAXTON X (GORDON X JOHNSTON)
33. SC87-2374	BRAXTON X (GORDON X JOHNSTON)
34. SC87-2557	KIRBY X (GORDON X D77-6056)
35. SC87-2660	KIRBY X (GORDON X D77-6056)
36. SC87-2699	KIRBY X (GORDON X D77-6056)

TABLE 65 - GENERAL SUMMARY OF PERFORMANCE FOR THE STRAINS GROWN IN PRELIMINARY GROUP VIII, 1990

STRAIN	SEED YIELD*	MAT. INDEX	-----PERCENT-----			SCN 3	SCN 4
			HT.	OIL	PROTEIN		
KIRBY	30.6	10/26	34	21.0	41.3	R	S
BRAXTON	28.6	4-	35	21.2	40.8	S	S
PERRIN	31.3	1-	37	21.3	41.5	S	S
CROCKETT	27.0	7+	35	19.5-	41.9	S	S
AU87-2165	29.4	5-	32	23.0+	37.0-	S	S
AU87-3321	31.3	5-	35	20.2	41.2	R	S
D88-3775	26.9	2+	35	19.7-	43.3+	S	S
F87-1426	31.8	2-	37	20.8	40.8	R	S
F87-1430	29.1	4-	39	20.9	39.0-	R	S
F87-1434	30.7	1-	39	19.4-	42.2	R	S
F87-1630	27.4	1-	36	20.1	40.5	R	S
F87-1977	28.7	3+	39	19.9-	42.6	R	S
F87-3053	27.4	1+	35	21.4	39.0-	R	S
F88-8469	28.3	8+	35	19.2-	42.1	R	S
F88-8627	31.1	1-	37	22.2+	38.7-	R	S
F88-8632	28.4	4+	40	20.6	41.0	R	S
F88-8671	27.9	8+	30	22.0+	39.8	R	S
F88-8692	32.5	8+	32	21.3	41.7	R	S
F88-8723	29.0	6+	31	20.5	41.6	R	S
F88-8727	27.2	7+	34	20.7	41.6	R	S
F88-8739	27.0	3+	37	20.9	42.0	R	S
F88-8741	26.8	5+	37	20.1	41.4	R	S
F88-8773	27.6	9+	39	20.7	40.3	R	S
F88-8778	28.4	2+	36	21.2	41.4	R	S
F88-9160	32.0	8+	38	21.2	40.0	R	S
G86-2231	32.1	4-	34	21.0	40.6	R	S
G87-5032	27.1	0	37	20.6	40.8	R	R
G87-5164	27.9	4-	34	19.6-	42.9	R	S
SC84-9310	33.8	5-	38	22.5+	39.9	S	S
SC87-1432	31.5	5-	34	20.8	41.0	R	S
SC87-2211	31.7	0	38	21.7	38.9-	S	S
SC87-2220	31.2	5-	38	20.2	41.2	R	S
SC87-2374	29.8	2-	34	22.0+	40.5	S	S
SC87-2557	30.5	2-	35	21.4	39.9	R	S
SC87-2660	29.7	5-	37	21.0	41.6	R	R
SC87-2699	30.7	4-	35	21.5	40.9	R	S
LSD (.05)	5.5			0.9	1.8		
C.V.	15%			2%	2%		

\*Gainesville, FL is not included in mean.

+ or - designations refer to differences from Kirby.

TABLE 66 - SEED YIELD, IN BUSHELS PER ACRE, FOR THE STRAINS IN PRELIMINARY GROUP VIII, 1990

STRAIN	BLACK-VILLE, SC	GAINES-VILLE, FL	QUINCY, FL	JAY, FL	BEAU-MONT, TX	STONE-VILLE, MS (B)
KIRBY	23.9	4.7	19.6	35.0	35.3	39.1
BRAXTON	23.7	11.8+	19.7	31.0	29.2	39.3
PERRIN	24.3	29.0+	22.2	30.0	36.8	43.3
CROCKETT	19.4	3.0	21.8	28.5	32.8	32.5-
AU87-2165	22.3	12.7+	21.4	30.5	30.4	42.2
AU87-3321	28.9	11.3+	21.5	22.5-	37.4	46.2+
D88-3775	18.8	8.5	18.4	30.0	34.4	32.9-
F87-1426	18.7	9.0	20.6	42.5	35.5	41.5
F87-1430	19.0	8.8	24.2+	32.5	27.0	42.9
F87-1434	17.0	8.2	21.8	33.5	38.1	43.0
F87-1630	22.0	9.9	23.2	25.0-	34.2	32.8-
F87-1977	22.7	3.7	22.8	33.5	31.0	33.3
F87-3053	22.5	10.7	24.2+	27.0	30.0	33.1
F88-8469	25.5	4.3	23.8	31.5	27.1	33.7
F88-8627	22.4	18.6+	25.1+	39.5	30.5	38.2
F88-8632	17.3	8.1	25.3+	29.0	37.6	33.0-
F88-8671	18.0	3.0	23.5	37.0	34.4	26.7-
F88-8692	23.6	8.2	22.2	36.5	43.3	37.0
F88-8723	21.2	16.7+	22.7	30.5	39.2	31.3-
F88-8727	20.9	8.6	25.0+	32.5	34.8	22.8-
F88-8739	18.7	15.1+	22.7	35.5	29.3	28.7-
F88-8741	18.9	6.2	19.8	38.5	25.1	31.5-
F88-8773	23.8	3.8	26.8+	32.0	29.6	25.7-
F88-8778	19.0	12.1+	24.1+	33.5	32.4	32.8-
F88-9160	24.5	7.2	29.8+	32.5	42.0	31.4-
G86-2231	25.3	9.0	20.0	39.5	30.9	45.0
G87-5032	14.5	8.1	25.2+	23.0-	32.8	40.0
G87-5164	19.8	9.4	18.6	31.5	29.3	40.3
SC84-9310	24.6	16.0+	23.2	34.5	37.9	48.9+
SC87-1432	29.4	15.5+	21.3	29.0	37.5	40.2
SC87-2211	24.2	19.9+	25.4+	34.0	37.6	37.6
SC87-2220	27.2	10.6	21.3	33.5	30.2	44.0
SC87-2374	22.6	5.2	18.7	31.0	35.8	41.0
SC87-2557	21.4	9.1	21.9	35.5	34.1	39.4
SC87-2660	29.7	10.7	18.4	31.5	28.5	40.6
SC87-2699	21.9	7.7	19.2	30.0	38.9	43.4
LSD (.05)	N.S.	6.5	4.2	10.0	11.8	6.1
C.V.	20%	32%	9%	15%	17%	8%

TABLE 67 - OIL PERCENTAGES FOR THE STRAINS IN PRELIMINARY GROUP VIII, 1990

STRAIN	JAY, FL	STONE- VILLE, MS (B)
KIRBY	21.7	20.3
BRAXTON	21.9	20.5
PERRIN	21.9	20.7
CROCKETT	20.4	18.6
AU87-2165	23.6	22.4
AU87-3321	21.4	19.0
D88-3775	20.8	18.5
F87-1426	21.2	20.3
F87-1430	21.2	20.6
F87-1434	19.9	18.9
F87-1630	21.5	18.6
F87-1977	20.9	18.9
F87-3053	21.9	20.9
F88-8469	20.0	18.4
F88-8627	23.0	21.4
F88-8632	21.3	19.8
F88-8671	22.2	21.7
F88-8692	21.3	21.2
F88-8723	20.8	20.1
F88-8727	21.3	20.0
F88-8739	21.9	19.9
F88-8741	20.6	19.5
F88-8773	22.0	19.3
F88-8778	22.0	20.4
F88-9160	21.7	20.7
G86-2231	21.5	20.4
G87-5032	20.7	20.4
G87-5164	20.1	19.1
SC84-9310	22.9	22.0
SC87-1432	21.5	20.1
SC87-2211	21.9	21.4
SC87-2220	20.3	20.0
SC87-2374	22.7	21.3
SC87-2557	22.1	20.7
SC87-2660	21.4	20.5
SC87-2699	22.3	20.6



TABLE 68 - PROTEIN PERCENTAGES FOR THE STRAINS IN PRELIMINARY GROUP VIII, 1990

STRAIN	JAY, FL	STONE- VILLE, MS (B)
KIRBY	41.0	41.5
BRAXTON	39.9	41.7
PERRIN	41.5	41.4
CROCKETT	41.5	42.3
AU87-2165	37.1	36.8
AU87-3321	40.1	42.2
D88-3775	42.2	44.3
F87-1426	41.4	40.1
F87-1430	40.0	37.9
F87-1434	42.7	41.6
F87-1630	39.6	41.3
F87-1977	41.8	43.4
F87-3053	39.7	38.2
F88-8469	42.0	42.1
F88-8627	38.0	39.4
F88-8632	40.6	41.4
F88-8671	40.5	39.0
F88-8692	42.1	41.3
F88-8723	41.4	41.8
F88-8727	41.1	42.0
F88-8739	42.3	41.7
F88-8741	41.4	41.4
F88-8773	38.2	42.4
F88-8778	41.0	41.7
F88-9160	40.0	40.0
G86-2231	40.5	40.7
G87-5032	40.1	41.4
G87-5164	42.8	42.9
SC84-9310	40.1	39.6
SC87-1432	40.6	41.3
SC87-2211	39.5	38.2
SC87-2220	41.3	41.0
SC87-2374	39.6	41.4
SC87-2557	39.4	40.3
SC87-2660	41.4	41.7
SC87-2699	40.1	41.6

TABLE 69 - PLANT HEIGHT PERCENTAGES FOR THE STRAINS IN PRELIMINARY GROUP VIII, 1990

STRAIN	BLACK-VILLE, SC	GAINES-VILLE, FL	JAY, FL	BEAU-MONT, TX	STONE-VILLE, MS (B)
KIRBY	24.0	22.0	31.0	38.0	44.0
BRAXTON	28.0	22.0	33.0	35.0	45.0
PERRIN	28.0	27.0	35.0	38.0	45.0
CROCKETT	30.0	27.0	32.0	37.0	42.0
AU87-2165	31.0	19.0	29.0	27.0	42.0
AU87-3321	28.0	21.0	32.0	37.0	43.0
D88-3775	28.0	33.0	31.0	35.0	45.0
F87-1426	30.0	26.0	34.0	40.0	42.0
F87-1430	34.0	26.0	36.0	36.0	48.0
F87-1434	31.0	25.0	33.0	41.0	49.0
F87-1630	32.0	27.0	35.0	36.0	42.0
F87-1977	30.0	24.0	34.0	42.0	49.0
F87-3053	25.0	29.0	37.0	33.0	43.0
F88-8469	32.0	25.0	34.0	33.0	40.0
F88-8627	32.0	26.0	34.0	39.0	43.0
F88-8632	36.0	31.0	38.0	42.0	45.0
F88-8671	24.0	22.0	28.0	33.0	33.0
F88-8692	24.0	21.0	32.0	36.0	36.0
F88-8723	24.0	22.0	29.0	37.0	32.0
F88-8727	26.0	24.0	31.0	36.0	41.0
F88-8739	31.0	24.0	34.0	35.0	46.0
F88-8741	34.0	25.0	34.0	38.0	43.0
F88-8773	34.0	31.0	35.0	38.0	50.0
F88-8778	26.0	23.0	35.0	38.0	45.0
F88-9160	31.0	24.0	38.0	37.0	46.0
G86-2231	28.0	22.0	30.0	30.0	46.0
G87-5032	31.0	27.0	34.0	36.0	46.0
G87-5164	26.0	23.0	32.0	34.0	44.0
SC84-9310	33.0	25.0	37.0	36.0	45.0
SC87-1432	26.0	27.0	33.0	34.0	44.0
SC87-2211	30.0	24.0	34.0	41.0	45.0
SC87-2220	36.0	25.0	36.0	35.0	46.0
SC87-2374	28.0	23.0	30.0	34.0	44.0
SC87-2557	28.0	22.0	35.0	34.0	43.0
SC87-2660	32.0	21.0	33.0	39.0	45.0
SC87-2699	31.0	20.0	29.0	34.0	45.0

TABLE 70 - SEED QUALITY SCORES FOR THE STRAINS IN PRELIMINARY GROUP VIII, 1990

STRAIN	JAY, FL	BEAU- MONT, TX	STONE- VILLE, MS (B)
KIRBY	1.0	3.0	2.0
BRAXTON	1.3	2.0	2.0
PERRIN	1.0	2.0	2.0
CROCKETT	1.0	3.0	2.0
AU87-2165	1.3	2.0	2.0
AU87-3321	2.3	3.0	2.0
D88-3775	1.3	4.0	2.0
F87-1426	1.0	3.0	2.0
F87-1430	1.0	2.0	2.0
F87-1434	1.0	4.0	2.0
F87-1630	1.0	4.0	2.0
F87-1977	1.0	3.0	2.0
F87-3053	1.5	3.0	2.0
F88-8469	1.0	3.0	2.0
F88-8627	1.3	3.0	2.0
F88-8632	1.0	3.0	2.0
F88-8671	1.0	4.0	2.0
F88-8692	1.0	3.0	2.0
F88-8723	1.3	3.0	2.0
F88-8727	1.3	3.0	2.0
F88-8739	1.0	4.0	2.0
F88-8741	1.0	3.0	2.0
F88-8773	1.3	3.0	5.0
F88-8778	1.3	4.0	2.0
F88-9160	1.0	2.0	2.5
G86-2231	1.5	4.0	2.0
G87-5032	1.3	3.0	2.0
G87-5164	1.5	3.0	2.0
SC84-9310	1.3	3.0	2.0
SC87-1432	1.8	2.0	2.0
SC87-2211	1.3	3.0	2.0
SC87-2220	1.5	3.0	2.0
SC87-2374	1.5	3.0	2.0
SC87-2557	1.0	2.0	2.0
SC87-2660	1.8	3.0	2.0
SC87-2699	1.5	3.0	2.0