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PERFORMANCE OF SOYBEAN VARIETIES IN 1982[1/]

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Soybean varieties in Maturity Group V were evaluated at six locations, in Maturity Groups VI and VII at four locations, and in Maturity Groups IV or less at four locations. Growing conditions were good at all locations except Spring Hill and Martin. The test at Martin was damaged by soybean cyst nematodes. Yields at Spring Hill were reduced by dry weather during the growing season. No data are reported for Milan because of a flood which severely damaged the test just prior to harvest.

The leading varieties in Maturity Group V were Pioneer variety 5482, RA 502, Asgrow A5618, Asgrow A5474 and Essex. FFR 447 should have been evaluated with Maturity Group IV instead of Group V.

The leading varieties of Maturity Groups VI and VII in yield were S72-60 (an experimental), Asgrow XP6420, Jeff, Hartz 672 and RA 604.

The leading varieties in Maturity Group IV or less were Mitchell, RA 480, and GA 8490 (a variety from Taylor-Evans Seed Co.). The yields were high at Ames Plantation and low at Spring Hill due to dry weather. Three strains tests were conducted at Jackson and yields were good in all maturity groups.

1/ These results will be included in the 1982 Bulletin, "Performance of Field Crop Varieties", which will be available in 1983.

2/ Professor of Plant and Soil Science.

Soybeans-Varieties recommended for 1983.

Variety	Resistant to (Races)	Maturity Groups
		medium
Asgrow A5474	1,3+4	V
Bedford	1,3+4	V
Nathan	1,3+4	V
Forrest	1+3	V
		late
Centennial	1+3	VI
RA 604	1+3	VI
		medium
Asgrow A5618	None	V
Bay	None	V
Essex	None	V
York	None	V
		early
Mitchell	None	IV

Table 1. Soybeans: Yield of varieties (maturity group V) evaluated at six locations in 1982.

Variety	Avg.	Greene-ville [1]	Knox-ville [2]	Spring-field [3]	Spring Hill [4]	Martin [5]	Ames Plantation [6]
				Bushels per acre			
Pioneer variety 5482 [7]	49	68	45	34	30	44	71
RA 502	46	66	42	62	25	46	57
Asgrow A5618	46	58	43	37	31	42	62
Asgrow A5474	45	56	35	35	36	52	58
Essex	45	56	51	31	28	44	58
Pioneer variety 9561 [7]	44	59	34	41	25	46	62
Deltapine 105	44	54	38	40	28	41	64
York	44	61	34	41	26	40	63
Bay	44	59	35	41	27	38	62
Asgrow A5939	44	55	34	35	32	44	61
Forrest	43	48	37	41	26	50	58
FFR 560	42	49	35	35	28	52	54
FFR 559	42	60	41	32	23	34	59
Wilstar 550	42	49	37	37	26	40	59
Deltapine 345	41	54	34	39	27	38	57
Agripro AP55	41	58	32	39	29	39	52
Bedford	41	50	36	33	24	49	53
Terra-vig 505	39	45	33	37	25	40	55
Nathan	39	48	31	36	24	46	50
FFR 447	35	41	45	23	18	33	49
L.S.D. (.05)		8.6	6.7	4.9	4.5	7.1	5.8
C.V. %		11.1	12.5	9.5	11.7	11.6	7.0
Avg.		54.7	37.6	36.5	27.0	43.1	58.2

1/ Huntington silt loam (2% to 5% slopes).
2/ Sequatchie loam (2% to 5% slopes).
3/ Dickson silt loam (2% to 5% slopes).
4/ Maury silt loam (2% to 5% slopes).
5/ Falaya silt loam (0% to 2% slopes).
6/ Loring silt loam (2% to 5% slopes).
7/ Tested as Peterson in 1981.

Table 2. Soybeans: Yield and other characteristics of varieties (maturity group V) evaluated at six locations in 1982.

Variety	Yield	Plant ht.	Lodging	Date mature
	Bu/A	in.	%	
Pioneer variety 5482	49	29	5	10-1
RA 502	46	34	32	10-6
Asgrow A5618	46	35	13	10-4
Asgrow A5474	45	33	16	10-4
Essex	45	27	5	9-27
Pioneer variety 9561	44	33	12	10-4
Deltapine 105	44	36	40	10-9
York	44	31	9	10-7
Bay	44	34	15	10-5
Asgrow A5939	44	35	32	10-4
Forrest	43	34	22	10-4
FFR 560	42	39	56	10-10
FFR 559	42	30	14	10-3
Wilstar 550	42	34	22	10-11
Deltapine 345	42	36	20	10-8
Agripro AP55	41	36	63	10-6
Bedford	41	37	48	10-4
Terra-vig 505	39	35	40	10-10
Nathan	39	40	76	9-28
FFR 447 1/	35	28	12	9-18

1/ Should have been evaluated with Maturity Group IV.

Table 3. Soybeans: Characteristics of varieties (maturity group V) evaluated in 1982.

Variety	Flower color 1/	Pubescence color 2/	Hila color	Phytophthora rot resistance 3/	Soybean cyst nematode resistance Races
York	P	G	Buff	S	None
Forrest	W	Brown	Black	MR	1,3
Essex	P	G	Buff	S	None
Bedford	W	T	Black	-	1,3,4
Nathan	W	Brown	Black	-	1,3,4
Bay	P	G	Buff	-	None
Asgrow A5939	P	T	Black	R	1,3,4
Asgrow A5474	W	T	Black	R	1,3,4
Deltapine 345	P	T	Black	R	None
FFR 559	W	G	Buff	-	None
Wilstar 550	P	T	Buff	R	None
Terra-vig 505	P	T	Gray to Black	R	None
Deltapine 105	P	G	Imp. Black	R	None
Agripro AP55	P	T	Black	R	None
Asgrow A5618	P	G	Buff	S	None
RA 502	P	T	Black	T	1,3
Pioneer variety 5482	W	T	Black	S	None
Pioneer variety 9561	W	T	Black	S	1,3
FFR 560	P	Brown	Black	MR	1,3,4
FFR 447	W	G	Imp. Black	-	None

1/ P=Purple W=White
2/ G=Grey T=Tawny
3/ S=Susceptible R=Resistant MR=Moderately Resistant.

Table 4. Soybeans: Yield and other characteristics of strains (maturity group V) evaluated at Jackson in 1982. [1/]

Strain	Yield	Date mature	Plant ht.	Lodging score	Shattering score
	Bu/A		in.	(1-5) [2/]	(1-5) [3/]
Hartz H-76-502	52	10-5	48	3	1
N.A.P.B. EX S-243-79	51	10-7	49	2.5	1
Hartz H-78-7817	51	10-13	52	2.5	1
Hartz H-78-766	50	10-7	49	4	1
Coker 80-764	48	10-6	45	2.5	1
Forrest	47	10-6	46	3	1
CEI 156 [4/]	46	10-4	42	3	1
N.A.P.B. EX S-27-79	46	10-7	48	3	1
Helena HB-S8120-5 (Shiloh)	46	10-8	51	3.5	1
Coker 355	45	10-5	46	3	1.5
Coker 79-5	45	9-27	35	1.5	2
TN 80-69	44	10-2	46	2.5	1.5
RAX-63	44	10-14	52	2.5	1
Hartz H-78-143	43	10-7	53	2.5	1
CEI 159	42	10-8	41	3	1
Funk M80-501003	42	10-10	47	3	1
RAX-73	42	10-5	64	3	1.5
Helena HB-466D1-5	42	10-5	53	3	2
TN 77-119	41	10-4	46	3	1
TN 77-111	41	10-4	51	3	1
N.A.P.B. EX S-159-79	41	10-7	49	2	1
RAX-65	39	10-25	55	3	2.5
CEI 155	38	9-18	38	1	2
CEI 154	38	9-17	38	1	2
CEI 153	38	9-12	53	2.5	2
CEI 157	37	10-7	47	2	1
N.K. Exp B501070	36	10-8	52	2	1
Exp 5103 (Agrigenetics)	36	10-4	47	3.5	1
CEI 158	34	9-14	51	1.5	2
L.S.D. (.05)	8.0				
C.V. %	13.2				
Avg.	43.0				

1/ Memphis and Grenada silt loam (2% to 5% slopes).
2/ 1=almost all plants erect and 5=all plants down.
3/ 1=no shattering and 5=over 20% shattered.
4/ Callahan Enterprises, Inc. Westfield, Indiana

Table 5. Soybeans: Yield of varieties (maturity groups VI & VII) evaluated at four locations in 1982.

Variety	Avg.	Knox-ville [1/]	Spring Hill [2/]	Ames Plantation [3/]	Martin [4/]
		Bushels per acre			
S72-60(761214) [5/]	40	45	27	54	34
Asgrow XP6420	40	33	29	57	40
Jeff	38	38	22	54	39
Hartz 672	38	40	22	58	33
RA 604	38	41	22	57	32
Centennial	37	39	23	55	32
Asgrow A7372	37	42	23	52	32
S69-96(770414) [5/]	37	44	24	54	25
RA 606	36	40	23	54	29
RA 605	36	42	23	49	32
Hartz 587	36	36	20	55	35
Wilstar 790	36	42	20	56	26
S77-281 (mo) [6/]	36	34	24	50	36
Coker 80-931	36	41	23	55	24
Coker 156	36	31	27	54	29
Deltapine 506	35	39	21	50	31
NAPB 611	34	32	24	50	31
Terra-vig 606	34	35	25	51	25
Deltapine 417	34	37	19	52	26
Deltapine 246	34	35	24	52	23
Deltapine 497	33	36	18	51	27
McNair 600	32	37	19	51	20
Brysoy 9	26	24	16	40	26
L.S.D. (.05)		7.8	3.7	4.8	7.0
C.V. %		15.0	11.5	6.5	16.7
Avg.		36.9	22.6	52.7	29.9

1/ Sequatchie silt loam (2% to 5% slopes).
2/ Maury silt loam (2% to 5% slopes).
3/ Loring silt loam (2% to 5% slopes).
4/ Grenada silt loam (2% to 5% slopes).
5/ N. K. and Co.
6/ Experimental from Mo.

Table 6. Soybeans: Yield and other characteristics of varieties (maturity groups VI & VII) evaluated at four locations in 1982.

Variety	Yield	Date mature	Lodging	Plant ht.
	Bu/A		%	in.
S72-60 (761214)	40	10-22	50	42
Asgrow XP6420	40	10-16	20	35
Jeff	38	10-18	42	39
Hartz 672	38	10-22	35	42
RA 604	38	10-16	32	38
Centennial	37	10-19	12	38
Asgrow A7372	37	10-25	25	38
S69-96 (770414)	37	10-23	35	38
RA 606	36	10-18	38	44
RA 605	36	10-19	49	40
Hartz 587	36	10-20	42	40
Wilstar 790	36	10-27	15	41
S77-281 (mo)	36	10-14	36	37
Coker 80-931	36	10-19	20	38
Coker 156	36	10-16	35	36
Deltapine 506	35	10-21	40	42
NAPB 611	34	10-21	25	39
Terra-vig 606	34	10-18	32	38
Deltapine 417	34	10-26	35	46
Deltapine 246	34	10-17	32	36
Deltapine 497	33	10-26	18	44
McNair 600	32	10-15	32	37
Brysoy 9	26	10-18	60	39

Table 7. Soybeans: Characteristics of varieties (maturity groups VI&VII) evaluated in 1982.

Variety	Flower color	Pubescence color	Hila color	Phytophthora rot resistance	Soybean cyst nematode resistance
					Races
McNair 600	P	T	Black	S	None
Centennial	P	T	Black	R	1,3
Coker 156	W	G	Buff	R	None
Terra-vig 606	W	G	Buff	R	None
Deltapine 506	W	T	Black	R	None
RA 604	W&P	T	Black	R	1,3,4
Brysoy 9	P	T	Imp. Black	R	1,3
Deltapine 246	P	T	Black	R	None
Jeff	P	T	Brown	MR	1,3,4
RA 606	W	G	Buff	R	1,3,4
RA 605	P	T	Black	R	1,3,4
Wilstar 790	W	T	Black	R	None
Asgrow A7372	W	T	Black	S	None
Asgrow XP6420	P	T	Black	R	1,3,4
Deltapine 417	W	G	Buff	R	None
Deltapine 497	W	T	Black	R	None
Hartz 587	P	G	Imp. Black	R	1,3
Hartz 672	P	T	Black	S	1,3
NAPB 611	P	G	-	R	1,3
Coker 80-931 1/	W	G	Buff	R	None
S77-281 (mo) 3/	W	T	-	-	1,3,4
S69-96 (770414)	P	G	Buff	R	None
S72-60 (761214)	P	T	Buff	R	None

1/ Same as Coker 156 but resistant to metribuzin.
2/ N.K. Co.
3/ New variety from Missouri.

Table 8. Soybeans: Yield of varieties (Maturity group IV or less) evaluated at five locations in 1982.

Variety	Avg.	Knox-ville	Cross-ville	Spring-field	Martin	Ames Plantation
			Bushels per acre			
Mitchell	42	41	39	27	45	60
RA 480	42	36	26	37	50	64
GA 8490	42	41	37	30	45	59
Mitchell 450	41	39	40	28	42	57
GA 8450 6/	41	46	42	21	40	55
RA 403	40	36	35	25	43	59
FFR 446	40	38	37	26	44	53
Franklin	35	36	27	24	36	52
GA 8350	31	30	30	21	35	40
Pixie	29	44	38	23	14	25
Sprite	22	32	27	18	13	18
L.S.D. (.05)		7.6	8.3	3.7	9.6	7.7
C.V. %		13.7	16.8	10.0	17.9	10.8
Avg.		38.1	34.3	25.6	37.0	49.3

Table 9. Soybeans: Yield and other characteristics of varieties (Maturity groups IV or less) evaluated at five locations in 1982.

Variety	Yield	Lodging	Plant ht.	Date mature
	Bu/A	%	in.	
Mitchell	42	22	36	9-15
RA 480	42	34	42	9-26
GA 8490	42	46	39	9-18
Mitchell 450	41	20	40	9-24
GA 8450	41	32	32	9-12
RA 403	40	24	37	9-11
FFR 446	40	60	40	9-17
Franklin	35	36	35	9-12
GA 8350	31	41	31	9-5
Pixie	29	8	18	9-10
Sprite	22	4	18	9-10

Table 10. Soybeans: Characteristics of varieties (maturity group IV or less) evaluated in 1982.

Variety	Flower color	Pubescence color	Hila color	Phytophthora rot resistance	Soybean cyst nematode resistance
					Races
Mitchell	P	T	Brown	S	None
RA 480	P	T	Black	R	1,3,4[1/]
Franklin	P	G	-	-	1,3
Mitchell 450	P	T	Brown	R	None
Sprite	W	T	Black	S	None
Pixie	P	T	Black	S	None
RA 403	P	T	Black	MR	None
FFR 446	P	G	Imp. Black	-	1,3
GA 8490[2/]	P	G	Buff	MR	None
GA 8350	P&W	T	Black	S	None
GA 8450	W	T	Brown	R	None

[1/] Some tolerance.
[2/] Taylor Evans Seed Co.

Table 11. Soybeans: Yield and other characteristics of strains (Maturity groups VI and VII) evaluated at Jackson in 1982. [1/]

Variety	Yield	Plant ht.	Maturity	Lodging score [2/]
	Bu/A	in.		(1-5)
Funk M80-602003	54	44	10-17	2.2
TN 80-83	52	48	10-20	2.5
N.K. Exp. B500471	50	38	10-20	2.2
N.K. M75-1111	50	46	10-20	2.2
Funk M80-602001	49	46	10-20	2.8
N.A.P.B. S-319-79	46	48	10-20	3.0
Centennial	46	49	10-22	2.5
N.A.P.B. S-340-79	46	46	10-20	2.2
HB-S8109-6	44	53	10-19	3.2
HB-468 D1-6	44	50	10-24	3.0
N.A.P.B. S-357-79	42	48	10-21	2.2
Funk M80-602005	36	54	10-20	3.0
L.S.D. (.05)	7.7			
C.V. %	11.6			
Avg.	46.5			

[1/] Grenada silt loam (2% to 5% slopes).
[2/] 1-no lodging and 5

Table 12. Soybeans: Yield and other characteristics of strains (maturity group IV) evaluated at Jackson in 1982.[1/]

Variety	Yield	Date mature	Plant ht.	Lodging score	Shattering score
	Bu/A		in.	(1-5)[2/]	(1-5)[3/]
Helena Brand 401	67	9-14	52	2.2	1
JMS 4987 (Schultz)	66	9-12	50	2	1.5
Helena Brand 301	63	8-29	42	2	2
Mitchell	63	9-11	50	1.8	1.5
CEI 142[4/]	60	9-10	46	1.8	1.5
RAX-56	53	9-20	52	2	1
RAX-54	50	9-18	54	2.2	1
Stevens	47	9-10	53	2.5	1.2
RAX-60	47	9-26	53	1.5	1
CEI 152	51	9-15	52	2.0	1
L.S.D. (.05)	7.4				
C.V. %	9.0				
Avg.	56.7				

1/ Memphis silt loam (0% to 2% slopes).
2/ 1=almost all plants erect and 5=all plants down.
3/ 1=no shattering and 5=over 20% shattered.
4/ Callahan Enterprises, Inc., Westfield, Indiana.

Table 13. Soybeans: Yield of varieties evaluated on four soil types in Dyer County in 1982 [1/].

Variety	Avg.	Alligator clay	Robinson-ville loam	Bosket silt loam	Sharkey clay
			Bushels per acre		
Asgrow A5474	46	53	39	41	52
Jeff	44	49	38	34	52
Essex	43	49	39	34	49
Centennial	42	47	43	30	48
Bedford	42	46	41	31	51
Forrest	42	52	32	31	52
RA 604	42	49	36	31	50
York	42	48	38	32	48
Bay	41	49	34	35	46
Nathan	41	45	37	32	50
Shiloh	-	-	-	33	-
FFR 556	-	-	-	38	-
Tracy	-	47	-	-	48
L.S.D. (.05)		4.6	3.7	3.7	N.S.
C.V. %		6.5	6.8	7.7	7.5
Avg.		48.7	37.9	33.5	49.7

1/ Tests conducted on private farms in cooperation with Extension service and the Milan Experiment Station.