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University of Tennessee Agricultural Experiment Station

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# University of Tennessee Agricultural Experiment Station

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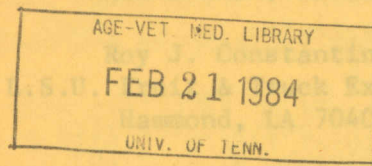
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## A Summary Report of Snap Bean Variety and Breeding Lines Tested in the Southern Cooperative Vegetable Trials

Research Report 84-03

February, 1984

C. A. Mullins



Dept. of Plant and Soil Science



A SUMMARY REPORT  
OF  
SNAP BEAN VARIETY AND BREEDING LINES  
TESTED IN THE SOUTHERN COOPERATIVE VEGETABLE TRIALS

1983

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A SUMMARY REPORT OF SNAP BEAN VARIETY AND BREEDING LINES TESTED IN  
THE SOUTHERN COOPERATIVE VEGETABLE TRIALS, 1983

Establishment of Trials

Individuals in the United State known to breed or select for improvement of snap beans were invited to enter selections in the trials in January, 1983. New entries were placed in the observational trial. After testing in 1983, these entries will be dropped, repeated in the 1984 observational trial or advanced to the 1984 replicated trial. The replicated trial consisted of selections retained from the 1982 replicated trial and those advanced from the 1982 observational trial. An entry is usually not tested for more than two years in either trial.

Previous cooperators were polled in February concerning participation in the 1983 trials. Requests were returned from 18 locations for 23 sets of observational and 26 sets of replicated seed lots. Successful tests were conducted and reports returned for 14 observational tests at 11 locations and 17 replicated tests at 13 locations. Reports were returned on the standard report form supplied by the trial chairman. All sections were not completed on most trials. Since the final score determines the future of each entry, completion of the ratings section has been stressed and was completed on all reports.

Comments of Replicated Trials

Nine entries were evaluated in the replicated trials. Eagle was the check cultivar. Lines BBL GV66 (BBL 274-14) and Early 274 (BBL 274-14) received the highest scores (82 and 67 points). Early Riser (E 0215), FM 103, and Eagle received good scores (55 - 50 points). Lines BBL 77-063, AVX 9014, AVX 9293, and Pirate received low scores (31 - 15 points). Lines Pirate, Early 274, BBL GV66, and Early Riser will be dropped from the trials as they have been tested for two years. Lines AVX 9014, AVX 9293, and BBL 77-063 received low scores and will also be dropped from the trials. Only Eagle (ck) and FM 103 will be repeated in the 1984 replicated trials.

Comments on Observational Trials

Twenty-four lines were evaluated in the observational trials. Lines G 2868 with 36 points and H496-4 with 27 points received the highest scores and will be advanced to the replicated trials. Several lines received 18 to 23 points. A decision was made to advance lines receiving more than 19 points to the replicated trial and to repeat lines receiving 18 to 19 points in the observational trial. Lines FM 1555, AVX 9342, AVX 185, and FM 115 will be advanced. Lines FM 102, H493-1-1, Sunray, FM 85, and Laborador will be repeated. Low scoring lines (16 - 5 points) which are to be dropped are Bush Ky. Wonder, H550-2-1-2, H552-3-2-1-1, G 2617, Shannon, AVX 450, Demeter, Legacy, H457-A-1-1-1, AVX 9399, Ver. 37, and GP 017.

Table 1. Replicated Trials of Bush Snap Bean Varieties, 1983 Southern Cooperative Vegetable Trials.

Variety	Growing Days	Pod Length (ins.)	(1)							Plants/ft. of row	Plant Height (ins.)	Yield (Bu./A.)	Ratings (2)					Final Score
			Pod Shape	Pod Curvature	Pod Color	Pod Roughness	Pod Set Concentration	Pod Elevation	Plant Lodging				Repeat 1984	Drop 1984	No. 1 in Trial	No. 2 in Trial	No. 3 in Trial	
1. Pirate	63	5.9	1.5	3.4	2.6	3.2	3.0	3.4	3.4	5.4	15.3	204	6	10	0	0	1	15
2. Eagle (ck.)	64	5.2	4.2	3.5	3.6	3.5	3.3	3.4	3.5	5.8	14.0	200	10	2	2	2	4	50
3. Early 274 (BBL 274-14)	62	5.2	3.9	3.0	3.4	3.1	3.1	3.2	3.4	5.8	14.4	242	15	1	1	2	8	67
4. BBL GV66 (BBL 274-17)	63	5.4	3.8	3.0	3.6	3.0	3.4	3.2	3.3	5.7	15.3	252	15	1	7	2	3	82
5. Early Riser (E 0215)	63	5.2	3.9	3.4	4.4	3.5	3.2	3.2	3.1	5.5	14.6	239	15	1	2	3	1	55
6. FM-103	62	5.0	3.7	3.5	3.8	3.4	3.2	3.4	2.9	6.2	15.3	234	13	3	3	3	0	53
7. AVX 9014	62	4.6	3.4	3.4	3.3	3.0	3.0	3.3	3.2	6.1	13.7	198	9	7	1	1	0	27
8. AVX 9293	61	5.2	3.9	2.8	3.3	2.9	3.3	2.9	3.3	5.9	12.9	199	8	8	0	2	0	24
9. BBL 77-063	63	5.5	3.8	3.5	4.0	3.3	2.9	3.5	3.7	5.7	15.0	168	9	7	1	2	0	31
No. of reports	16	15	15	15	15	15	15	15	14	15	15	16	16		17			

(1) Ratings: 1 = poor; 5 = excellent

(2) Drop (0 points), Repeat (2 points), No. 1 (5 points), No. 2 (4 points), No. 3 (3 points).

Table 2. Yields in bushels per acre of snap bean varieties in replicated trials, Southern Cooperative Vegetable Trials, 1983.

Variety or Breeding Line	B. B. Brantley (S)* Experiment, GA	Paul Colditz (S) J. W. Dobson Blairsville, GA	Paul Colditz (F)* J. W. Dobson Blairsville, GA	Roy J. Constantin (S) Hammond, LA	Roy J. Constantin (F) Hammond, LA	James F. Fontenot (F) Baton Rouge, LA	Hanna Y. Hanna (F) Port Sulphur, LA	J. C. Miller, Jr. (S) College Station, TX	Teddy Morelock (S) Fayetteville, AR	Teddy Morelock (F) Fayetteville, AR	James E. Motes (S) Bixby, OK	C. A. Mullins (S) Crossville, TN	C. A. Mullins (F) Crossville, TN	Bobby R. Phillips (S) Tuskegee, AL	M. L. Robbins (S) Charleston, S. C.	James E. Wyatt (S) Charleston, S. C.	Mean
1. Pirate	167	365	436	188	376	249	207	74	243	120	256	104	34	154	241	58	204
2. Eagle (ck.)	83	417	433	74	257	224	111	72	211	173	290	206	97	180	221	47	194
3. Early 274	117	376	463	167	470	308	225	100	317	307	294	146	79	151	279	117	245
4. BBL GV66	173	444	509	138	464	274	230	89	267	234	280	184	112	166	309	153	252
5. Early Riser	171	327	447	154	439	232	227	123	269	297	365	152	63	174	330	53	239
6. FM-103	175	340	445	162	470	254	203	68	242	252	323	174	88	197	228	114	233
7. AVX 9014	119	285	381	135	354	207	245	103	221	182	258	123	90	197	180	100	199
8. AVX 9293	129	238	425	137	402	204	232	134	206	260	218	127	56	195	184	44	199
9. BBL 77-063	85	322	261	142	336	127	246	52	188	106	205	92	72	151	245	128	172

\* (S) = Spring  
(F) = Fall

Table 3. Observational Trials of Bush Snap Bean Varieties, 1983 Southern Cooperative Vegetable Trials.

Variety	Plant Type Rating*	Pod Type Rating*	Yield Rating*	Repeat 1984	Advance 1984	Drop 1984	Overall Performance **			Final Score
							1	2	3	
10. FM-102	2.7	3.1	4.0	7	3	4				19
11. FM-1555	3.0	3.4	3.9	8	3	3	1	1		23
12. FM-115	3.2	3.1	3.4	7	3	4		2		20
13. GP 017	2.7	3.3	2.5	4	0	10				4
14. H496-4	3.2	3.3	4.1	5	6	3		1	2	27
15. H550-2-1-2	2.2	2.8	3.5	6	2	6	1			15
16. H457A-1-1-1	2.8	2.8	2.9	5	1	8				7
17. H552-3-2-1-1	2.3	3.0	3.4	5	1	8	1		1	15
18. H493-1-1	3.3	3.4	3.2	4	4	6		1	1	19
19. Demeter	3.2	3.0	3.2	4	1	9	1			11
20. Sunray	3.3	3.0	3.0	4	3	7	1	1		19
21. AVX 450	3.4	3.3	2.9	6	1	7		1		12
22. AVX 185	3.7	3.2	3.8	5	4	5	1	1		22
23. AVX 9342	3.5	3.3	3.0	6	3	5		1	2	22
24. Shannon	3.5	3.2	3.2	5	2	7	1			14
25. AVX 9399	3.2	2.7	3.0	6	0	8				6
26. Eagle (ck)	3.1	3.2	3.3	4	3	5	2			20
27. G 2868	3.8	3.3	3.9	4	5	5	2	3		36
28. G 2617	3.1	2.8	2.8	6	2	6	1			15
29. FM-85	3.2	3.3	3.6	7	2	5		1	1	18
30. Ver. 37	2.8	2.6	3.3	5	0	9				5
31. Legacy	2.7	2.7	3.0	1	2	11			1	8
32. Bush Ky. Wonder	3.5	2.6	2.9	6	1	7	1		1	16
33. Labador	3.6	3.3	3.3	2	5	7			2	18
No. of reports	13	13	14		14			14		

\* Ratings, 1 - 5: 1 = poor; 5 = excellent

\*\* No. 1 = Best in trial (5 points)

No. 2 = Second best in trial (4 points)

No. 3 = Third best in trial (3 points)

Advance (2 points)

Repeat (1 point)



Table 4. Snap Bean Variety and Breeding Lines, 1983 Southern Cooperative Vegetable Trials.

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No.	Variety or Breeding Line	Source
Replicated Trials		
1.	Pirate	Asgrow Seed Co.
2.	Eagle	Asgrow Seed Co.
3.	Early 274	Gallatin Valley Seed Co.
4.	BBL GV66	Gallatin Valley Seed Co.
5.	Early Riser	Ferry Morse Seed Co.
6.	FM-103	Ferry Morse Seed Co.
7.	AVX 9014	Sun Seeds
8.	AVX 9293	Sun Seeds
9.	BBL 77-063	Rogers Bros. Seed Co.
Observational Trials		
10.	FM-102	Ferry Morse Seed Co.
11.	FM-1555	Ferry Morse Seed Co.
12.	FM-115	Ferry Morse Seed Co.
13.	GP 017	Rogers Bros. Seed Co.
14.	H496-4	Gallatin Valley Seed Co.
15.	H550-2-1-2	Gallatin Valley Seed Co.
16.	H457A-1-1-1	Gallatin Valley Seed Co.
17.	H552-3-2-1-1	Gallatin Valley Seed Co.
18.	H493-1-1	Gallatin Valley Seed Co.
19.	Demeter	Bakker Seeds of Idaho
20.	Sunray	Bakker Seeds of Idaho
21.	AVX 450	Sun Seeds
22.	AVX 185	Sun Seeds
23.	AVX 9342	Sun Seeds
24.	Shannon	Sun Seeds
25.	AVX 9399	Sun Seeds
26.	Eagle (check)	Asgrow Seed Co.
27.	G 2868	Jim Wyatt, USDA
28.	G 2617	Jim Wyatt, USDA
29.	FM-85	Ferry Morse Seed Co.
30.	Ver. 37	Bakker Bros. of Idaho
31.	Legacy	Musser Seed Co.
32.	Bush Ky. Wonder	Musser Seed Co.
33.	Labador	Asgrow Seed Co.

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