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University of Tennessee Agricultural Experiment Station

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# University of Tennessee Agricultural Experiment Station

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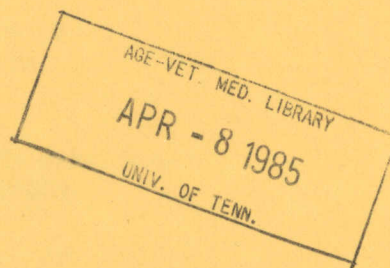
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## A Summary Report of Snap Bean Variety and Breeding Lines

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

1984

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A SUMMARY REPORT OF SNAP BEAN VARIETY AND BREEDING LINES TESTED IN  
THE SOUTHERN COOPERATIVE VEGETABLE TRIALS, 1984.

Establishment of Trials

Individuals in the United States known to breed or select for improvement of snap beans were invited to enter selections in the trials in January, 1984. New entries were placed in the observational trial. After testing in 1984, these entries will be dropped, repeated in the 1985 observational trial or advanced to the 1985 replicated trial. The replicated trial consisted of selections retained from the 1983 replicated trial and those advanced from the 1983 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 1984 trials. Requests were returned from 12 locations for 14 sets of observational and 18 sets of replicated seed lots. Successful tests were conducted and reports returned for 18 observational tests at 7 locations and 11 replicated tests at 9 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 complete on all reports.

Comments of Replicated Trials

Seven entries were evaluated in the replicated trials. Line FM 103 received the highest score of 60 points while Javelin (FM 1555) also scored high with 50 points. Intermediate scores of 44 to 24 points were received by G2868, H496-4 and Eagle (check). Low scores of 21 to 13 points were received by AVX 185 and AVX 9342.

Line FM 103 has been tested in the replicated trials for two years and will not be repeated in 1985. All other lines will be repeated in the 1985 trials.

Comments of Observational Trials

Twenty entries were evaluated in the observational trials. Those with highest scores (29 to 22 points) were MOX 8037, H491B-1-1-3-1 and H532-2-1. These lines will be advanced to the 1985 replicated trials. Entries that received intermediate scores (17 to 12 points) are Eagle (check), AVX 117, H493-1-4-1, GP 82-6414, FM 128, GP82-160 and H630-4-4. These lines will be repeated in the 1985 observational trials. Two lines which received intermediate scores (14 to 12 points) in 1984 and also in 1983 and will be dropped are FM 102 and Labrador. Low scoring entries (10 to 2 points) which will be dropped include MOX 8033, GP81-206, 83BR-1275, GP81-WM-17-3-1, H492-3-1, AVX 9398, 83BP-5601, and 83BP-5597.

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 1985	Drop 1985	No. 1 in Trial	No. 2 in Trial	No. 3 in Trial	
1. AVX 9342	58.2	4.8	3.9	3.7	4.0	3.9	3.0	3.8	3.7	5.8	14.7	144	5	5	0	0	0	13
2. AVX 185	58.9	5.0	3.9	3.1	4.5	3.1	3.0	3.5	3.9	5.8	14.3	159	6	4	1	1	0	21
3. FM 103	58.1	5.1	3.9	3.9	3.6	3.5	3.3	3.6	3.3	6.8	15.0	221	9	1	7	1	1	60
4. Javelin	57.4	5.2	3.9	3.6	3.5	3.1	3.5	3.2	2.8	7.1	14.0	219	10	0	2	2	4	50
5. H496-4	58.7	5.3	4.1	3.2	3.7	3.2	3.5	3.3	3.4	5.4	14.0	184	8	2	0	2	2	30
6. Eagle (ck)	59.1	5.4	4.5	3.8	4.0	3.4	3.3	3.4	3.4	5.4	15.4	150	7	0	0	1	2	24
7. G2868	58.8	5.5	3.2	3.3	3.5	3.5	3.7	3.7	3.7	5.7	15.7	196	10	0	1	4	1	44
No. of reports	10	11	11	11	11	11	10	10	9	10	8	10	10			11		

(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, 1984.

Variety	B. B. Brantley (S) * Experiment, GA	R. J. Constantin (S) R. Bracy Hammond, LA	R. J. Constantin (F) R. Bracy Hammond, LA	D. R. Earhart (S) Overton, TX	H. Y. Hanna (F) Port Sulphur, LA	C. Miller (S) College Station, TX	T. E. Morelock (S) Kibler, Ark.	J. Motes (S) Bixby, OK	C. A. Mullins (S) Crossville, TN	C. A. Mullins (F) Crossville, TN	Mean
1. AVX 9342	137	173	140	71	241	61	209	181	99	132	144
2. AVX 185	145	212	106	113	174	145	205	202	138	154	159
3. FM 103	201	278	235	161	299	92	290	271	218	168	221
4. Javelin	219	216	244	176	256	119	270	259	239	195	219
5. H496-4	208	222	216	119	157	95	277	273	176	99	184
6. Eagle (ck)	82	198	60	56	215	116	217	279	159	117	150
7. G2868	208	227	235	176	282	97	247	207	132	145	196

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

Table. 3. Observational Trials of Bush Snap Bean Varieties, 1984 Southern Cooperative Vegetable Trials.

Variety	Plant Type Rating*	Pod Type Rating*	Yield Rating*	Repeat 1985	Advance 1985	Drop 1985	Overall Performance **			Final Score
							1	2	3	
8. MOX 8037	3.8	3.4	3.9	4	4	0	1	3	0	29
9. MOX 8033	3.2	3.4	3.2	3	2	3	0	0	1	10
10. AVX 9398	3.4	3.2	3.2	5	0	4	0	0	0	5
11. AVX 117	3.8	3.5	3.4	3	2	3	1	1	0	16
12. FM 128	3.2	3.6	3.8	4	3	0	0	1	0	14
13. H493-1-4-1	3.8	3.3	3.4	4	4	2	0	0	1	15
14. H491B-1-1-3-1	3.6	3.9	3.8	2	6	2	1	1	0	23
15. H532-2-1	3.4	3.4	4.0	3	4	2	1	0	2	22
16. H492-3-1	3.4	2.9	3.1	4	1	3	0	0	0	6
17. H630-4-4	3.8	3.6	3.9	3	3	1	0	0	1	12
18. 83BP-5597	3.1	2.4	3.4	2	0	6	0	0	0	2
19. 83BP-5601	2.8	2.3	4.0	1	1	6	0	0	0	3
20. 83BP-1275	3.0	2.8	3.0	1	1	6	1	0	0	8
21. GP82-160	3.7	3.4	3.6	6	2	1	0	0	1	13
22. GP82-6414	3.2	3.6	3.5	5	1	2	1	0	1	15
23. GP81-206	3.7	3.0	3.8	4	2	3	0	0	0	8
24. GP81-WM-173-1	2.9	2.7	3.8	1	1	5	0	1	0	7
25. Labrador	3.6	3.3	3.5	5	1	1	1	0	0	12
26. FM 102	3.8	3.5	3.8	7	2	0	0	0	1	14
27. Eagle (ck)	3.9	4.0	3.8	4	2	0	1	1	0	17

\* 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, 1984 Southern Cooperative Vegetable Trials.

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No.	Variety or Breeding Line	Source
Replicated Trials		
1.	AVX 9342	Sun Seeds
2.	AVX 185	Sun Seeds
3.	FM 103	Ferry-Morse Seed Co.
4.	FM 1555 (Javelin)	Ferry-Morse Seed Co.
5.	H496-4	Gallatin Valley Seed Co.
6.	Eagle (ck)	Asgrow Seed Co.
7.	G 2868	Jim Wyatt, USDA
Observational Trials		
8.	MOX 8037	Moran Seeds
9.	MOX 8033	Moran Seeds
10.	AVX 9398	Sun Seeds
11.	AVX 117	Sun Seeds
12.	FM 128	Ferry-Morse Seed Co.
13.	H493-1-4-1	Gallatin Valley Seed Co.
14.	H491B-1-1-3-1	Gallatin Valley Seed Co.
15.	H532-2-1	Gallatin Valley Seed Co.
16.	H492-3-1	Gallatin Valley Seed Co.
17.	H630-4-4	Gallatin Valley Seed Co.
18.	83BP-5597	Silbernagel, USDA
19.	83BP-5601	Silbernagel, USDA
20.	83BR-1275	Silbernagel, USDA
21.	GP82-160	Rogers Brothers Seed Co.
22.	GP82-6414	Rogers Brothers Seed Co.
23.	GP81-206	Rogers Brothers Seed Co.
24.	GP81-WM-173-1	Rogers Brothers Seed Co.
25.	Labador	Asgrow Seed Co.
26.	FM 102	Ferry-Morse Seed Co.
27.	Eagle (ck)	Asgrow Seed Co.

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