

LIMA BEAN VARIETY TRIALS IN 1971

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Objectives were to evaluate the USDA 568, 968, and 1168 breeding lines of small-seeded lima beans that are resistant to strains A and B of downy mildew and which are earlier and less viny than Dover; to evaluate Delaware 55S4, a plump-seeded variety that is intermediate between small-seeded types and Fordhook types; and to evaluate the new USDA 169, 269, and 369 breeding lines of green-seeded Fordhooks.

The experiment was similar to the spacing study (paper immediately preceding this one) except that all rows were 24 inches apart and plot size was a single row 25ft. long, with 10ft. harvested for record; spacing was appropriate for the variety (see table below), planting was by hand, and threshing was with a Taylor pod harvester after pods were picked from the plants by hand.

Results

US 1168 and 1068 were equal to each other and slightly superior to US 568 and 968 in yields (all four were very similar in 1970). The 68 Series matured about 3 days earlier than Dover, and 3 days later than Thaxter. (Note: US 568 was released Jan. 12, 1972 under the name "Bridgeton".)

US 169 yielded very well, and was superior to Fordhook 242 and US 369. The 69 series contained much fewer dry and bleached beans than Fordhook 242 at harvest.

Variety	No. Plants /ft. of Row	Harvest Date	Yield (lb/A)	Shear-press (lb.)	Wt. Plants	Wt. Pods	% of Beans Discol.	% of Beans Dry or Bleached
US 13 G	3	8/18	4524	1436	11.3	6.4	0.2	0.0
Kingston	4	8/19	5039	1428	11.3	6.0	0.1	0.0
E. Thorogreen	3	8/23	5638	1829	12.6	6.9	0.6	0.0
D. Butterpea	3	8/23	5417	1727	13.3	6.0	0.2	0.0
Delaware 55S4	4	8/23	5724	1854	12.0	5.8	0.4	0.0
Thaxter	3	8/24	5539	1802	13.2	6.5	0.2	0.2
J. Wonder	3	8/24	6636	1840	12.6	6.6	0.3	0.0
US 568	3	8/27	5023	1779	15.1	6.6	0.6	3.4
US 968	3	8/27	5397	1611	14.5	6.2	0.6	4.0
US 1068	3	8/27	6394	1649	15.0	6.5	0.2	2.8
US 1168	3	8/27	6342	1675	16.6	7.2	0.2	3.0
Dover	3	8/30	5394	1658	14.4	6.4	0.6	3.2
US 968	3	8/30	5226	1709	10.2	4.7	3.7	6.3
LSD 5%			1574	181	1.8	1.0	0.9	1.7

Continued --

Variety	No. Plants /ft.of Row	Har-vest Date	Yield (lb/A)	Shear-press (lb.)	Wt. Plants	Wt. Pods	% of Beans Dis- col.	% of Beans Dry or Bleached
Fordhook Types								
F 242	2	8/26	5962	1245	11.5	5.8	0.0	11.8
F 861	2	8/30	4877	1659	8.5	4.7	1.6	6.0
US 169	2	8/30	7125	1407	14.5	7.8	1.0	0.8
US 269	2	8/30	6465	1455	13.3	7.0	0.8	1.2
US 369	2	8/30	5944	1454	12.1	6.6	0.6	1.3
LSD 5%			1155	123	2.4	1.3	0.9	3.5

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#### IMPROVEMENT OF BUSH SNAP BEANS OF BLUE LAKE HERITAGE

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Only a brief summary of this work will be covered for BIC in the current report:

1. Among the new bush beans derived from heavy dosages of pole Blue Lake germ plasm, Oregon line 1604 continued to yield well, especially when planted early in the season (see BIC report of last year). The line was made available to bean breeders for hybridization in the fall of 1971. It has not been officially released.
2. Oregon line 190 has continued to show excellent field resistance to yellow mosaic virus (BV-2), and to halo blight in greenhouse tests. It is available to breeders but has not been officially released.
3. Oregon line 2571 emerged, after yield and quality panel tests in 1971, as one of the most promising new Oregon bush lines. It ranked, in panel tests for taste and over-all quality, high for both canning and freezing. Seed supply is too limited for any type of release at this time.
4. We continue with sib-mating of promising lines and with bulk populations as major means of improving the bush bean for a wide array of characters. Development of specific new lines in most cases is delayed until about the 5th generation.
5. In using gladiolus in our combined disease testing area, we find considerable variation from year to year as being due primarily to "flow" of aphid populations. In 1970, a heavy aphid population resulted in very heavy infection, while in 1971 a late,