

## "B" Strain of Downy Mildew in Lima Bean

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Strain "B" of the downy mildew organism (Phytophthora phaseoli, Thaxt.) has apparently not spread from the original area in New Jersey where it was first found in 1958. In 1963 the disease caused by strain "A" was first found at Tuckahoe, New Jersey, on June 10th and during the first week of September at Rio Grande, New Jersey. The occurrence of the disease and losses from it have declined with the replacement of susceptible varieties with Thaxter, a resistant variety released in 1958, and the use of fungicides.

## Seed Size Effects in Lima Beans

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It was found that size of seedlings, height of plants, and fresh weight of plants and yield were associated with size of seed at Beltsville, Maryland. Plants from small seed yielded considerably more when not crowded by large plants from medium and large seed in the field. This also occurred with medium sized plants from medium sized seed. Plants from large seed always produced the largest plants with the largest number of beans per plant. Plant size and number of seeds produced from large seeds was not affected by size of adjacent plants in this study. Height of plants grown in the greenhouse were associated with length of internodes. The internodes of plants were longest on plants from the largest sized seed; of medium length from medium sized seed; and shortest from the small seed.

These studies indicated that yields of lima beans could be increased if the seed is sized before planting and various seed sizes planted separately. This eliminates the crowding of small plants by the larger ones that result from the larger seed. Although differences in yield were associated with seed size, these differences might not have been so pronounced if uniform sprouted seed had not been used in this experiment.

## Orange-colored Tissue Inside Seed Coat Near Radicle

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This orange-colored tissue is not firmly attached to the cotyledon or seed coat. It is loose and can easily be snuffed off with the fingernail. It was present in all varieties and lines in the field in 1963 in Maryland, Delaware, and New Jersey. The smallest amount of this orange-colored tissue occurred in Henderson Bush and Thaxter lima bean. Medium amounts occurred in Triumph, Fordhook 242, Fordhook 242 Selection, U.S. 561, U.S. 861, and U.S. 1061. The largest amounts appeared in green-seeded Fordhook lines 230, 268, and 270. This orange tissue was not serious at Seabrook and Cape May, New Jersey, where growing conditions were favorable. On the Eastern Shore of Maryland under conditions of serious dry weather, this orange tissue was very severe as pointed out by Joe Crawley at Lewis, Delaware. Beans with a large amount of orange tissue turned black after blanching making the product unacceptable.