A new strain of common bean mosaic virus (CBMV) was isolated from Florida-grown beans. The virus produces more severe symptoms on beans and other hosts than does the type or the New York 15 strains but it has more limited bean varietal range than either of the older strains. The new isolate is the first reported strain of the virus that produces typical local lesions on beans under normal greenhouse conditions. Serological tests have shown that it is related to CBMV. It can be differentiated from the earlier reported strains by differences in host range and by symptoms. A number of previously reported hosts have been found to be susceptible to the type and the New York 15 strains of CBMV.

USDA Breeding for Disease Resistance in Snap Beans

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Bean line 5494-2, a white-seeded canning type that is resistant to two of the important mosaic diseases of bean, was released to the seed trade for commercial increase.

At Prosser, Washington, in cooperation with the Washington Agricultural Experiment Station excellent progress was made in the selection of round-podded snap bean types with multiple resistance to curly top and mosaic. From 10 advanced, elite, colored-seeded types chosen in 1960, both at Twin Falls, Idaho, and Prosser, 6 were very outstanding in yield, quality, and appearance and were sent to several processors located in different areas of the U.S. for evaluation in 1962 as to adaptability and processing quality. Several of the lines chosen appeared equal to Tendercrop in field appearance, pod color, and yielding ability.

Among 10 advanced, curly top-resistant, white-seeded lines, 4 were retained for 1962 evaluation. Of 54 promising curly top-tolerant wax-podded lines, 29 were chosen as bulks and about 80 single plant selections were made. Many of these have white seeds and resemble currently popular susceptible wax varieties in appearance and yield.

The material which appeared outstanding in the elite nursery at Prosser was equally outstanding in Idaho in 1961. From 45 curly top-resistant, colored-seeded, round-podded lines related to those in the elite nursery, 21 were bulked for further evaluation. From seven curly top-resistant, white-seeded, wax-podded lines which were outstanding in 1961 and several of those promising in 1960, four were outstanding in 1961 and several of these were sent to processors for further evaluation in 1962 and also increased in the West. From 50 white-seeded, curly top-resistant, round-podded lines only 9 were chosen for evaluation in 1962.

Several hundred additional crosses, including backcrosses and out-crosses, were made in 1961 at Beltsville, Maryland; Twin Falls, Idaho; and Prosser, Washington, to obtain (1) rust resistance in snap bean types for the Eastern States; (2) improved multiple-resistant mosaic, curly top, and fusarium root rot snap and dry bean types; (3) continued improvement of USDA curly top- and mosaic-resistant white-seeded snap beans, Red Kidneys, and early maturing short vine Red Mexican types. This work was continued in 1962.