

The source of resistance reported here came from P. coccineus and had been incorporated into a Blue Lake type pole bean. The pole beans were crossed and backcrossed with Tendercrop and selections for bush type made while resistance was maintained. Homozygous plants resistant to BV₂ with good bush habit Tendercrop type pod, and colored seed, were crossed to D15, D18, Earliwax and H7-6-2, a halo blight resistant line. An F₂ segregation gave 157 resistant to 52 susceptible and indicated single dominant gene. A second planting of remnant seed also gave a 3:1 segregation in which 61 were resistant, 19 susceptible, and all 40 checks became infected. In the first population most of the resistant plants were screened by cross inoculation to Red Kidney.

This clearly indicated a single dominant gene for resistance to the common strain of BYMV.

Table 1. Segregation for resistance to YBMV in F₂ generation.

	R	S	P
V12-1X10	60	21	.95
D15XV11C	66	22	1.00
D18XV12-1	45	13	.60
XV12-1	39	14	.80
H7-6-2XV5-1	9	1	.50
Heterogeneity	216	71	.95

Breeding for Halo Blight Resistance in Snap Beans

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In 1967 B. I. C. report, we indicated PI 181954 showed some BV₂ resistance in the field, and thought it might be a good source of resistance to halo blight and BV₂. We also indicated PI 150414 appeared to be very susceptible to BV₂ and BV.

In mechanical inoculation tests in the greenhouse, PI 181954 was more susceptible than PI 150414 to BV₂. It is probable that there is a vector preference or klenfusity and this could be as useful. PI 181954 does not suffer from yellowing due to leaf hoppers as do other beans.
