One hundred shrivelled seed on YDCA gave no germination; a comparable number in pasteurized sand provided 0% emergence of seedlings. Shrivelled seed illustrate a most severe type of infection and/or infection prevention of seed development.

Bean seed externally contaminated with the bean wilt bacterium may provide a source of infection. Seeds of Great Northern U.I. 59 were dipped for 4 min. in suspensions (2 x 10^8 CFU/ml) of each of Cf, Cfa and Cfv and planted in sand using the Virgin Tub Test with 100 seeds per replicate. None of the 600 seedlings showed wilt symptoms placing doubt on transmission via surface-borne bacteria to seedlings. Other factors in the field may provide favorable conditions for infection. However, none of the 1000 bean seeds surface - contaminated with each of Cfa, Xanthomonas phaseoli or Pseudomonas phaseolicola showed infection. Presence of pathogenic bacteria on or in the seed does not ensure transmission, and transmission does not ensure its establishment in the field.

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Sources of Phaseolus Species Resistance and Differential Reaction of Leaves and Pods to Common Bacterial Blight Isolates

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Eight known resistant sources of Phaseolus species and one susceptible check cultivar 'Dark Red Kidney' were evaluated in the greenhouse for their leaf and pod reaction to 7 isolates of Xanthomonas phaseoli from the Dominican Republic and one Nebr. isolate EK-11. The isolates were collected by Dr. M. L. Schuster. A randomized complete block design with 4 replications was used. Two plants per pot represented the experimental unit in each replicate. Temperatures were maintained at 75-80°F/70-75°F, day/night, respectively. A multiple needle was used to inoculate 3 week old plants when the first trifoliate was fully expanded with each isolate (10^7 cells/ml). Later the youngest fully expanded leaf at the top of 6 week old plants were also inoculated in a similar manner. Two pods per plant were inoculated by means of inoculum loaded dissecting needles by inserting the needles at 3 sites along the sides of each immature pod. The needles were dipped into 2 day old cultures prior to pod inoculation. Only the data for the first reading (12 days after inoculation) of the first trifoliate of 3 week old plants is discussed since high correlations were noted between those ratings and ratings on the same leaves at 22 days after inoculation (+0.81) and also with ratings on upper leaves (12 days after inoculation) of 6 week old plants (+0.91). P. acutifolius had the highest leaf and pod resistance followed by P. vulgaris Great Northern (GN) Nebr. #1 sel. 27 and Pinto Nebr. EP-1 while the leaves of PI 207262, a known resistant line, was highly susceptible to one Dominican Republic isolate, DR-7. A cultivar/line by isolate interaction occurred both for leaves and pods and also between these plant parts. In other words, the reaction of these plant parts to some isolates was different in some lines while with some isolates no interaction occurred. A differential reaction between pods was noted in some lines such as BAT 93 (CIAT) which had resistant leaves but susceptible pods except to the Nebr. EK-11 isolates while the leaves of BBSR-130 were susceptible to DR-12 isolate but the pods were moderately resistant to all isolates. The different interaction of isolates x host genotype between leaves and pods is a new finding but the differential reaction of leaves and pods has been reported in previous reports. The differential reaction of leaves of different host genotypes to different isolates reported here differs from the results reported by investigators at CIAT. Our results indicate the importance of a differential reaction of genotype, and different plant parts of some lines, to different isolates of *X p* and testing of progeny and lines for resistance to isolates in order to develop uniform and wide resistance to the pathogen.

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The Influence of Inter- and Intra-Row Competition on Selection for Avoidance to White Mold (*Sclerotinia sclerotiorum*) in Dry Edible Beans (*Phaseolus vulgaris*)

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Two field experiments were conducted to explore possible causes of inefficient selection for architectural avoidance to white mold disease. Data revealed that the architecture and maturity of competing plants may contribute to inefficient selection. The intra-row influence of maturity and plant habit on disease severity were evaluated with near-isogenic lines. Lines were blended in four pairwise combinations, then within each blend, the proportion of each component was varied in the ratios 100/0%, 75/25%, 50/50%, 25/75% and 0/100%. The data showed a positive linear relationship between the proportion of late plants and disease severity. Conversely, there was a negative relationship between the proportion of early plants and disease severity (Table 1). The relationships were similar for both the determinate and indeterminate groups, however averaged over blend composition ratio, the determinate group had less white mold than the indeterminate group.

Table 1. Regression coefficients for the effect of plant maturity on white mold severity.

All plants indeterminate	
increase proportion of late plants	$.33 \pm .17$
increase proportion of early plants	$-.47 \pm .25$
All plants determinate	
increase proportion of late plants	$.54 \pm .15$
increase proportion of early plants	$-.59 \pm .09$

In addition, the data showed no relationship between the proportion of determinate and indeterminate plants and disease severity in either the late or early groups. These results suggest that the severity of white mold within a population is contingent on the proportion of early and late plants.