

Wiley mill and passed through a 30-mesh sieve were maintained in air-dry and moist soil. Samplings were made over a six-weeks' period. Survival and virulence was determined by inoculation of Red Kidney beans.

Air-dry soil favored survival and virulence of the pathogens. Viable bacteria were recovered over a six-weeks' period; there was a decrease of infective bacteria per unit volume of soil with time. These data are in accord with results obtained in 1967.

Using a disease index rating for survival data, survival comparisons were made. Under field conditions in western Nebraska, no survival after 22-23 months either in infested straw maintained on the soil surface or incorporated to a depth of 8 inches was realized for 7 strains or varieties of bean bacterial pathogens. Survival was not realized for the same period for Chenopodium album or Amaranthus retroflexus straw infested with Xanthomonas phaseoli or Corynebacterium flaccumfaciens var. aurantiacum, respectively. Survival was realized for P. phaseolicola HB16, P. syringae, X. phaseoli, C. f. aurantiacum, and X. fuscans under field conditions in eastern Nebraska ten months after harvest.

A New Bean Wilt Bacterium

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A new purple-pigment producing bean wilt bacterium, Corynebacterium flaccumfaciens and its phytopathology have been investigated. Pathogenicity is identical to previously described bean wilt bacteria. However, the organism has thus far been found only in Nebraska and it appears to be increasing in amount. The variety name indicates the extracellular purple pigment, its chief distinguishing characteristic. The DNA base composition as moles % guanine + cytosine (GC), is 70.9 ± 0.8 , for C. flaccumfaciens, C. flaccumfaciens var. aurantiacum, and C. flaccumfaciens var. violaceum. This GC content is greater than that reported for other Corynebacterium species.

Bean Protein Improvement

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Work continues on our program to improve the quantity and quality of protein content in beans. A number of crosses between high and low protein lines have been initiated.

Work has also continued in the general areas of studying the effects of environmental parameters on protein content. So far, it does not appear that