

BACTERIAL CANKER OF COWPEAS

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ABSTRACT

The first authentic record of bacterial canker of cowpeas in Oklahoma was that reported by Brillhart (1934) from Perkins in 1931. Since then it has been observed in Pottawatomie, Comanche, Stephens, Creek, Woodward, Grady, Pawnee, Hughes, and Payne Counties in Oklahoma as well as in three counties in Arkansas and at least one county in Texas. Observations made in Oklahoma during 1942 and 1943 indicate that the disease may be very destructive.

The disease is characterized by prominent, swollen, cracked cankers or lesions located on the stem of the plant anywhere from the ground level to a height of eight or ten inches above ground. These cankers vary in size from a fourth of an inch to over an inch in length. Diseased plants usually are stunted, produce fewer seeds, and do not withstand dry weather as well as healthy plants. Frequently they break over at the cankered area.

Brillhart identified the causal organism as *Bacterium vignae* Gard. and Ken. and was able to isolate it from seeds grown on diseased plants as well as from cankers which had overwintered in the field. Thus the disease appears to be able to overwinter in the seed and in the field.

Observations made at the Oklahoma Agricultural Experiment Station farm at Perkins during the 1943 growing season suggest that not all varieties of cowpeas are equally susceptible to bacterial canker. Of the twenty-nine varieties observed Wood's Sumptuous was very susceptible; Columbia, Early Red, Whippoorwill, and a few others were moderately susceptible; while Victor and Iron (or Buff) either were resistant or escaped infection.

From the information now available it would seem that the use of disease-free seed, a short-cycle crop rotation, and resistant varieties when available, should be valuable control measures.

More detailed accounts of this disease, by the author of this paper, may be found in "Bacterial Canker of Cowpeas" soon to appear in *Phytopathology*, and "Canker Threatens Cowpeas" in the February, 1944, issue of the *Southern Seedsman*.

LITERATURE CITED

- Brillhart, E. W. 1934. Bacterial canker of cowpeas. Master's thesis (typewritten), Oklahoma A. and M. College.