Bacterial Black Chaff of Wheat

W.A.F. Hagborg

An outbreak of bacterial black chaff caused by Xanthomonas translucens, occurred in demonstration plots of wheat grown by the Plant Science Department, University of Manitoba, for the First International Wheat Genetics Symposium. These plots contained commercially important varieties from all the major wheat producing countries. In an examination of the plots on 2 August, infection which was chiefly on the leaves and less prevalent on the peduncles and glumes ranged from severe to light. Some plots were without infection. Infection was recorded in 110 varieties from 25 countries and absent in the wheats from 15 countries. As disease escape probably occurred among the uninfected plots, the data are of value only to indicate varieties that should be avoided because of high susceptibility. Among the most severely attacked were the following varieties from the countries indicated in parenthesis: Insignia B (Australia), Alfy I (Belgium), 7 G6 x Me k (Bolivia), S2 (Cyprus), Runkers Ehrli (Germany), Koga II (Great Britain) and Restauracao (Portugal).

Agropyron Streak Mosaic on Wheat in Ontario

J.T. Slykhuis and R. J. Baylis

During the summer of 1958, Agropyron streak mosaic (ASM) was common on Agropyron repens in the Ottawa valley, and was also observed near Brighton, Port Hope, Whitby, Guelph, Stratford, and Listowel, Ontario. The same disease was found on a few winter wheat plants in fields near Ottawa, Brighton, and Port Hope.

Natural spread of the virus to wheat was demonstrated. Pots of healthy wheat seedlings were placed in patches of diseased A. repens, or beside naturally diseased wheat for 1 or 2 weeks, then the plants were returned to the greenhouse. Symptoms of the disease developed on the wheat, and the presence of the virus was proved by artificial sap transmission to healthy plants. Although the results of transmission experiments have indicated that the vector is an eriophyid mite, it is still not known which of several species is involved.

In a replicated ro d-row field experiment, Selkirk and Acadia spring wheats were manually inoculated with ASMV. The yield of Selkirk was reduced 25%, and of Acadia 75%. The height of both varieties was reduced about 30%. It therefore appears that ASMV could cause serious damage in wheat if the virus became prevalent.

In many characteristics, including method of spread, the Agropyron streak mosaic virus resembles the wheat streak mosaic virus (WSMV). The spread and continuity of WSMV in Alberta occurs primarily by the migration of infective eriophyid mites from diseased spring wheat stubble to fall-sown