Agropyron Streak Mosaic on Wheat in Ontario and its Transmission by an Eriophyid Mite

J. T. Slykhuis and R. J. Baylis

Agropyron streak mosaic was found on Agropyron repens in a number of locations near Ottawa and Toronto in 1957. The disease was also identified on wheat, and Triticum x Agropyron hybrids in plots at the Central Experimental Farm, Ottawa. This is the first record of the disease in Canada.

Collections of a mosaic disease on A. repens were first made in 1934 at Arlington, Virginia when the disease was designated Agropyron, or quack grass mosaic. A strain of the same virus was isolated in 1951 from wheat growing near diseased A. repens at Arlington. (McKinney, H. H. In: U. S. D. A. Yearbook of Agriculture pp. 350-360, 1953). A virus disease of A. repens similar to the mosaic reported by McKinney was also found in S. Dakota in 1950 (Slykhuis, J. T. S. Dakota Agr. Exp. Sta. Tech. Bul. 11, 1952). Slykhuis called the disease Agropyron streak mosaic and found that wheat, rye, and seven species of Agropyron were susceptible. The viruses isolated from A. repens in Virginia, S. Dakota, and Ottawa all produce similar symptoms and appear to have a similar host range.

The chlorotic streaks caused by the Agropyron streak mosaic virus most closely resemble the streak symptoms caused by mild strains of wheat streak mosaic virus on their respective hosts. However, the two viruses differ in their host range. Agropyron streak mosaic virus will infect species of Agropyron that are not susceptible to wheat streak mosaic. On the other hand Agropyron streak mosaic does not cause symptoms on oats or barley, but both these hosts develop symptoms from infection by the wheat streak virus.

In greenhouse tests at Ottawa, Agropyron streak mosaic, like wheat streak mosaic was transmitted to wheat by eriophyid mites as well as by manual sap inoculations. Eriophyid mites are common on A. repens, but do not appear to transmit the virus from it readily. However eriophyid mites from wheat have transmitted Agropyron streak mosaic to wheat and A. repens.

General Observations on Cereal Diseases in the Maritime Provinces

D. G. Hamilton

The prevalence and severity of Septoria avenae on oats made all other disease problems of this crop seem insignificant in 1957. Heavy infections

of Septoria were evident at all locations where oats were examined in N. B., N. S. and P. E. I. A leaf discoloration, resembling the symptoms usually associated with the red leaf virus disease, was present in patches at the edges of many plots and fields at most locations in each province.

Leaf blotch of barley was very severe at most locations. The general appearance and lack of vigor of some plots indicated that common root rot might be responsible. This was noticeable particularly on the Experimental Farms at Charlottetown, P. E. I., and Nappan, N. S. Leaf discolorations indicative of the yellow dwarf virus were noticeable on plants at the edges of plots at most locations.