EVIDENCE OF 'SOIL-BORNE MOSAIC OF WHEAT IN ONTARIO

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Light green to yellow mosaic, including spots and indistinct streaks was first observed on winter wheat in Ontario in June, **1957** in several fields in southern Kent County. That same year the disease was again observed in one field in each of the following counties: Bruce, Huron, Oxford and Perth.

A survey carried out in May and early June of 1960 in southwestern Ontario revealed that the condition was more common and widespread than previously believed. Wheat showing the mosaic symptoms was found in 19 of **43** fields examined in Essex, Kent, Huron, Wellington, Peel, York and Simcoe counties.

Usually all the leaves of affected plants showed the symptoms, but the plants were not noticeably stunted. In some fields only a few affected plants were found and diseased plants usually occurred in patches. Mosaic symptoms appeared on nearly 100 percent of the plants in 6 fields,

When the condition was first observed, tests were made to determine whether or not the cause of the disease was soil-borne. Winter wheat of the varieties Cornell, Richmond, Genesee, Harvest Queen, Michigan Amber and Red Winter Spelt was planted in boxes of soil collected from a field in which the mosaic symptoms had appeared. Similiar seedings were made in greenhouse potting soil.

No symptoms developed in wheat grown at temperatures ranging from 50-75°F. In a second test wheat was sown on September 29th and the plants left outside during the winter. On March 15th they were moved into a cool (60-65°F) greenhouse. As the plants grew mosaic symptoms similiar to those observed in the field developed in all varieties grown in soil from the affected field.

Attempts to transmit a virus by rubbing sap from diseased plants onto healthy wheat have failed.

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