

wheat, when wheat fields are planted sufficiently close together. It is, therefore, possible that the ASM disease could become serious in wheat if similar conditions were to occur in Ontario.

In Ontario, the low acreage of spring wheat precludes it as an important source of infective mites. However, an indication of what might happen was found in a field at the Central Experimental Farm, Ottawa. Winter wheat was sown in May 1958 to provide a ground cover in some experimental plots. Many of the plants survived when the plots were cultivated in September. In October, all the surviving plants were found diseased with ASM. If winter wheat had been sown early in the fall adjacent to, or within these plots, it is likely that the disease would have been spread much as WSM spreads under similar conditions in Alberta.

The spread of ASM from Agropyron to fall wheat does occur in Ontario but further study is needed to assess the seriousness of Agropyron streak mosaic in wheat.

#### Barley Yellow Dwarf and Oat Red Leaf in the Ottawa Area

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Barley yellow dwarf and oat red leaf occurred generally in the Ottawa area in 1958, and affected up to 15% of the plants in some fields. Late-sown crops were usually more heavily infected than earlier crops. In a date of seeding experiment, at least 50% of the oats sown in late June showed symptoms by heading time.

A highly virulent isolate of the virus obtained from timothy was included in an experiment in which Rhopalosiphum padi was used as the vector to infect Clintland and Garry oats, and Montcalm and York barley in field plots. The yields of both varieties of oats were reduced by about 75% when infected in the one-leaf stage, 50% when infected in the 4-to 5-leaf stage, and 25% when infected in the shot-blade stage. Similar results were obtained with Montcalm barley, but York was affected less by the isolate of virus used. No reduction in yield resulted from the feeding of non-viruliferous aphids in these experiments.

#### Ascospore Discharge by *Leptosphaeria avenaria* f. sp. *avenaria* in Prince Edward Island in 1958

Carl Willis

Studies on the discharge of ascospores by the speckled leaf blotch pathogen were begun on 28 May 1958, and continued for a 90-day period. Oat stubble from a heavily infected 1957 crop was chosen for the project. Careful observations of the asci were made at frequent intervals to determine the maturity of the ascospores and to detect ascospore discharges. Mature ascospores were first observed on 18 June and discharge took place over the