BARLEY STRIPE MOSAIC IN MANITOBA IN 1973[1]

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A survey for barley stripe mosaic (BSM) in fields of 2-row barley (Hordeum distichum L. emend. Lam.) and 6-row barley (H. vulgare L. emend. Lam.) was conducted in southeastern Manitoba from June 25 to July 4, 1973, at which time these crops were in the early tillering to watery ripe stage. The region surveyed, methods of conducting the survey, and procedures used to identify barley stripe mosaic virus (BSMV) were outlined previously (2). BSM incidence was estimated by counting the number of diseased plants in a row of 100 plants within a representative portion of a field. In fields with trace infections (fewer than 1% of the plants with BSM), an arbitrary incidence of 0.1% was assigned.

BSM was detected in 18 of 130 (13.8%) fields of 2-row barley and in 4 of 34 (11.8%) fields of 6-row barley surveyed in 1973. The incidence of diseased plants was a trace in 4 fields of 6-row barley, whereas in fields of 2-row barley the incidence was a trace in 10 fields, 2-10% in 5 fields and 15-30% in 3 fields.

Increased planting of 'Fergus' barley and decreased planting of 'Herta' barley was associated with a marked decrease in the proportion of 2-row barley fields with BSM in Manitoba in 1972 compared to 1971 (3). In 1973, the acreage of 'Herta' in Manitoba was approximately the same as in 1972, while the acreage of 'Fergus' increased by about 6% (1). This small change probably accounts for the slight decrease in the proportion of 2-row barley fields in which BSM was detected in 1973 compared to 1972.

Although the proportion of 2-row barley fields with BSM has decreased annually in Manitoba since 1971, the average incidence of diseased plants in surveyed fields of this crop has increased (0.3% in 1971, 0.5% in 1972, 0.7% in 1973). This increase, presumably due to an increase in the amount of infected seed in some seed-lots, would probably have been considerably greater if the acreage of 'Herta' barley had not been substantially reduced in 1972.

The proportion of fields of 6-row barley in which BSM was detected in Manitoba in 1973 was considerably greater than in the previous 2 years (2, 3). However, because of the relatively small numbers of fields of this type of barley examined, only future surveys will reveal if BSM is increasing significantly in this crop.

Efforts to reduce the intensity and distribution of BSM in Manitoba and elsewhere in Canada are being continued. Currently, major emphasis is being placed on the benefits of planting pedigreed seed of recommended barley varieties, most lots of which are believed to be ccmpletely or nearly free of BSMV (3).

Literature cited

1. Brewing and Malting Barley Research Institute. 1973. Barley variety survey 1973. Barley Briefs. Winnipeg, Manitoba.

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