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ANNUAL VARIATION IN SEROTYPES OF BARLEY YELLOW DWARF VIRUSES IN CEREALS, IN THE TOLUCA VALLEY OF MEXICO.

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A screening program for barley yellow dwarf viruses (BYDVs) tolerance/resistance was conducted in the Toluca Valley of Mexico relying on natural BYDVs infection.

Two growing cycles per year are used by the CIMMYT wheat program in this valley. Winter cycle seeding takes place from November to January and summer seeding is from late May to early June.

Eight cereal populations sown at different dates between November 1987 and November 1990 were sampled to determine the prevalent naturally occuring serotypes of BYDVs that infect spaced bread wheat and barley populations and to determine if this incidence changed during the growing season or was influenced by planting date.

Leaf samples were taken from individual plants at different stages of plant growth during the crop cycle.

Samples were retained in dry leaf form and tested initially with an indirect ELISA (enzyme linked immumosorbent assay) using monoclonal antibodies against MAV, PAV, and RPV serotypes and later with direct ELISA using polyclonal antibodies against MAV, PAV, RPV, SGV, and RMV serotypes.

MAV was the prevalent serotype detected at all sowing dates. In the November-sown population, there was a higher proportion of PAV and RPV serotypes than in the January-sown or May-sown populations. It would seem that earlier sown cereals were exposed to a different range of serotypes.

Several mixed infections were recorded.