A virus survey of *Vicia faba* crops in Canterbury, New Zealand, during 2011–12

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Broad bean (*Vicia faba* L.) is an established vegetable crop grown in Canterbury, with the area now growing related field bean for both human and animal consumption increasing and forming a useful addition to mixed cropping systems. A *V. faba* virus survey completed in 1991 detected: *Soybean dwarf virus* (SDV) and *Beet western yellows virus* (BWYV) = *Turnip yellows virus* (TuYV), which cause 'bean leaf roll'; *Alfalfa mosaic virus* (AMV); *Cucumber mosaic virus* (CMV); *Pea seed-borne mosaic* (PSbMV); and *Bean yellow mosaic virus* (BYMV). In 2011, 16 faba bean crops throughout mid- and South Canterbury were surveyed for viruses known and not known to be present in New Zealand. Virus incidences were low with only a few crops damaged, largely by 'bean leaf roll'. When compared with previous surveys only TuYV appears to have become more widespread but with a similar incidence (0–7%). SDV was less widespread but had a higher incidence (0–25%). The incidences of other viruses were similar to the previous survey: AMV (0–9%), PSbMV (0–3.5%), BYMV (0–5%), although CMV was not detected. *Red clover vein mosaic virus* (RCVMV) was detected for the first time in for New Zealand and was found to be reasonably widespread and at high incidences within some crops.

Strains of YDV in autumn sown wheat grown in Canterbury

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The prevalence of the YDV strains, PAV, MAV and RPV, in autumn-sown wheat grown in Canterbury was determined for plants exhibiting symptoms (red or yellow leaves) and neighbouring plants with green leaves, from up to 17 wheat fields in Canterbury, New Zealand. A leaf from up to nine plants was tested individually using ELISA. Plants with red leaves and yellow leaves were predominantly infected with PAV. The prevalence of PAV in plants with green leaves was less marked. In red and yellow plants MAV and RPV were equally prevalent, but markedly less common than PAV. This is in contrast to barley and oat plants tested in 1985–86, where the predominant strains were RPV and MAV. Barley plants tested from a single location in 1996 were predominantly infected with the MAV strain. In the present study there was high variability between wheat fields.