



The risk from mosaic virus disease to Gisborne buttercup squash crops.

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This summary should be read in association with the comments in our Broadsheet no 66 "Mosaic viruses of squash" and further comments on our web page: www.aphidwatch.com.

Background

Mosaic virus disease in New Zealand buttercup squash may be caused by up to three different viruses. The most important viruses which in recent years have caused some serious problems in the Hawke's Bay are, zucchini yellow mosaic virus (ZYMV) and watermelon virus 2 (WMV2). Another virus, squash mosaic virus (SqMV), may also occasionally cause mosaic but is rare and usually occurs at very low levels and with little crop loss.

ZYMV and WMV2 are usually aphid and mechanically transmitted into and within the squash crop. Aphids transmit the viruses from infected weeds or squash growing in and around squash crops. We also have evidence that seed-borne transmission can also occur from volunteer seedlings infected in a previous season. Both viruses are also seed-borne in zucchini and in oilseed squash. In general, ZYMV is the more aggressive but both viruses are capable of causing: leaf mosaic symptoms, stunting of plants, blistering of fruit and reduced yield.

From 1995-1998 national surveys of squash growing areas were carried out each season at the request of the NZBSC and as part of our research programme. Hawkes Bay was found to be the region with both WMV2 and ZYMV and the most widespread outbreaks of mosaic. Occasionally plants infected with WMV2 were detected in squash crops in other regions such as Manuwatu and Gisborne. Around Gisborne we also noted a few serious outbreaks of WMV2 in outdoor melon crops. Other regions appeared to be free of mosaic infections although they had been observed around Auckland some years ago. Since these surveys, apart from our work in HB, we have relied on growers, packers and consultants to alert us to any mosaic virus concerns they may have. In response we have visited crops, carried out diagnoses and given advice as required.

Gisborne 2000-2001

There has been no mosaic reported from Gisborne for about 3 years so the risk this season would appear to be low. Having said that it would be appropriate to survey crops to confirm this. I suggest an early (November) and main (January) survey of representative squash crops from the main growing areas around Gisborne. It would be

also useful to look at any other melon or zucchini crops in the district. In addition, it would be helpful if every grower or field manager did familiarize themselves with our Broadsheet so they could recognise mosaic symptoms. The Broadsheet also outlines how virus is spread and how it can be controlled. If a grower did suspect mosaic then a specimen can be sent to Lincoln where we can carry out a full diagnosis.

Costs of a survey

The cost of previous surveys were covered by Crown Research funding as part of a research programme. We would combine our research visits with a survey so costs would be minimised. Charges for two survey visits to Gisborne, including travel, accommodation, reporting and diagnoses would be \$1600 plus GST.