

Grower Summary

FV 427

Outdoor lettuce - screening
crops for presence of virus

Literature Review

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Read the label before use: use pesticides safely.

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Further information

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GROWER SUMMARY

Headline

A broad range of viruses can infect lettuce. These may be latent or cause difficult-to-spot symptoms but they could lead to unattributable yield loss. This literature review identifies the viruses that pose the greatest risk.

Background

Lettuce crops are susceptible to a number of well-known viruses and virus complexes such as *Lettuce mosaic virus* and big-vein disease, respectively. Previous work on other crops such as brassicas and asparagus showed that asymptomatic viruses could negatively affect crop yields. However, it is not known whether UK lettuce crops may also be infected with asymptomatic or latent viruses that are causing problems which are then attributed to other factors.

The purpose of this literature review was to determine the prevalence of viruses that can infect lettuce grown in the UK and elsewhere, and to compile a list of the more common viruses for testing in symptomatic and asymptomatic lettuce samples. ELISA will be used for virus testing in further work.

Summary

Sixty-one viruses are reported to have the potential to infect lettuce [1-5]. Thirty-four occur naturally on lettuce. Of these, eleven different viruses have been reported as occurring on UK lettuce, and two additional viruses are also likely to be present. The remaining twenty-one viruses occur naturally on lettuce but have not yet been reported on UK lettuce; but some of the viruses have been found on lettuce in EU member states.

While several of the viruses are well-known e.g. *Lettuce mosaic virus* and cause recognisable symptoms, a number of viruses cause minimal or highly variable symptoms that could easily be attributed to other causes. It is therefore possible that more viruses are present in UK lettuce than have been formerly reported. For example, *Broad bean wilt virus* (BBWV) is present in the UK on species other than lettuce, and is widespread on European lettuce. Symptoms of BBWV are highly variable, and include slow growth. It is therefore of interest to conduct a screen of virus presence in UK lettuce to determine whether hitherto unrecognised viruses are impacting crop quality and yield, and whether susceptibility and symptoms vary with cultivar. Twelve viruses have been selected for testing based on their presence and severity on lettuce in the UK and elsewhere, and after consultation with the lettuce industry. More detail is available in the full review.