

# Cucumber green mottle mosaic virus

29 April 2015

## Frequently asked questions

### What is Cucumber green mottle mosaic virus?

*Cucumber green mottle mosaic virus* (CGMMV) is a virus that causes disease in cucurbit plants. CGMMV occurs in Europe, Asia, the Middle East, some parts of the USA, and Canada. In September 2014, it was reported to be present in the Northern Territory.

### What does the confirmed case of CGMMV mean for Queensland cucurbit growers?

One case of CGMMV has been confirmed on a property west of Townsville. This appears to be an isolated case and Biosecurity Queensland has moved quickly to confine it.

However, following this detection, Biosecurity Queensland is asking all cucurbit growers to practice good farm hygiene procedures to prevent further spread of the virus. Growers are also asked to check their crops for signs of CGMMV and immediately report any signs of the virus to Biosecurity Queensland on 13 25 23.

### Does CGMMV only affect cucumbers?

No, CGMMV affects a range of cucurbit varieties – not just cucumbers. The virus can infect watermelon, cucumber, melons, zucchini, pumpkin, squash, bitter melon (or bitter gourd), long melon (bottle gourd) and other cucurbit and related weed species. In Queensland CGMMV has been found affecting watermelons.

### What are the symptoms?

CGMMV produces a range of symptoms on cucurbit leaves and fruit, with the severity of symptoms varying greatly between different varieties. Leaf symptoms can range from mosaic-like mottling to bleaching of leaf colour. In severe cases, as the disease progresses, infected plants can wilt with part, or all, of the plant dying. Some plants may not show any symptoms. On watermelon fruit, symptoms can include yellowing of the normally pink/red flesh, especially on its outer perimeter and some fruit may develop internal cavities and areas that prematurely soften and become mushy. From the outside infected fruit may appear malformed as a result of infection.

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## How does it spread?

CGMMV can be easily spread. It may remain viable for an extended period in plant debris and soil, or on surfaces such as vehicles, equipment, tools, clothing and footwear.

The virus can be transmitted a number of ways, including;

- infected seeds
- seedlings grown from infected seeds
- plants that have been grafted onto infected rootstocks
- on the contaminated hands of people doing grafting
- contaminated soil, i.e. soil in which infected plants have been grown
- through root-to-root contact between plants
- in water or in nutrient solutions in soilless culture
- mechanical transfer of sap from infected plants, which can contaminate any of the following:
  - machinery
  - tools
  - clothing and footwear
  - hands of people working in an infected crops
  - packaging materials, such as bins used for harvesting, storing or marketing fruit\*.

\* Do not recycle packaging unless it has been decontaminated.

## Can CGMMV affect human health?

People **will not** be affected by handling or eating cucurbits infected with CGMMV.

## What do I do if my crop has symptoms of CGMMV?

Do not attempt to remove or destroy suspect infected plants, as this may increase the risk of spread. If CGMMV is confirmed on your property, you may still be able to harvest and market non-cucurbit products that are deemed to be not at risk of spreading the virus. Once the virus has been confirmed on your property, a Biosecurity Officer will explain the quarantine conditions and advise you of any movement restrictions.

## How long does it take for a suspected crop to be tested for CGMMV?

It usually takes five working days to complete CGMMV diagnostic tests in the laboratory.

Biosecurity Queensland also runs a second different type of test if the first test returns a positive result - to confirm the CGMMV diagnosis. Biosecurity Queensland runs two rounds of testing on positive results to provide the grower with certainty.

## Is there a cure for CGMMV?

There is no known cure for CGMMV. Preventing infection is key to protecting the health of Queensland's cucurbit crops.

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## How can I protect my property?

To prevent the spread of CGMMV, producers should:

1. Always use clean, disease-free, planting material. Ask your seed supplier if the seed has been tested for CGMMV, and only use seed that has been certified free from CGMMV. All cucurbit seed lines entering Australia since November 2014 are subject to increased levels of testing for CGMMV. If you have older seed lines, it is recommended that you have them tested for CGMMV prior to using them. If growers have seedlines to be tested, they can send them to the New South Wales Department of Primary Industries or the Victorian Department of Environment, Land, Water and Planning who conduct commercial testing of cucurbit seed. Please contact Biosecurity Queensland on 13 25 23 to find out how to send seeds to interstate facilities for testing
2. Avoid sharing machinery and equipment associated with cucurbit production with other growers.
3. Enforce strict hygiene measures, ensuring that shoes, clothing, equipment (including cutting tools), machinery and vehicles associated with cucurbit production are clean and free of soil and plant material before and after use.
4. Implement training programs amongst staff about CGMMV, and the importance of working hygienically.
5. Display signs at the entrance of farms clearly detailing the property's biosecurity requirements to visitors.

## What is the biosecurity/hygiene process for vehicles coming onto cucurbit farms?

The movement of unclean vehicles and machinery allows pests and diseases to move from one area to another. While it is impractical to stop all traffic movement on and off farms, washing down machinery or denying access to dirty vehicles and machinery, can reduce the spread of pests. Growers can use the following three step decontamination process to prevent CGMMV and other pests from entering their farms.

### Step 1 - Cleaning

Use a biodegradable detergent-based cleanser to clean all surfaces to be decontaminated so that they are visibly free from soil and plant material, prior to disinfection.

Ensure you:

- determine the extent of mud, soil and plant material build up, and identify areas that require particular attention (e.g. behind guards and protective plates, radiators, spare tyres and remove any guards or belly plates).
- identify areas that may require cleaning with compressed air, rather than water, and clean these first (e.g. radiators).
- clean machinery from the top down and dismantle to gain access to internal spaces.
- clean under the guards and the underneath of the machine or vehicle and the cabin, including the interior, upper body and implements as well as tool boxes and storage compartments.

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## Step 2 - Disinfection

Following the cleansing process, use a broad spectrum disinfectant on all relevant surfaces.

You must use each product in accordance with its label, or Australian Pesticides and Veterinary Medicines Authority (APVMA) Permit instructions.

Note: many products require the object being disinfected to remain “wet” with product for at least a 1-3 minutes to be effective.

## Step 3 - Rinsing

Following the disinfection process, rinse all relevant surfaces with clean water.

Ensure you:

- carry out a final check to ensure all areas have been cleaned and disinfected.
- replace any guards or belly plates that were removed for decontamination.
- move the clean vehicle or machine, avoiding recontamination, and if necessary wash any remaining mud, soil or plant material from the tyres or tracks.

## Clean down and decontamination record

Record details of each clean down and decontamination as appropriate (e.g. vehicle or machinery log books).

## What happens to a property that is infected with CGMMV?

Owners of properties that are infected with the virus have a responsibility to minimise the risk of the virus being spread to other areas.

Properties that have been shown by testing (conducted by Biosecurity Queensland) to be infected with CGMMV are quarantined. Properties where there is a strong suspicion of CGMMV infection (e.g. collection of symptomatic plant material or strong links with other infected premises) may also be quarantined.

Under quarantine, the movement of any host plants, fruit or plant material is prohibited. It also prohibits the movement of machinery and equipment that has been in association with the host plants off the property. The only exception is for people, vehicles and equipment that have undergone a decontamination process (as described above), been inspected by a Plant Health Inspector and issued with an Inspector’s approval allowing movement.

## How are infected premises marked?

Once a property is quarantined, quarantine signs will be placed at the entrance to the farm. Quarantine signs are installed to make visitors and residents aware of the movement conditions, not to identify a property with CGMMV to the public. Biosecurity Queensland does not give out the addresses of properties under quarantine to any third party (including the public or media).

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## Can I enter a quarantined property?

It is not illegal to enter a quarantined property. It is however illegal to enter a quarantined property without the owner's permission. Entering a property without the owner's permission could threaten control, containment and eradication efforts, and place the community and affected industries at considerable risk. Any unlawful entry into a property will be referred to local police.

## What is the Queensland Government doing to manage the spread of CGMMV?

Biosecurity Queensland has quarantined one property with CGMMV to contain the virus from spreading to other areas of Queensland. As this is an isolated case, Biosecurity Queensland remains confident CGMMV can be eradicated from Queensland.

Biosecurity officers surveyed selected commercial watermelon properties in the major production districts of Queensland and have been monitoring fruit at the Brisbane Market for symptoms since shortly after receiving notification of the pest from the Northern Territory. There were no detections of the disease in Queensland resulting from this surveillance.

Biosecurity Queensland will be conducting further surveillance across Queensland (starting in the north) to ensure CGMMV has not spread to other parts of the state.

## How did CGMMV spread to Queensland?

Surveillance of the infected property was conducted as a result of a tracing investigation into a line of infected watermelon seeds.

It has not been confirmed that the seed is the source of the infection. Biosecurity Queensland is conducting tracing investigations into the seed line and other possible sources for the infection and where the disease may have spread to from the property. Early investigations indicate that this line of seed has not been used elsewhere in Queensland.

## Are growers entitled to compensation?

Incursions of new plant pests into Australia are covered by the national Emergency Plant Pest Response Deed (also known as EPPRD). The EPPRD is an agreement between all of Australia's State and Territory Governments, the Commonwealth Government and horticultural industries that choose to be signatories.

Under the EPPRD, a response to eradicate an exotic plant pest or disease can be cost-shared by all of the relevant EPPRD signatories, subject to an agreed response plan. Cost sharing arrangements include the potential to provide owner reimbursement costs to affected commercial growers, provided they fulfil the criteria for eligibility.

If a national cost sharing response plan is approved for CGMMV, affected pumpkin growers may be eligible for owner reimbursement cost, as AUSVEG is a signatory to the Deed.

However, watermelon growers will not be eligible for owner reimbursement costs as the Australian melon industry is not currently a signatory to the EPPRD.

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## Can produce still be sent to market from a quarantined property?

CGMMV is easily transmitted through infected plant material, seed, and water, and also through contaminated equipment and clothing, so its important protocols are developed to contain and control the spread of the disease on and from an infected property.

Biosecurity Queensland will work with the affected property to assess the risk of spread, and may be able to assist them to access local and interstate markets.

Negotiating market access is a high priority. However, it's important that the area freedom status of the rest of Queensland is not jeopardised and the disease is not spread further by rushing this process.

## The state of Queensland is a pest quarantine area for CGMMV. What does this mean?

The pest quarantine area is how the Queensland Government uses legal regulations to protect Queensland from CGMMV. This pest quarantine area allows the Queensland Government to prevent the movement of items such as plants, plant products, soil and machinery associated with cucurbit production from states where CGMMV is known to be present (currently the Northern Territory) into Queensland. As Queensland only has an isolated case of CGMMV, it is important quarantine regulations are followed to protect the integrity of the pest quarantine area, and through that the rest of Queensland's cucurbit industry.

## Who can I speak to if I need emotional support?

A range of emotional support services are available to those affected by this response:

Lifeline provides crisis support 24 hours a day, 7 days a week	13 11 14
Lifeline Financial First Aid Line	1800 007 007
Beyond Blue	1300 224 636

## Where can I access further information about CGMMV?

For more information about CGMMV, people can visit [www.biosecurity.qld.gov.au](http://www.biosecurity.qld.gov.au) or call 13 25 23.

Biosecurity Queensland is also issuing situation updates about the CGMMV response via email. People can have these reports sent straight to their inbox by signing up to the 'weeds, plant pests and disease' e-alert list at [www.biosecurity.qld.gov.au](http://www.biosecurity.qld.gov.au).

To keep up to date in real time, people can also follow Biosecurity Queensland on Facebook or Twitter (@BiosecurityQld).