

How to identify the symptoms of CSNV?

Symptoms

- Necrotic spots on the stem of *chrysanthemum* and tomato
- Wilted stems and leaves
- Yellow or black spots or rings on the leaves



The virus ultimately causes **complete wilting** and dying of the infected *chrysanthemum*.



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Can you help us?

CSNV or the *chrysanthemum* stem necrosis virus is included in the **EPPO A1** list. This list contains plant-harmful organisms that do not yet occur in the EU, but cause **major damage**. Therefore, it is important to report if you see symptoms of this virus. **Early detection** allows a quick and efficient implementation of control measures against CSNV, so that this invasive exotic **cannot establish itself**.

If you spot symptoms of CSNV:

- If possible, take a picture of the damage and note the precise location.
- Report via waarnemingen.be/species/Q-organismen

More info?

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Beware of – *Chrysanthemum stem necrosis* – *tospovirus* (CSNV)

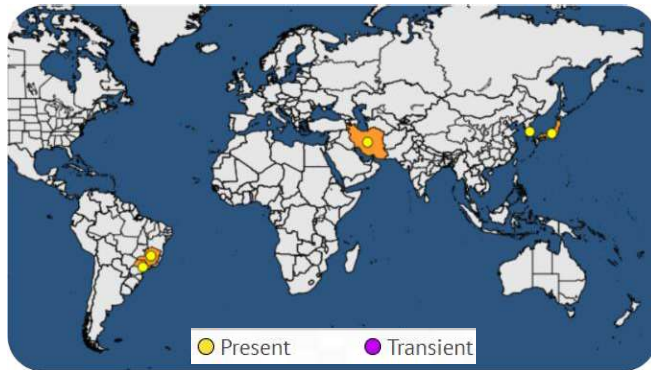


Chrysanthemum stem necrosis virus (CSNV)



In collaboration with EUPHRESKO and EPPO www.eppo.int

Distribution



The virus has already occurred in the Netherlands (1994/5, 2005), the UK (2002, 2010), Belgium (2014), Italy (2017) and Slovenia (2001/2, 2017), but has been successfully combated. The origin of the virus outbreak can usually be traced back to **infected cuttings from Brazil**, where the virus is widespread on *chrysanthemum* and tomato.

The virus is **spread in nature by thrips**, mainly *Frankliniella occidentalis* (Californian thrips) and *F. schultzei*. Both species are mostly found in greenhouses, in Belgium.



Management

Preventing this virus is primarily focused on **combating thrips** that serve as vectors. However, this is not easy as part of the life cycle occurs in the soil. Moreover, thrips reproduce very quickly and resistance to various insecticides has already been reported.

Chemical control

- Mesurol SC 500 (Methiocarb)
- Decis 15 EW (Deltamethrin)
- Vertimec (Abamectine)
- Tracer (Spinosad)
- ...

Biological control

- Predatory mites (*Amblyseius swirskii*)
- Predatory bugs (*Orius laevigatus*)
- Nematodes (*Steinernema feltiae*)

Phytosanitary measures

- Use of virus-free plant material (tomato and *chrysanthemum*)
- Destruction of infected plants



Host plants



The virus usually occurs on **chrysanthemum** and **tomato** plants, and it was rarely detected on *Eustoma russellianum* (prairie gentian) and *Gerbera* sp.

