

# Yellowing disease of tomato caused by *Tomato chlorosis virus* newly recognized in Japan

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## Abstract

In 2008, virus-like symptoms of yellowing, interveinal chlorosis, leaf curling and necrotic fleck were observed on greenhouse-tomato plants (*Solanum esculentum*) in Tochigi Prefecture. The symptomatology and the characteristics of the causal agent such as whitefly transmissibility and particle morphology are similar to those for *Tomato infectious chlorosis virus* (TICV) and *Tomato chlorosis virus* (ToCV), species of the genus *Crinivirus* in the family *Closteroviridae*. Sequencing of reverse transcription-polymerase chain reaction (RT-PCR) products using the degenerate primers for heat shock protein 70 homolog genes of closteroviruses and specific primers for TICV and ToCV indicated that the virus was ToCV, that has not previously been reported in Japan.

**Keywords** *Tomato chlorosis virus* - Tomato - Crinivirus - Closterovirus - Yellowing disease