
Netherlands Plant Protection Service

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agriculture, nature
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PEST REPORT

***Clavibacter michiganensis* subsp. *michiganensis* on tomato plants intended for planting**

At the end of December 2007, suspicion of an infestation of *Clavibacter michiganensis* subsp. *michiganensis* (Cmm) was found on *Lycopersicon lycopersicum* variety 'Bizzarr' on a propagation company of tomato plants and four tomato fruit producing companies. The pest is regulated as a harmful organism for the European Community (Annex II A section II of Directive 2000/29/EC as amended). This outbreak is not linked to the outbreak reported last April 2007. The possible source of the outbreak is still being investigated, but is most likely related to contaminated seed of the variety 'Bizzarr' which has been produced in Bolivia. Confirmatory testing is ongoing in order to verify the origin of the outbreak.

Officially declared pest status: Transient – under eradication.

The pest has been detected as an individual occurrence and has not resulted in establishment. Appropriate phytosanitary measures, including forward tracing is being conducted. This includes end-producers of tomato who have received plantlets, which may have been in contact with contaminated plants at a propagation company. Measures are aimed at full eradication. Relevant member states have been informed.

Means of movement and dispersal

Seed is the main long-distance vector of the pathogen (EPPO datasheet). The pest was detected in plants grown from seed cultivated under strict hygienic conditions. It is therefore presumed that the most likely pathway for the outbreak is related to seed.

Impact and phytosanitary risk

The pest is considered as one of the most important diseases for glasshouse tomato cultivation. The outbreak was detected at an early stage, allowing prompt measures for its eradication and for preventing further spread. The pest can be readily controlled by phytosanitary measures, including removal of diseased plants and close monitoring of the crop during cultivation for any new occurrences.

Detection and inspection methods

Detection and identification methods applied in the Netherlands are based on the EPPO diagnostic protocol for *Clavibacter michiganensis* subsp. *michiganensis* (Cmm). It appeared that concurrent testing protocols of EPPO and ISHI resulted in different outcomes when performed at different laboratories, especially when contamination levels were low. The following issues need to be addressed for improving concurrent protocols:

- Isolation of Cmm may be difficult, especially in case of low contamination levels. Seed microflora easily overgrows Cmm and in this way may mask the presence of this bacterium.
- Residues of antibacterial and antifungal products on seed may reduce chances of isolation. - Colony morphology of Cmm is highly variable. More specific guidelines for recognition of suspected colonies are desirable.

For overcoming part of these drawbacks, the Netherlands Plant Protection Service has included additional purification requirements for seed samples as part of the diagnostic protocol.

Furthermore, the Netherlands Plant Protection Service is participating in an international initiative for improving the EPPO diagnostic protocol of Cmm.

Reference:

- NPPO of the Netherlands
- EPPO Diagnostic protocol for *Clavibacter michiganensis* subsp. *michiganensis* PM7/42.(2005) EPPO Bulletin 35, 271-283.
- EPPO datasheet *Clavibacter michiganensis* subsp. *michiganensis*.