

Report of a Pest Risk Assessment: *Tomato chlorosis crinivirus*

This summary presents the main features of a pest risk assessment which has been conducted on the pest, according to EPPO Standard PP 5/3(1) Pest Risk Assessment Scheme.

Pest: *Tomato chlorosis crinivirus*
PRA area: EPPO region
Assessor: Original PRA: D. Jones, CSL, UK
 Report of the PRA: EPPO Secretariat
Date: 2002-05

1. INITIATION

1.1 Reason for doing PRA: ToCV causes a significant disease of tomato in the USA and reports have recently been made in Spain, Portugal and Italy.
1.2. Taxonomic position of pest: Viruses: *Closteroviridae*: *Crinivirus*

2. PROBABILITY OF INTRODUCTION**2.1 Entry**

2.1.1 Geographical distribution: **EPPO region:** Italy (Sardegna, Sicilia, Puglia); Portugal (Algarve); Morocco (Souss valley); Spain (Málaga, Almería, Islas Canarias [Tenerife, Gran Canaria]).

Asia: Taiwan

Africa: Morocco, South Africa

North America: USA (Florida, Colorado, Louisiana, Connecticut, New York, Virginia)

Central America and Caribbean: Puerto Rico

2.1.2 Major host plants: Tomato, and the weeds *Datura stramonium* and *Solanum nigrum*

2.1.3 Which pathway(s) is the pest likely to be introduced on: Plants for planting of tomato. Viruliferous *Bemisia tabaci*, *Trialeurodes vaporariorum* or *T. abutiloneus* on plant or plant products.

2.2 Establishment

2.2.1 Crops at risk in the PRA area: Tomato

2.2.2 Climatic similarity of present distribution with PRA area (or parts thereof): Climatic conditions in the area of origin are similar to those in the Mediterranean region and in protected environments in countries further north.

2.2.3 Aspects of the pest's biology that would favour establishment:

- ToCV is systemic, and could be carried on plants for planting.
- ToCV has so far survived existing cultural and commercial practices in the EPPO region.
- Its vectors, *Bemisia tabaci* and *Trialeurodes vaporariorum*, occur in the EPPO region, outdoors and/or indoors, and can also move in trade.
- ToCV can persist for several days in its vectors.
- Criniviruses can be genetically variable, but no information has been published comparing isolates of ToCV.
- ToCV has already spread to several continents

2.2.4 Characteristics (other than climatic) of the PRA area that would favour establishment:

2.2.5 Which part of the PRA area is the endangered area:

- Tomato is widely grown in the EPPO region, and ToCV has alternative weed hosts.

- Local spread could be rapid if the vector is not controlled.

All EPPO tomato-growing countries where one of the vectors occur. Whole EPPO region.

3. ECONOMIC IMPACT ASSESSMENT

3.1 Describe damage to potential hosts in PRA area:

Yield losses (due to reduced fruit growth and delayed ripening)

3.2 How much economic impact does the pest have in its present distribution:

Severe yield losses have been reported in Spain. Outbreaks have been described as epidemics. Significant damage is also reported from Morocco.

3.3 How much economic impact would the pest have in the PRA area:

The virus would have impact on tomato production and is likely to spread with viruliferous vectors.

4. CONCLUSIONS OF PRA

4.1 Summarize the major factors that influence the acceptability of the risk from this pest:

- ToCV has spread to several continents and has been reported in several EPPO countries.

- It is systemic and will be transmitted in propagating material

- It is spread by *B. tabaci* and *T. vaporariorum*, which are present in the EPPO region. Locally, it is likely to spread quickly, depending on the level of control of its vectors.

- Similar environmental conditions occur in the EPPO region, and tomato is grown throughout the region.

- Weeds could act as reservoirs.

4.2 Estimate the probability of entry:

Score of 6-7

4.3 Estimate the probability of establishment:

Score of 7-8

4.4 Estimate the potential economic impact:

Score of 5-6

4.5 Degree of uncertainty

The natural host range of ToCV may be wider than currently known; the 2 weeds mentioned have been identified only recently as natural hosts.

5. OVERALL CONCLUSIONS OF THE ASSESSOR

ToCV is proposed for addition to EPPO A2 quarantine list.