

**Report of a pest risk assessment: Cucumber vein yellowing virus**

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:** Cucumber vein yellowing virus  
**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:**

**1.2. Taxonomic position of pest:** Virus. Tentatively classified as in the family *Potyviridae* and genus *Ipomovirus*.

**2. PROBABILITY OF INTRODUCTION****2.1 Entry**

**2.1.1 Geographical distribution:** **EPPO region:** Spain (Cuadrado *et al.*, 2001a, b), Israel (Cohen and Nitzany, 1960), Jordan (Al-Musa *et al.*, 1985), Turkey (Yilmaz *et al.*, 1989).

**Africa:** Sudan (Desbiez *et al.*, 2001).

**Asia:** Israel, Jordan, Turkey.

**EU:** Spain.

**2.1.2 Major host plants:** CVYV naturally infects cucumber, melon, watermelon and courgette.

**2.1.3 Which pathway(s) is the pest likely to be introduced on:** Plants for planting of host plants.  
 Viruliferous *B. tabaci* on host plants (on non-host plants, it may not remain viruliferous long enough to transmit the virus).

**2.2 Establishment**

**2.2.1 Crops at risk in the PRA area:** Cucumber, melon, watermelon and courgette.

**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:** Its vector, *Bemisia tabaci* is found outdoors in warmer parts of the PRA area and in glasshouses in some Northern countries.  
 CVYV may be transmitted in young plants or in *B. tabaci*.  
 There is a genotypic variability, with two strains CVYV-Is and CVYV-Jor, the strain isolated on cucumber in Spain being 95.6% identical to CVYV-Is.

**2.2.4 Characteristics (other than climatic) of the PRA area that would favour establishment:** The main host plants are important crops in the PRA area.  
 Local spread could be rapid if the vector is not controlled.

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

EPPO countries where *B. tabaci* occurs and which grow host plants (i.e. mostly cucumber indoors in Northern EPPO countries, and all hosts outdoors and indoors in Southern EPPO countries).

**3. ECONOMIC IMPACT ASSESSMENT**

**3.1 Describe damage to potential hosts in PRA area:**

Yield reduction.

Symptoms on plants (vein yellowing, vein clearing, chlorosis, necrosis, stunting) or fruits. Symptomless in non-parthenocarpic cucumbers. In some cases, also symptomless in watermelon and courgette.

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

CVYV has been described as a widespread and severe disease of cucurbits in the eastern Mediterranean basin. Reports of damage mostly concern cucumber and melon.

CVYV was considered important enough for the Spanish authorities to destroy affected plants covering 70 hectares of greenhouses in an attempt to suppress further spread.

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

The spread of CVYV could be rapid locally if its vector is not adequately controlled. Impact would be expected to be important mostly in cucumbers, and perhaps on its other hosts.

**4. CONCLUSIONS OF PRA**

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

CVYV has recently spread from its origin in the Middle East, to Spain, where it is considered as severe.

It may be transmitted in young plants.

It is spread by *B. tabaci*, which is present in the EPPO region, and is likely to spread quickly locally, depending on the level of control of *B. tabaci*.

Similar environmental conditions and suitable economically important host plants occur in the EPPO region.

Synergistic effects with other viruses are thought important.

**4.2 Estimate the probability of entry:**

High (Score 7-8)

**4.3 Estimate the probability of establishment:**

High (Score 7-8)

**4.4 Estimate the potential economic impact:**

Medium (Score 5-6)

**4.5 Degree of uncertainty**

More information would be useful (from Spain ?) to clarify the extent of damage on melon, watermelon and courgette.

**5. OVERALL CONCLUSIONS OF THE ASSESSOR**

CVYV is proposed for addition to EPPO A2 quarantine list.