Netherlands Plant Protection Service

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agriculture, nature
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PEST REPORT

***Tobacco Ringspot Virus* (TRSV) on *Hemerocallis spp. and Iris spp.* ornamental plants**

This report concerns the finding of TRSV on ornamental *Hemerocallis* and *Iris* plants in the Netherlands. TRSV is regulated as a harmful organism for the European Community (Annex I A section I of directive 2000-29-EC).

After being informed by the Plant Protection Service (PPS) of the USA, the PPS of the Netherlands carried out an investigation at the company which shipped the TRSV infested consignment. One plant of *Hemerocallis* (var. little wine cup) in a showgarden of a company specialised in *Hemerocallis* varieties, showed visual symptoms and was confirmed was tested positive for TRSV on October 20th, 2006. All *Hemerocallis* cultivars and other plant species present at the company were visually inspected and the cultivars showing virus symptoms were tested for TRSV presence in the laboratory. Of the 912 *Hemerocallis* lines, 41 showed suspicious visual symptoms, of which 4 *Hemerocallis* varieties were tested TRSV positive: 'little wine cup', 'wanetta', 'violet light' and 'longfields anwar'. To verify if TRSV can occur in *Hemerocallis* without inducing visual symptoms, 39 *Hemerocallis* varieties (from the same company) were randomly selected and ELISA tested for TRSV presence. TRSV was not detected in these 39 symptomless varieties, indicating that TRSV always induces visual symptoms in *Hemerocallis*.

All other plant species present at the company and showing suspicious visual symptoms were tested for TRSV presence. One variety of *Iris siberica* (bridle jig) was tested positive for TRSV. In the subsequent investigation to verify if TRSV can occur in *Iris spp.* without inducing visual symptoms, none of the present *Iris siberica* tested positive for TRSV, indicating that TRSV always induces visual symptoms in *Iris siberica*. However, for *Iris ensata,* several cultivars without suspicious visual symptoms tested positive for TRSV. Thus, TRSV can occur without inducing symptoms in *Iris ensata* cultivars. All *Iris ensata* cultivars present at the nursery are tested for TRSV.

On the plots with cultivars showing suspicious symptoms, soil samples were taken and tested for the presence of the nematode vector *Xiphenema americanum.* Examination of the soil samples revealed that *X. americanum* was not present in any of the 56 soil samples.

Phytosanitary Measures taken in response to TRSV finding

Measures at companies are ongoing in the Netherlands. So far, the tracing revealed that three companies had TRSV infested *Hemerocallis* plants, of which one company had also TRSV infested *Iris* plants.

All *Hemerocallis* and *Iris* plants from lots found infected by TRSV will be destroyed. It is under investigation to which companies and other member states these varieties were traded. These Member states will be informed immediately.

Officially declared pest status: Transient on *Hemerocallis spp., Iris siberica and Iris ensata* – under eradication.

The pest has been detected only on specific cultivars of *Hemerocallis spp., Iris siberica,* and *Iris ensata.* The main vector, *Xiphenema americanum,* is absent in the Netherlands. Tracing and eradication is ongoing. The aim is to fully eradicate TRSV in the Netherlands and to guarantee that by the beginning of 2007 all perennial parent plants of *Hemerocallis* cultivars and all perennial parent *Iris* cultivars present at growing companies in the Netherlands are free from TRSV.

Means of movement and dispersal

The main vector of TRSV is the nematode *Xiphenema americanum,* which was verified to be absent in the Netherlands. Vector transmission of the virus is therefore not possible in the Netherlands. However, vegetative propagation of plants is an important pathway for viruses. Vegetative propagation of ornamental *Hemerocallis* and *Iris* plants is the common practice. The spatial distribution of TRSV infested cultivars at the investigated companies gave another strong indication that vegetative propagation was the only pathway for TRSV in the Netherlands.

Impact and phytosanitary risk
In the absence of the nematode vector *Xiphenema americanum* the possibilities for establishment in the field are limited. The main phytosanitary risk of TRSV concerns bud blight in soyabean cultivation. In the past, some infestations of TRSV on *Bacopa, Lobelia* and *Portulacca* were detected and eradicated in the Netherlands.

Detection and inspection methods
The Netherlands Plant Protection Service routinely carries out monitoring surveys for TRSV.
The pest was visually detected on a *Hemerocallis* plant after information of the Plant health Service of the USA. The virus was identified by a positive DAS-ELISA test. This result was confirmed by a reaction on mechanical inoculated test plants and subsequent DAS-ELISA.