Netherlands Food and Consumer
Product Safety Authority
Ministry of Agriculture, Fisheries, Food Security and Nature

Quick scan for honeysuckle yellow vein virus

National Plant Protection Organization, the Netherlands

Quick scan number: QS2025VIR001

Quick scan date: 8 October 2025

No.	Question	Quick scan answer for honeysuckle yellow vein virus
1.	What is the scientific name (if possible up to species level + author, also include (sub)family and order) and English/common name of the organism? *Add picture of organism/damage if available and publication allowed*.	*Begomovirus macrotylomae* (honeysuckle yellow vein virus (HYVV)), genus *Begomovirus,* family *Geminiviridae*. Over the years ICTV has updated the begomovirus taxonomy considerably resulting in a number of former begomoviruses now all considered to be members of the species *Begomovirus macrotylomae*. These include the viruses honeysuckle yellow vein Kagoshima virus (HYVKV) (ICTV, 2015), honeysuckle yellow vein mosaic virus (HYVMV) (ICTV, 2018), tobacco leaf curl virus (TbLCV) (Fauqet et al., 2005), tobacco leaf curl Kochi virus (TbLCKV) (ICTV, 2007), and tobacco leaf curl Japan virus (TbLCJV) (ICTV, 2018). It is important to note that tobacco leaf curl virus was split into multiple species in 2005 (Fauqet et al., 2005), but not all of them eventually merged with *Begomovirus macrotylomae*.
2.	What prompted this quick scan? *Organism detected in produce for import, export, in cultivation, nature, mentioned in publications, e.g. EPPO alert list, etc.*	Findings of HYVV in plants for planting of *L. japonica* 'Aureoreticulata' from a private garden in the Netherlands and from a garden centre in the Netherlands and another member state (plants from both garden centers had been ordered online).
3.	Wat is the risk assessment area?	The risk assessment area is the territory of the European Union (EU 27)
4.	What is the current area of distribution?	HYVV was first reported from Japan (Osaki et al., 1979). Additionally, the virus has been reported from Korea, New Zealand, the United Kingdom (UK), and the Unites States of America (Macintosh et al. 1992, Little & Guy, 2004, Wang et al., 2011, Valverde et al.,

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		2012). However, the virus is likely present in all plants of *L. japonica* cultivar 'Aureoreticulata' and is reponsible for the vein yellowing an important trait of this cultivar (Fig. 1). This cultivar is grown in many (more) countries. The first record of *L. japonica* 'Aureoreticulata' dates from around 1850 when plants were introduced from Japan to the UK (Lyttle & Guy, 2004). Macintosh et al. (1992) mentioned that *L. japonica* 'Aureoreticulata' plants were widely grown in Europe at that time and identified TbLCV as the causal agent of the symptoms. Furthermore, HYVMV has also been mentioned to occur in Europe by Briddon (2002).  Fig. 1: *Lonicera japonica* 'Aureoreticulata' showing vein yellowing, a trait for which this cultivar is grown, Aureoreticulata meaning "gold-netted" or "gold-veined".
5.	What are the host plants?	*Lonicera japonica* (honeysuckle) (Osaki et al., 1979)*, Nicotiana tabacum* (tobacco) (Were et al., 2005)*, Solanum lycopersicum* (tomato) (Osaki & Inouye, 1978).

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6.	Does the organism cause any kind of plant damage in the current area of distribution and/or does the consignment demonstrate damage suspected to have been caused by this organism? *Yes/no + plant species on which damage has been reported + short description of symptoms.* *Please indicate also when the organism is otherwise harmful (e.g. predator, human/veterinary pathogen vector, etc.).*	HYVV is mostly known for causing yellow net / golden veins on leaves of *L. japonica,* a desired trait for which these cultivars are grown worldwide (Osaki et al., 1979, Macintosh et al., 1992, Lyttle & Guy, 2004, Valverde et al., 2012). In Japan, there are reports of HYVV, HYVMV and TbLCJV, infecting *S. lycopersicum* and causing a disease called "Tomato yellow dwarf disease" (Osaki & Inouye, 1978, Kitamura et al., 2008, Ogawa et al., 2008). The impact of this disease in Japan is unknown, but seems limited since it has not been reported since 2008. In general, since 2010 hardly any reports of begomoviruses in *S. lycopersicum* in Japan have been published which might be related to the more widespread use of begomovirus resistance genes in this crop. The resistance genes *Ty-1* and *Ty-2* were both shown to confer moderate to high levels of resistance against HYVMV and TbLCJV (Shahid et al., 2012). Additionally, there is a report of HYVV in *S. lycopersicum* in two greenhouses in Korea, where three plants in each greenhouses showing begomovirus-like symptoms tested positive for HYVV (Wang et al., 2011). No further details were given on the presence and impact of HYVV in these greenhouses. Reports of HYVV in *N. tabacum* are limited. There is one report of HYVV or a virus related to HYVV in *N. tabacum,* where plants showed typical leaf curl symptoms (Were et al., 2005). The report does not mention the extent of damage occurring in the field.
7.	Assess the probability of establishment in the Netherlands (NL) (i.e. the suitability of the environment for establishment). a. In greenhouses b. Outdoors c. Otherwise (e.g. storage facilities, human environment)	*Lonicera japonica* plants are hardy perennials. HYVV is likely established outside in private gardens and in greenhouses where 'golden vein' cultivars are grown.
8.	Assess the probability of establishment in the EU (i.e. the suitability of the environment for establishment).	See Question 4.
9.	What are the possible pathways that can contribute to spread of the organism after introduction? How rapid is the organism expected to spread (by natural dispersal and human activity)?	The main pathway of spread is via vegetative propagation. Begomoviruses are also spread by *Bemisia tabaci* (tobacco whitefly). However, for a wide range of viruses evidence has been obtained that the capability of vector transmission will be lost in hosts that have been vegetatively propagated for a long time (Sako, 1980, Liu et al., 2002, Whitfield et al., 2005, Pu et al., 2011), including the begomoviruses Abutilon mosaic virus, HYVMV and Pseuderanthemum yellow vein virus (Bedford et al., 1994). This loss comes from a relief of selection pressure on the specific transmission trait (Elena et al., 2009, da Silva et al., 2020). There are multiple reports indicating that a few amino acid mutations in the coat protein of begomoviruses resulted in a loss of whitefly transmission (Azzam et al., 1994; Noris et

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		al. 1998; Kheyr-Pour et al. 2000; Caciagli et al. 2009, Pan et al., 2020). Furthermore, multiple studies were unable to show transmission of HYVV by *B. tabaci.* Bedford et al., 2004 showed that HYVMV was graft transmissible, but were unable to transmit the virus by *B. tabaci* , using a total of 18 colonies of 12 different biotypes. Similarly, the Dutch NPPO in 1993 was unable to transmit TbLCV from Dutch ornamentals by *B. tabaci* (Unpublished). Additionally, Herrera-Egüez (2014) showed that the yellow net symptoms of *L. japonica* 'Yellow net' were graft-transmissable but they were not able to transmit the causal agent by *B. tabaci* biotype MEAM1. The Dutch NPPO shared HYVV-infected *L. japonica* plants with the Leibniz Institute DSMZ for vector-transmission studies. They performed *B. tabaci* transmission experiments using biotype MEAM1 but with no evidence of transmission of the virus to *S. lycopersicum* or *Nicotiana benthamiana* (Unpublished). Overall, these results indicate that whitefly transmission of HYVV from *L. japonica* cultivated for the "golden vein" phenotype is highly unlikely.
10.	Provide an assessment of the type and amount of direct and indirect damage (e.g. lower quality, lower production, export restrictions, threat to biodiversity, etc.) likely to occur if the organism would become established in NL and the EU, respectively?	None. HYVV has likely been present in *L. japonica* in the EU for many years and no damage has ever been reported in *S. lycopersicum* or other plant species in the EU. Additionally, HYVV is unlikely to spread from *L. japonica* to other crops (see Question 9). Theoretically, damage to *S. lycopersicum* not harbouring begomovirus resistance genes can occur when a HYVV-population that can be transmitted via the *B. tabaci* biotypes present in the EU would become introduced into the EU.
11.	Has the organism been detected on/in a product other than plants for planting (e.g. cut flowers, fruit, vegetables)? *If "no", go to question 13*	No.
12.	If the organism has been found on/in a product other than plants for planting (e.g. cut flowers, fruit, vegetables), what is the probability of introduction (entry + establishment)? *Only to be answered in case of an interception or a find.*	
13.	Additional remarks	
14.	Summary and conclusions	This Quickscan was prompted by the finding of *Begomovirus macrotylomae* (honeysuckle yellow vein virus (HYVV)) in *L. japonica* in the Netherlands. This virus has an EU Quarantine status (all begomoviruses other than seven species are regulated) and was not officially reported to be present in the EU. However, the virus now appears to be present in certain *L. japonica* cultivars that are widely spread in the EU. The virus causes vein yellowing in these cultivars which gives them aesthetic value. The virus isolates occurring in these cultivars most likely lost their capability to be spread by *B. tabaci* due to long time vegetative propagation of their hosts.
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16.	Follow-up measures	The NPPO of the Netherlands will not take official measures against *Begomovirus macrotylomae* in *Lonicera japonica.*