

Risk-based inspection of plants for planting for the detection of EU-pests

M. Koning

26-04-2023 subject to change, always check <https://gd.eppo.int/> for latest info



Introduction

- EU Q's and RNQP's
- Mapping out dangers
- EPPO Reporting Service (Mailing)
- Knowing your enemies and their host plants
- Open borders and high risks



Subjects

- Impact after outbreak *Anoplophora chinensis*
- Cotton leaf curl Gezira virus
- *Meloidogyne enterolobii*
- *Ripersiella hibisci*
- *Saperda candida*
- *Xanthomonas arboricola* pv. *pruni*

Organisms to keep in mind

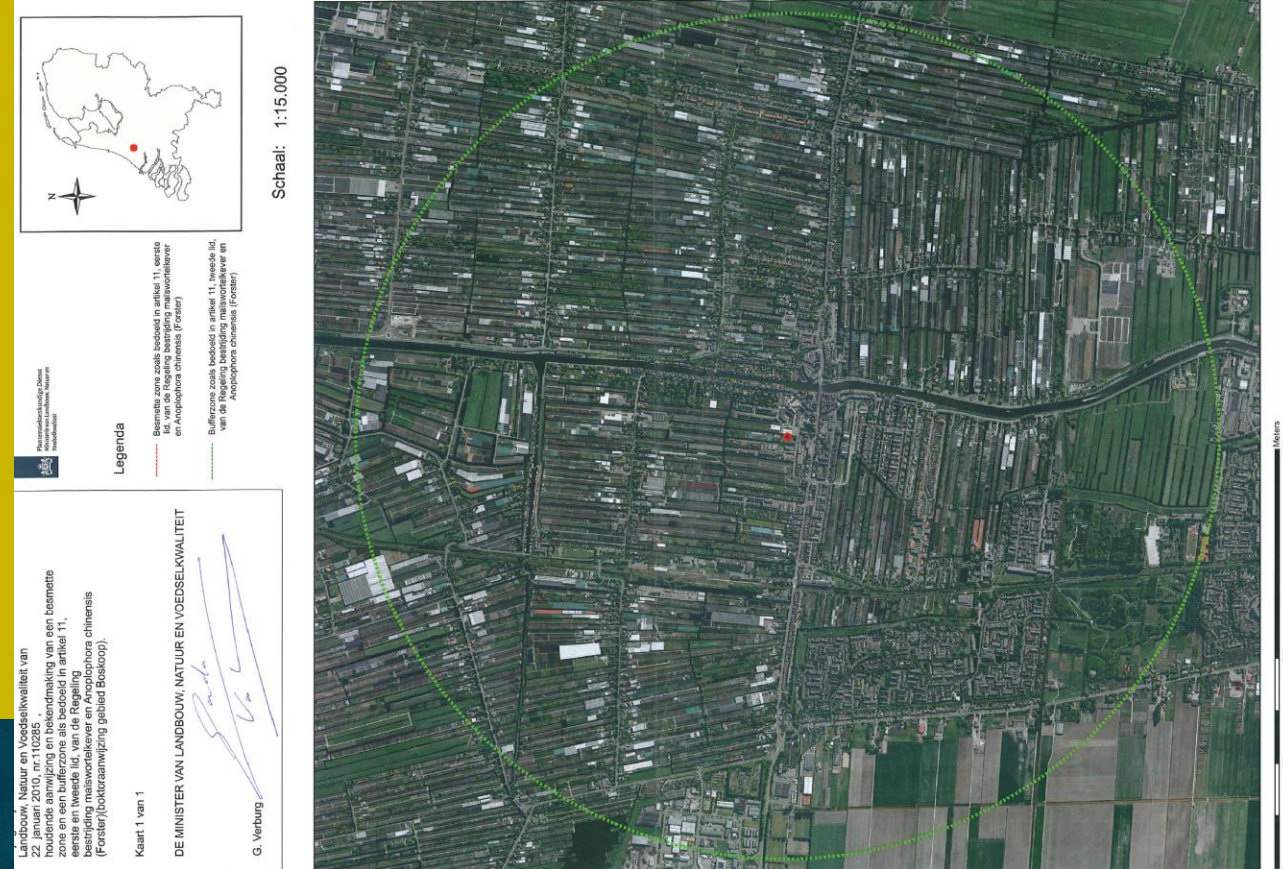
Organism	Distribution	Reporting	Photos	Status	Austria
<i>Agrilus planipennis</i>	https://gd.eppo.int/taxon/AGRLPL/distribution	https://gd.eppo.int/taxon/AGRLPL/reporting	https://gd.eppo.int/taxon/AGRLPL/photos	Q	
<i>Aleurocanthus spiniferus</i>	https://gd.eppo.int/taxon/ALECSN/distribution	https://gd.eppo.int/taxon/ALECSN/reporting	https://gd.eppo.int/taxon/ALECSN/photos	Q	
<i>Anoplophora chinensis</i>	https://gd.eppo.int/taxon/ANOLCN/distribution	https://gd.eppo.int/taxon/ANOLCN/reporting	https://gd.eppo.int/taxon/ANOLCN/photos	Q	
<i>Anoplophora glabripennis</i>	https://gd.eppo.int/taxon/ANOLGL/distribution	https://gd.eppo.int/taxon/ANOLGL/reporting	https://gd.eppo.int/taxon/ANOLGL/photos	Q	
<i>Aromia bungii</i>	https://gd.eppo.int/taxon/AROMBU/distribution	https://gd.eppo.int/taxon/AROMBU/reporting	https://gd.eppo.int/taxon/AROMBU/photos	Q	
<i>Bursaphelenchus xylophilus</i>	https://gd.eppo.int/taxon/BURSXY/distribution	https://gd.eppo.int/taxon/BURSXY/reporting	https://gd.eppo.int/taxon/BURSXY/photos	Q	
<i>Cephalcia lariciphila</i>	https://gd.eppo.int/taxon/CEPCAL/distribution			ZP-Q	
<i>Ceratocystis platani</i>	https://gd.eppo.int/taxon/CERAFP/distribution	https://gd.eppo.int/taxon/CERAFP/reporting	https://gd.eppo.int/taxon/CERAFP/photos	Q	
Cotton leaf curl Gezira virus	https://gd.eppo.int/taxon/CLCUGV/distribution	https://gd.eppo.int/taxon/CLCUGV/reporting		Q	
<i>Eotetranychus lewisi</i>	https://gd.eppo.int/taxon/EOTELE/distribution	https://gd.eppo.int/taxon/EOTELE/reporting	https://gd.eppo.int/taxon/EOTELE/photos	Q	
<i>Epitrix cucumeris</i>	https://gd.eppo.int/taxon/EPIXCU/distribution	https://gd.eppo.int/taxon/EPIXCU/reporting	https://gd.eppo.int/taxon/EPIXCU/photos	Q	
<i>Epitrix papa</i>	https://gd.eppo.int/taxon/EPIXPP/distribution	https://gd.eppo.int/taxon/EPIXPP/reporting	https://gd.eppo.int/taxon/EPIXPP/photos	Q	
<i>Erwinia amylovora</i>	https://gd.eppo.int/taxon/ERWIAM/distribution	https://gd.eppo.int/taxon/ERWIAM/reporting	https://gd.eppo.int/taxon/ERWIAM/photos	ZP-Q	
<i>Fusarium circinatum</i>	https://gd.eppo.int/taxon/GIBBCI/distribution	https://gd.eppo.int/taxon/GIBBCI/reporting	https://gd.eppo.int/taxon/GIBBCI/photos	Q	
<i>Geosmithia morbida</i>	https://gd.eppo.int/taxon/GEOHMO/distribution	https://gd.eppo.int/taxon/GEOHMO/reporting	https://gd.eppo.int/taxon/GEOHMO/photos	Q	
<i>Gilpinia hercyniae</i>	https://gd.eppo.int/taxon/GILPPO/distribution		https://gd.eppo.int/taxon/GILPPO/photos	ZP-Q	
Grapevine flavescence	https://gd.eppo.int/taxon/PHYP64/distribution	https://gd.eppo.int/taxon/PHYP64/reporting	https://gd.eppo.int/taxon/PHYP64/photos	Q	
<i>Gremmeniella abietina</i>	https://gd.eppo.int/taxon/GREMAB/distribution	https://gd.eppo.int/taxon/GREMAB/reporting	https://gd.eppo.int/taxon/GREMAB/photos	ZP-Q	
<i>Lopholeucaspis japonica</i>	https://gd.eppo.int/taxon/LOPLJA/distribution	https://gd.eppo.int/taxon/LOPLJA/reporting	https://gd.eppo.int/taxon/LOPLJA/photos	Q	
<i>Melampsora medusa</i>	https://gd.eppo.int/taxon/MELMME/distribution	https://gd.eppo.int/taxon/MELMME/reporting	https://gd.eppo.int/taxon/MELMME/photos	Q	
<i>Meloidogyne enterolobii</i>	https://gd.eppo.int/taxon/MELGMY/distribution	https://gd.eppo.int/taxon/MELGMY/reporting	https://gd.eppo.int/taxon/MELGMY/photos	Q	
<i>Paysandisia archon</i>	https://gd.eppo.int/taxon/PAYSAR/distribution	https://gd.eppo.int/taxon/PAYSAR/reporting	https://gd.eppo.int/taxon/PAYSAR/photos	ZP-Q	
<i>Pityophthorus juglandis</i>	https://gd.eppo.int/taxon/PITOJU/distribution	https://gd.eppo.int/taxon/PITOJU/reporting	https://gd.eppo.int/taxon/PITOJU/photos	Q	
<i>Popillia japonica</i>	https://gd.eppo.int/taxon/POPIJA/distribution	https://gd.eppo.int/taxon/POPIJA/reporting	https://gd.eppo.int/taxon/POPIJA/photos	Q	
<i>Pseudomonas syringae</i> pv. <i>Actinidiae</i>	https://gd.eppo.int/taxon/PSDMAK/distribution	https://gd.eppo.int/taxon/PSDMAK/reporting	https://gd.eppo.int/taxon/PSDMAK/photos	RNQP	
<i>Rhizoeus hibisci</i>	https://gd.eppo.int/taxon/RHIOHI/distribution	https://gd.eppo.int/taxon/RHIOHI/reporting	https://gd.eppo.int/taxon/RHIOHI/photos	Q	
<i>Rhynchophorus ferrugineus</i>	https://gd.eppo.int/taxon/RHYCFE/distribution	https://gd.eppo.int/taxon/RHYCFE/reporting	https://gd.eppo.int/taxon/RHYCFE/photos	Q	
<i>Saperda candida</i>	https://gd.eppo.int/taxon/SAPECN/distribution	https://gd.eppo.int/taxon/SAPECN/reporting	https://gd.eppo.int/taxon/SAPECN/photos	Q	
<i>Scirtothrips auranti</i>	https://gd.eppo.int/taxon/SCITAU/distribution	https://gd.eppo.int/taxon/SCITAU/reporting	https://gd.eppo.int/taxon/SCITAU/photos	Q	
<i>Scirtothrips dorsalis</i>	https://gd.eppo.int/taxon/SCITDO/distribution	https://gd.eppo.int/taxon/SCITDO/reporting		Q	
<i>Toxoptera citricida</i>	https://gd.eppo.int/taxon/TOXOCI/distribution	https://gd.eppo.int/taxon/TOXOCI/reporting	https://gd.eppo.int/taxon/TOXOCI/photos	Q	
<i>Trioza erytrea</i>	https://gd.eppo.int/taxon/TRIZER/distribution	https://gd.eppo.int/taxon/TRIZER/reporting	https://gd.eppo.int/taxon/TRIZER/photos	Q	
<i>Viteus vitifoliae</i>	https://gd.eppo.int/taxon/VITEVI/distribution	https://gd.eppo.int/taxon/VITEVI/reporting	https://gd.eppo.int/taxon/VITEVI/photos	ZP-Q	
<i>Xanthomonas arboricola</i> pv. <i>pruni</i>	https://gd.eppo.int/taxon/XANTPR/distribution	https://gd.eppo.int/taxon/XANTPR/reporting	https://gd.eppo.int/taxon/XANTPR/photos	ZP-Q	

Impact after outbreak *Anoplophora chinensis*

- On December 7, 2009, inspectors found exit holes in two trees in Boskoop.
- One *Acer palmatum* and one tree of *Carpinus betulus*.
- 2km buffer zone.



Courtesy: Plant Protection Service, Wageningen, Netherlands.



100 and 200m zone

- Complete removal and of all deciduous trees, shrubs and plants in a radius of 100 meters.
- Intensive inspection of all deciduous trees, shrubs and plants in 200 meters around of the affected trees.

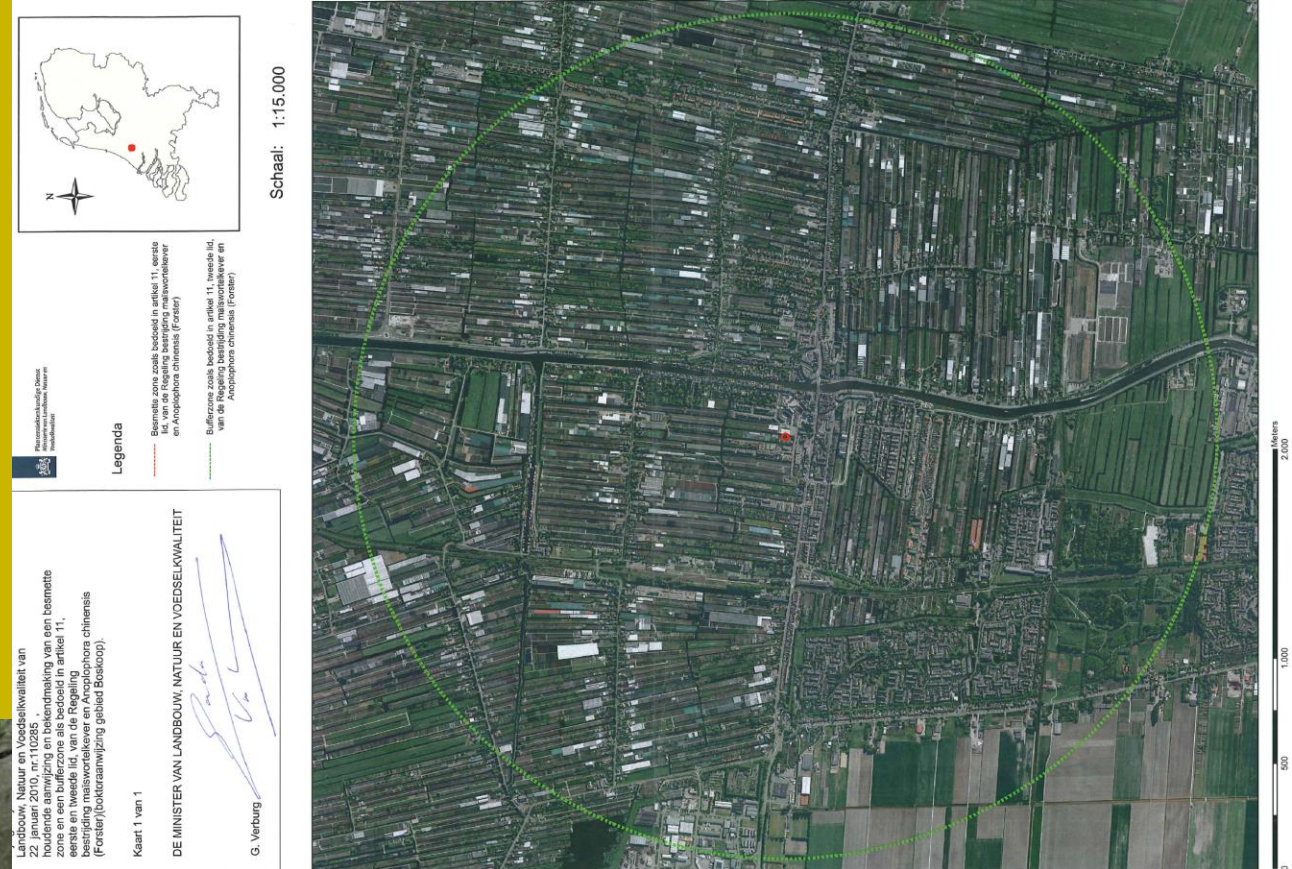
2Km Zone

- Inspection on approximately 7,000 public green spaces and private gardens.
- 344 companies and 518 plots inspected.
- 1% destructive inspection of all deciduous trees and shrubs. In total 84,000 trees and shrubs.



Exit holes of *A. chinensis*.

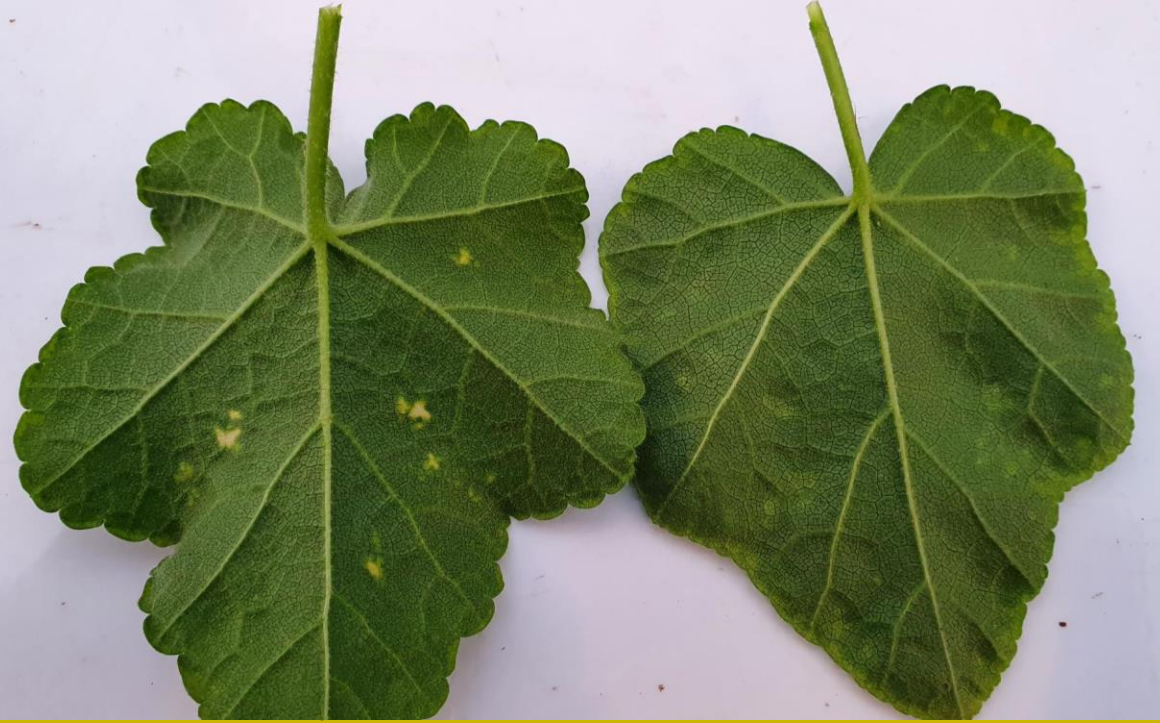
Courtesy: M. Maspero, Fondazione Minoprio, Como (IT)



- Companies located in the 2000 meter zone had to provide all delivery data over a two-year period.
- Data on approximately 1.5 million deliveries were collected from the buffer zone.
- In July 2010 the outbreak had been eradicated.

Cotton leaf curl Gezira virus

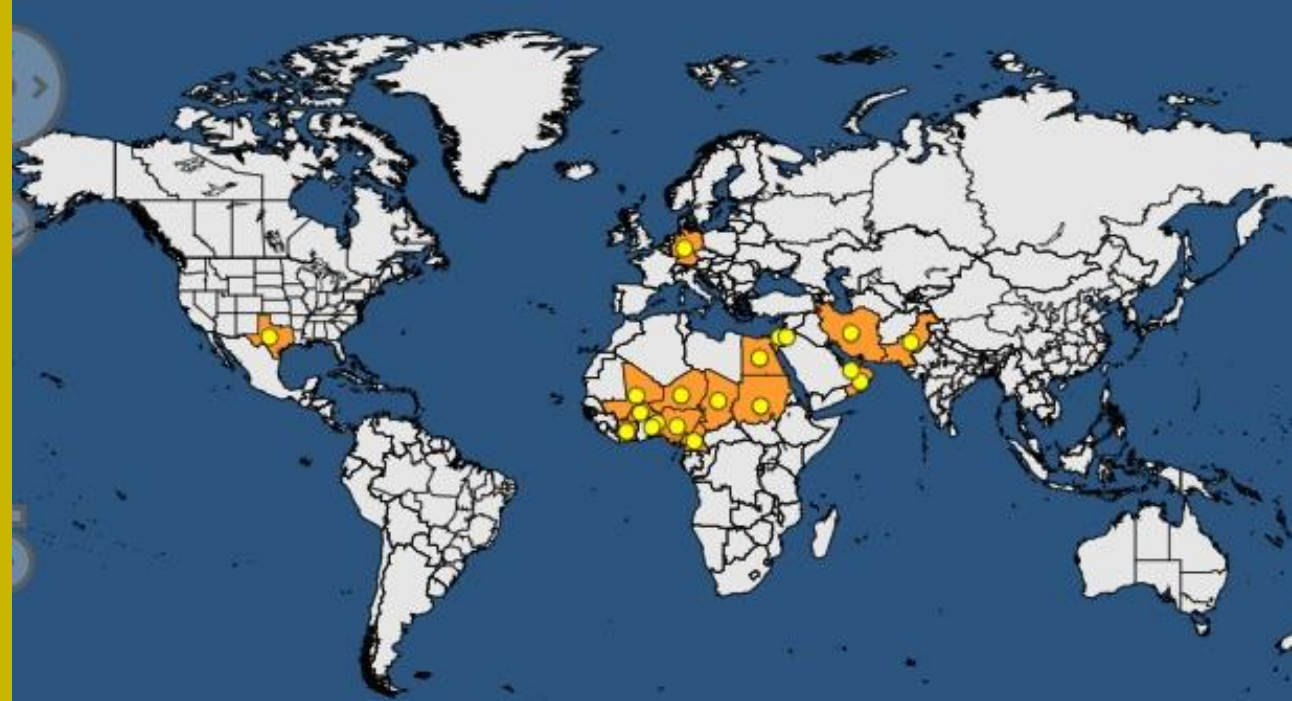
- April 2022 first find on Lavatera in the Netherlands.
- In June 2022 CLCuGV was identified in 7 lots of young plants of Lavatera (presenting no symptoms) at the producer.
- No *Bemisia tabaci*, vector of begomoviruses have been found



- The origin of this incursion is unknown, but it is noted that the grower of the young plants imported unrooted cuttings from Israel and Kenya.
- Post import inspections will be conducted for all imports of Lavatera plants and cuttings, to find out whether plants are traded with (symptomatic or asymptomatic) begomovirus infections.

Cotton leaf curl Gezira virus in DE and BE

- August 2022 first find on Lavatera in Belgium
- The Belgium find could be linked to a delivery from Germany
- September 2022 first find on Lavatera in Germany
- The German find could be linked to a delivery from The Netherlands in summer 2021

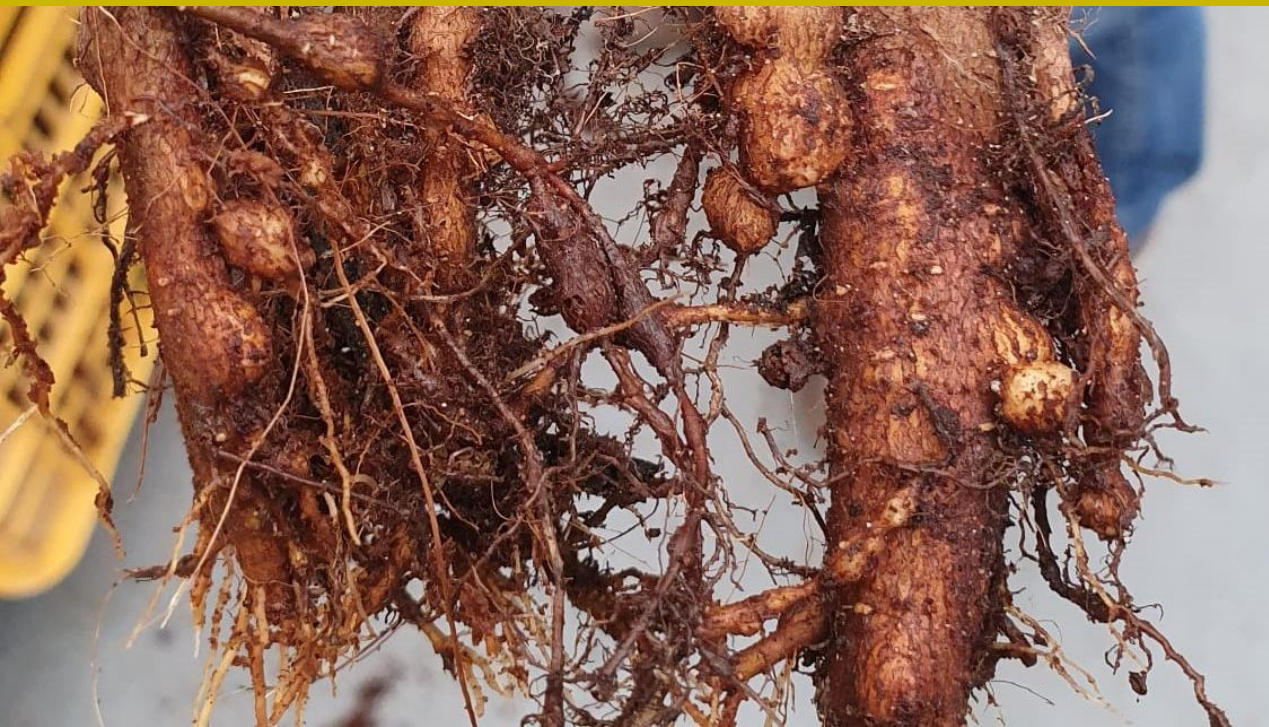
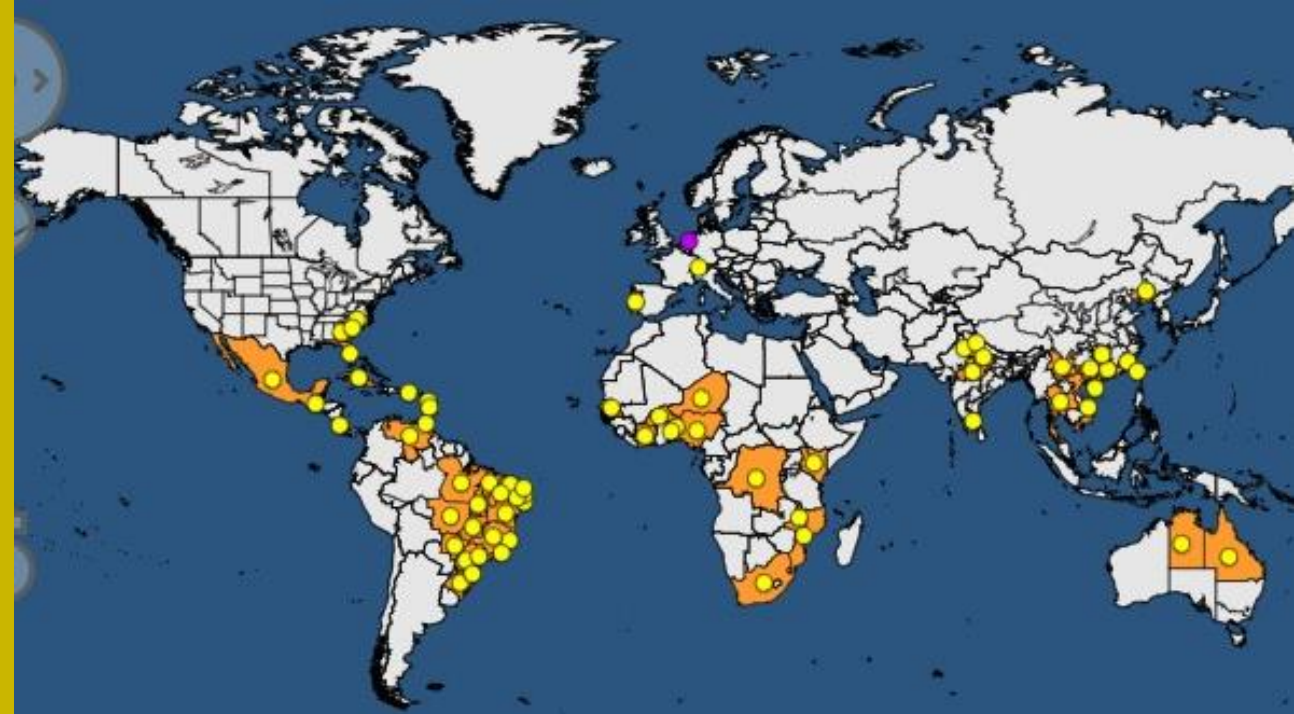


Hostplants

Gossypium hirsutum
Cucumis melo
Malva sp.
Malva sylvestris
Abelmoschus esculentus
Capsicum annuum
Carica papaya
Helianthus annuus
Lavatera sp.
Solanum lycopersicum

Meloidogyne enterolobii

- Quarantine status on *Meloidogyne enterolobii* since April 11, 2022 (EU).
- The nematode can cause major damage to many crops, including important economic crops in the EU such as tomato, pepper, cucumber and potato.



Enterolobii Survey

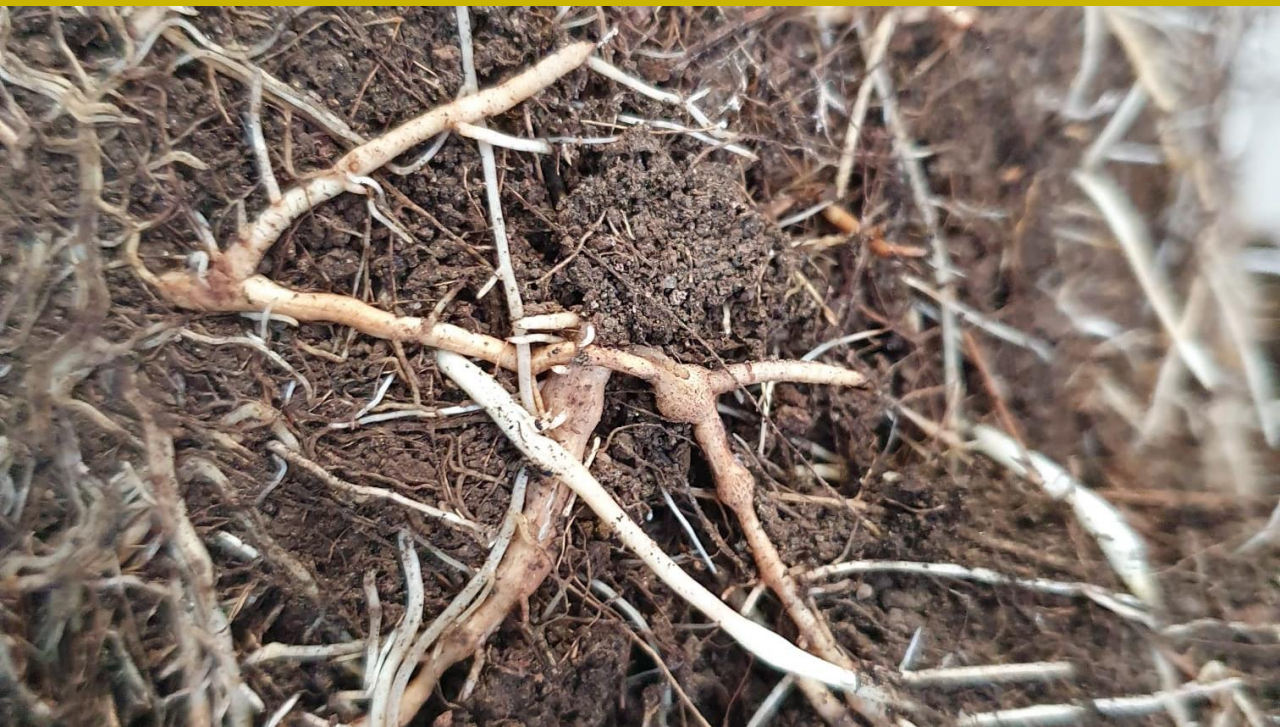
- Chance that *M. enterolobii* may still be present at other companies that import/import risk plants from specific countries.
- A survey to map the presence of *Meloidogyne enterolobii* on Dutch farms.
- 31 companies visited.
- 10 samples taken, 2 positive and 8 negative.

Enterolobii Survey (continuation)

- Each company, the roots of a certain number of plants are visually examined for root nematodes.
- Suspicious plants are being sampled and the batch in question is put on hold.

Last year

- Last year we found *M. enterolobii* 28 times during import inspections.
- Also samples of EU origin were proven positive.



Mandatory measures

- Infected batches are destroyed.
- Plants that are in the same watering system must be removed and destroyed.
- The watering system must be cleaned and disinfected.
- Import and the post-import inspections (phytomonitoring import) are expanded.

Ripersiella hibisci

- Since March 2021 several finds of Ripersiella hibisci of European origin.
- Wide range of host plants.
- Stay extra alert on EU palm imports/production.



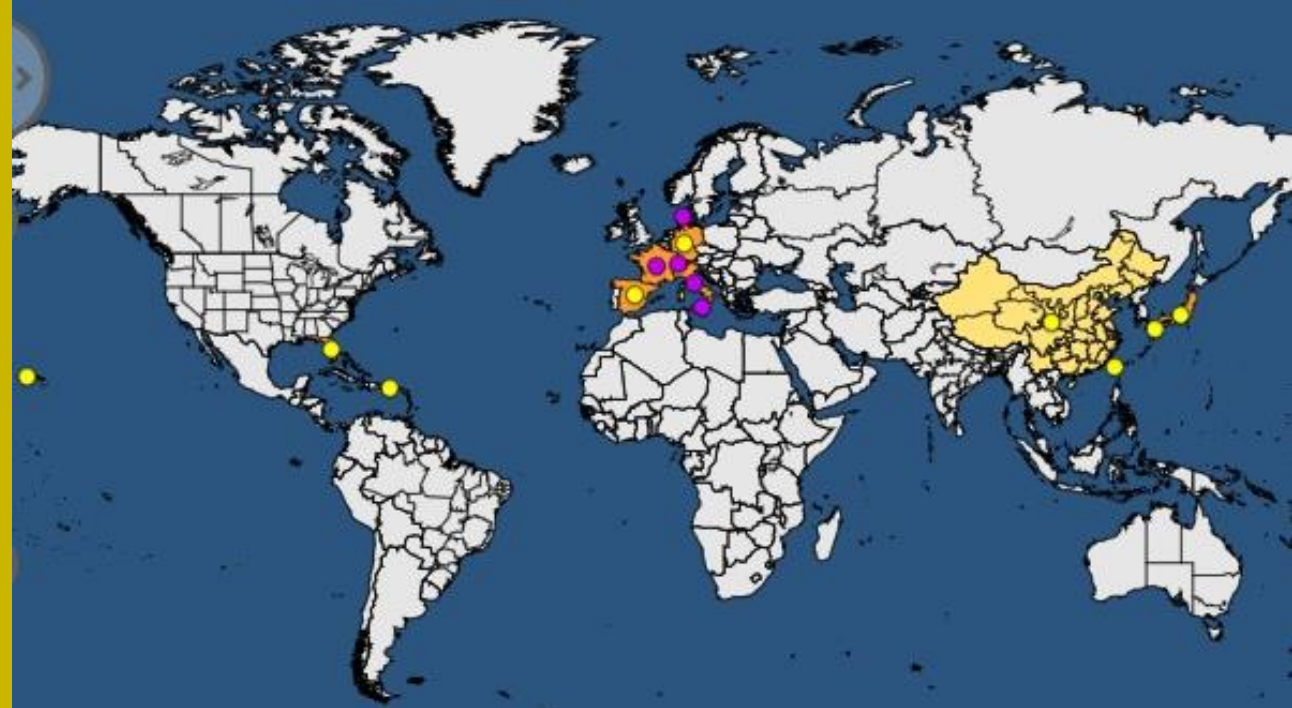
EU finds in the Netherlands

- 7x Chamaerops
- 4x Callistemon
- 1x Camellia
- 1x Phoenix
- 1x Trachelospermum

Ripersiella hibisci

how to find them

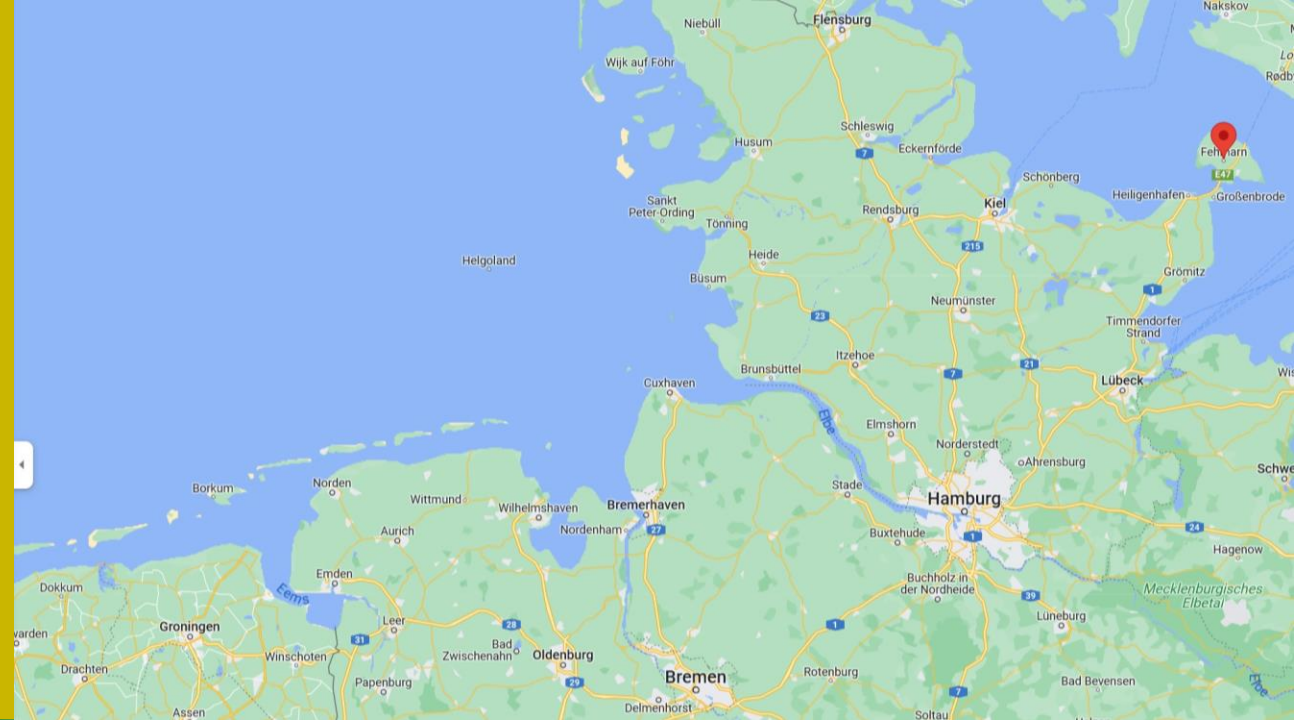
- Remove pots from plants.
- Check for white wooly spots.
- Use your loupe to spot Aphids.



- Send the complete pot to lab.
- Or collect Aphids separate if pot is too big.
- Use a brush to carefully collect them

Saperda candida

- Germany 2008, *Saperda candida* was first observed and affected plants were destroyed in a radius of 2 km.
- In 2009, 3 dead beetles and 1 live beetle were found in the infected area.
- In 2011, more suspicious plants were found in a *Crataegus* hedge in a private garden.



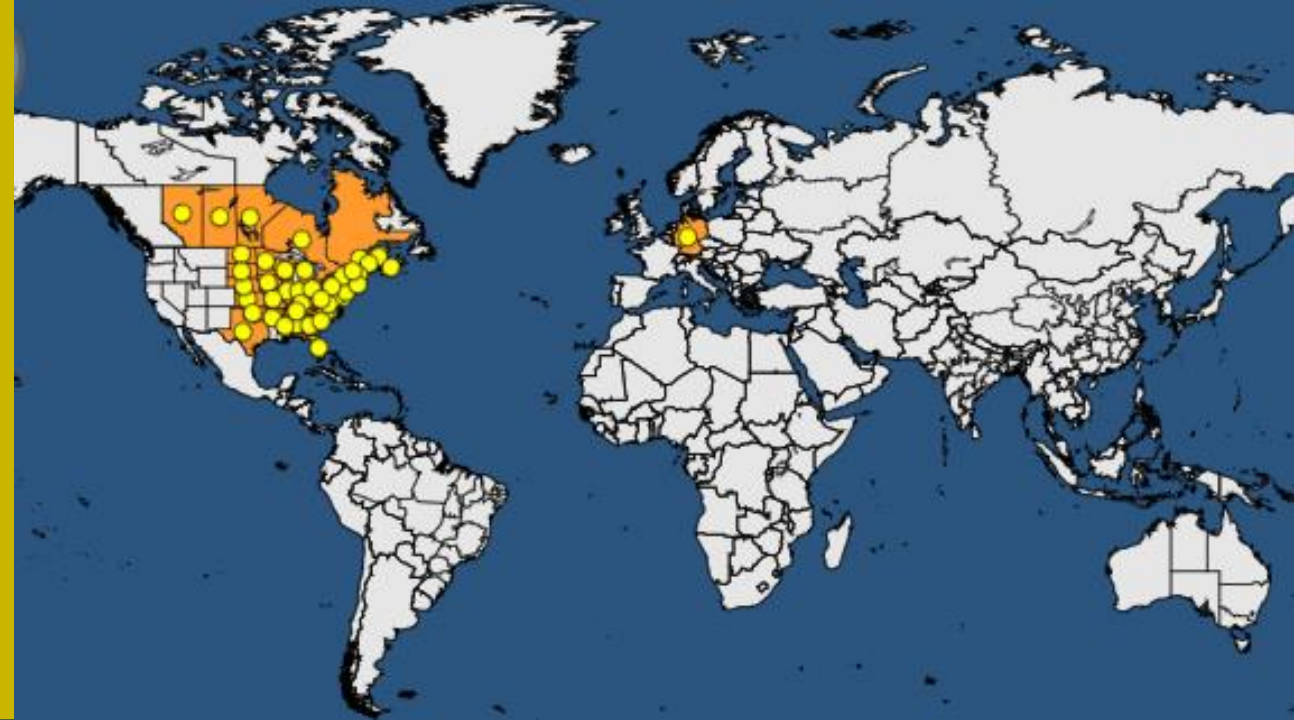
- In 2015, 2 affected plants with larvae were found.
- In 2020, one larva was found.
- From 2008 to 2020, a total of 126 affected trees were destroyed.
- The source of the outbreak is not known.

Distribution

- USA, Canada of origin
- Germany (EU)

Exitholes DE

- Bottom: Exit holes
- *Saperda candida* body 2cm antenna 2cm



Hostplants

- | | |
|-------------------------------|-------------------------|
| <i>Cydonia oblonga</i> | <i>Betula</i> sp. |
| <i>Malus domestica</i> | <i>Cotoneaster</i> sp. |
| <i>Amelanchier alnifolia</i> | <i>Crataegus</i> |
| <i>Amelanchier canadensis</i> | <i>Prunus avium</i> |
| <i>Amelanchier laevis</i> | <i>Prunus domestica</i> |
| <i>Aronia arbutifolia</i> | <i>Prunus persica</i> |
| <i>Malus coronaria</i> | <i>Pyrus communis</i> |
| <i>Sorbus americana</i> | <i>Pyracantha</i> |



Courtesy: Peter Baufeld (JKI, Kleinmachnow, DE)

Xanthomonas arboricola pv. pruni

- Only photo's of deciduous trees on the Eppo-database.
- In the Netherlands only found on *Prunus laurocerasus* and *Prunus lusitanica*.
- Several samples on deciduous trees proven to be negative.

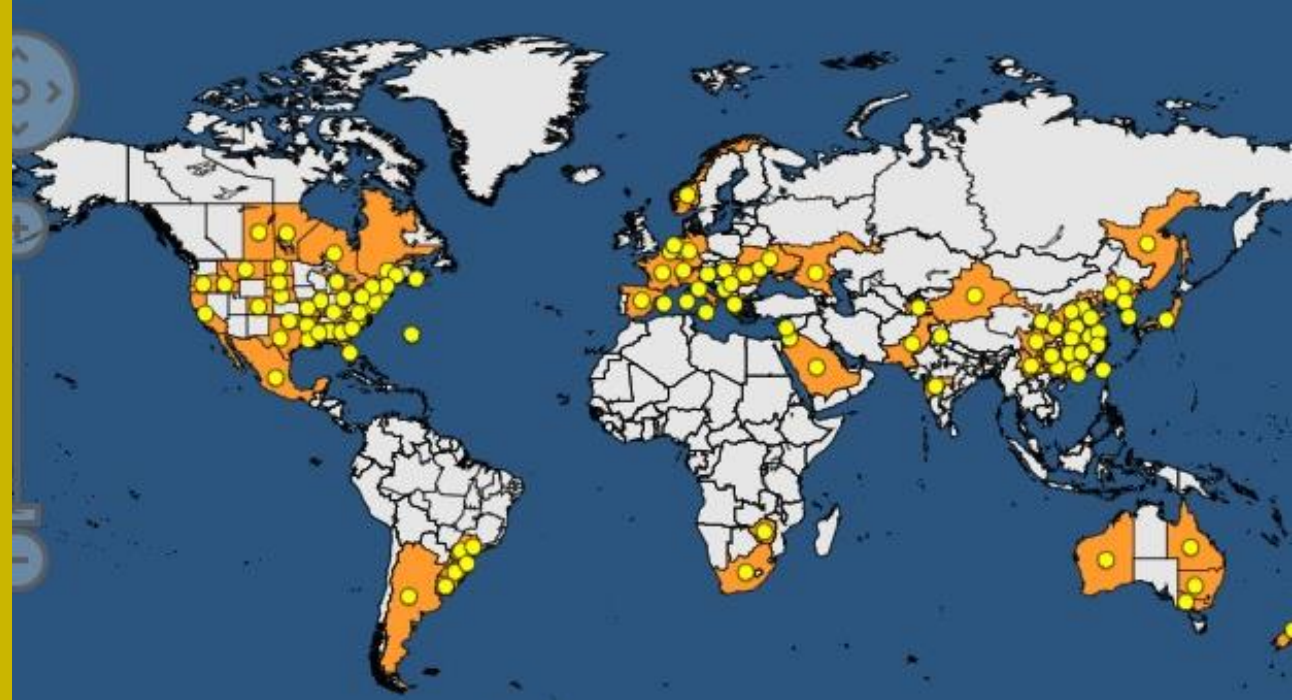


Symptoms on *P. laurocerasus*

- Necrotic spots with yellow ring surrounding it.
- Shot-hole disease creates holes in the leaves without yellow rings around it.
- Heavily affected plants drop their leaves.

Xanthomonas arboricola pv. pruni

- PZ for United Kingdom (Northern Ireland)
- RNQPs concerning fruit plant propagating material and fruit plants intended for fruit production



Hostplants

Prunus armeniaca
Prunus persica
Prunus salicina
Prunus
Prunus avium
Prunus cerasus
Prunus davidiana
Prunus domestica
Prunus dulcis
Prunus laurocerasus

Thanks for your attention