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Swedish University of Agricultural Sciences

SLU Risk Assessment of Plant Pests

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Feedback on a list of plant pests with candidates for risk assessments – Batch 3

Background

Three plant pests were recently found in EFSA's media and literature horizon scanning and evaluated using EFSA's PeMoScoring tool (EFSA 2021). The pests were scored as either positive (above a certain threshold value) or negative (below the threshold).

The three species were:

- *Neofusicoccum mediterraneum* (positive)
- Citrus concave gum-associated virus (negative)
- Chinese wheat mosaic virus (negative)

SLU Risk Assessment of Plant Pests was requested by the Swedish Board of Agriculture to provide feedback in terms of (i) whether any of these pests are present in Sweden and (ii) whether there are some special reasons to exclude or prioritize any of the pests for further pest categorizations (i.e., in addition to those provided by an EFSA PeMoScoring evaluation of these species (EFSA 2022, unpublished)).

Methods

The scientific names, including synonyms (see below), were matched against the Swedish Taxonomic Database that provides information about which species that are established in Sweden (Artfakta 2022), and against the databases iNaturalist (2022) and GBIF (2022). Synonyms were obtained from EPPO Global Database (EPPO 2022). Location records for the fungal species was also searched in USDA Fungal databases (Farr & Rossmann 2021). A search was conducted for all the scientific names and filtering for "Sweden" in Web of Science (2021). Further, such searches were also conducted using the search engine Google, but restricting the searches to Swedish webpages. Finally, searches were conducted with Google Scholar combining the scientific names with the word "Sweden". Information about the pests was also requested from a Swedish expert on plant viruses (see Acknowledgement).

Results and discussion

The search procedure described in the Methods section above did not reveal any information indicating that any of the three species has been found in Sweden. Some noteworthy information about the pests are presented below.

Neofusicoccum mediterraneum

Neofusicoccum mediterraneum is a fungal pathogen described as a new species in 2007 (Crous et al. 2007) and no synonyms were found (Farr and Rossman 2022). The fungus was first discovered in Greece and Italy (Crous et al. 2007). The species has since been reported from numerous different hosts and from many locations in EU, i.e. in Italy and Spain¹. The fungus is also reported from Algeria, Turkey, Tunisia, India, Iran, Sri Lanka, South Africa and USA (California) (Farr and Rossman 2022; Yildiz et al. 2022; Abouzkhar et al. 2022). Given that the fungus has been present in the Mediterranean area for more than 15 years and that it has been reported from several locations, hosts and production systems suggest that it may be widespread in this region.

Some of its hosts that may be especially relevant for Swedish conditions are *Fraxinus* sp., *Juniperus* sp. and *Rubus* sp. (Inderbitzin et al. 2010; Farr and Rossman 2022).

Citrus concave gum-associated virus

The preferred name of the Citrus concave gum-associated virus according to EPPO (2022) is Citrus coguvirus [EPPO code: CCGAV0] and the abbreviation CCGaV is also listed as another scientific name. It may be noted that coguviruses have recently been discovered and that little is known about them, e.g., how they spread and to which degree they cause disease (A. Kvarnheden, pers. comm. 2022). For the Citrus coguvirus there is a possibility of entry in Sweden with infected propagation material from e.g., areas in Europe where it occurs in apple trees (A. Kvarnheden, pers. comm. 2022).

Chinese wheat mosaic virus

The Chinese wheat mosaic virus [EPPO code: WCHMV0] has the following synonyms; CWMV, WChMV, Wheat China mosaic furovirus and Wheat China mosaic virus (EPPO 2022). The virus was added to EPPO Alert List in 1999 but deleted in 2001 since there was no indication that it was a threatening disease (EPPO 1999; EPPO 2001). It is transmitted by a

¹ Examples of reports from Italy and Spain. Italy: Puglia - *Olea europaea* (Crous et al. 2007; Lazzizzera et al. 2008), Sicily, orchard - *Juglans regia* (Gusella et al. 2020), Sicily, urban area - *Ficus microcarpa* (Fiorenza et al. 2022), Sicily, orchards (4 farms) - *Pistacia vera* (Gusella et al. 2021), Sardinia, plantations (5 sites) - *Eucalyptus camaldulensis* (Deidda et al. 2016). Spain: Andalusia (2 locations) - *O. europaea* and *P. vera* (Moral et al. 2010), Valencia, commercial packinghouses - *Diospyros kaki* (Palou et al. 2013), Castilla y León - *Vitis vinifera* (Martin et al. 2011), Sevilla – *Vitis* sp. (Varela et al. 2011), southern Spain, orchards – *J. regia* (López-Moral et al. 2020), Málaga, orchards - *Persea americana* (Arjona-Girona et al. 2019), Valencia, orchards - *Eriobotrya japonica* (González-Domínguez et al. 2016), Mallorca Island, orchards (2 locations) – *Prunus dulcis* (Olmo et al. 2016).

vector, i.e., *Polymyxa graminis*, which is present in Sweden (Lindsten & Tapio 1986; Eckersten et al. 2015).

It may be noted that viruses that are spread with *Polymyxa* are difficult (or impossible) to eradicate if they become introduced, e.g. due to that resting spores of *Polymyxa* can remain in the soil with infectious virus for several years (A. Kvarnheden, pers. comm. 2022). It may also be noted that there are other furoviruses, that cause mosaic disease in wheat and that are vectored by *P. graminis*, which are closely related to CWMV and which occurs in Europe and there appears to be a debate whether these should be regarded as conspecific (Hairi and Meyer 2007; Tamada and Kondo 2013). None of these are however currently found in Sweden (A. Kvarnheden, pers. comm. 2022).

Conclusion

No evidence was found that any of the three pests have been found in Sweden.

Some noteworthy information was found for the pests but no additional reasons to exclude or prioritize these pests for further pest categorizations beyond those provided by the EFSA PeMoScoring evaluations (EFSA 2022, unpublished).

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