Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

SLU Risk Assessment of Plant Pests

SLU.ua.2022.2.6-1919

June 2, 2022

Feedback on a list of plant pests with candidates for risk assessments – Batch 4

Background

During March and April of 2022 eleven of the plant pests that were found in EFSAs media and literature horizon scanning were evaluated with EFSAs PeMoScoring tool (EFSA 2022a, b unpublished). Based on the answers to 13 questions the pests received scores that were either below or above a threshold value (phi-score = -0.083). Further actions are proposed for pests that receive a score above the threshold value. The pests also received a rank within a set of reference pests; rank 1 = highest threat to rank 43 = lowest threat.

The eleven pests were:

• *Biscogniauxia rosacearum* (Fungi)	Positive (rank 22, phi-score 0.04)
• *Coniella granati* (Fungi)	Negative (rank 36, phi-score -0.22)
• *Epicoccum sorghinum* (Fungi)	Positive (rank 10, phi-score 0.12)
• *Fusarium andiyazi* (Fungi)	Positive (rank 13, phi-score 0.09)
• *Diaporthe ambigua* (Fungi)	Negative (rank 35, phi-score -0.09)
• Maize yellow mosaic virus (Viruses)	Negative (rank 35, phi-score -0.19)
• Pepper mottle virus (Viruses)	Negative (rank 35, phi-score -0.12)
• *Phyllosticta cavendishii* (Fungi)	Negative (rank 37, phi-score -0.26)
• *Pratylenchus hippeastri* (Nematoda)	Negative (rank 35, phi-score -0.11)
• *Pythium oopapillum* (Oomycota)	Positive (rank 26, phi-score 0.003)
• Spinach latent virus (Viruses)	Negative (rank 36, phi-score -0.13)

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categorizations (i.e., in addition to those provided by an EFSA PeMoScoring evaluation of these species (EFSA 2022b, unpublished)).

Methods

A broad approach was used to find information about observations of the pests in Sweden. Searches were performed in: Web of Science (2022) (filtering for “Sweden”), the search engine

Google (restricting the search to Swedish wepages), Google Scholar (including "Sweden" in the search string and restricting the review to the top 100 hits), and in different specific databases, i.e., CABI Crop Protection Compendium (CABI 2022), Descriptions of Plant Viruses (DPVweb.net 2022), EPPO Global Database (EPPO 2022a), EPPO Platform on PRAs (EPPO 2022b), EUROPHYT (2020) (at the species level), Fauna Europaea (2022), SLU Artfakta (SLU Swedish Species Information Center 2022), iNaturalist (2022) and GBIF (2022), UK Plant Healt Risk Register (FERA 2022), USDA Fungal databases (Farr & Rossman 2022), World Database of Nematodes (Nemys 2022).

The searches included, in addition to the preferred names, also the following synonymous scientific names (CABI 2022a; DPVweb.net 2022; EPPO 2022; Farr & Rossman 2022);

- *Biscogniauxia rosacearum* [BISCRO] = no synonyms were found.
- *Coniella granati* [CONLGR] = *Anthasthoopa simba, Coniella simba*, *Cytoplea granati, Macrophoma granati, Phoma granati, Phoma versoniana, Pilidiella granati, Zythia versoniana.*
- *Epicoccum sorghinum* [LEPTSA] = *Ascochyta arachidis, Epicoccum sorghi, Eriosphaeria sacchari, Leptosphaerella sacchari, Leptosphaeria sacchari, Leptosphaeria spegazzinii, Peyronellaea indianensis, Peyronellaea stemphylioides, Phaeosphaeria sacchari, Phoma annullata, Phoma aspidioticola, Phoma chartae, Phoma depressitheca, Phoma glumicola, Phoma indianensis, Phoma insidiosa, Phoma saccharicola, Phoma sorghina, Phyllosticta arachidis, Phyllosticta glumarum-setariae, Phyllosticta glumarum-sorghi, Phyllosticta glumicola, Phyllosticta hawaicensis, Phyllosticta hawaiiensis, Phyllosticta oryzina, Phyllosticta phari, Phyllosticta penicillariae, Phyllosticta sacchari, Phyllosticta setariae, Phoma saccharina, Phyllosticta saccharicola, Phyllosticta sorghina.*
- *Fusarium andiyazi* [FUSAAD] = no synonyms were found.
- *Diaporthe ambigua* [DIAPAM] = *Phoma ambigua, Phomopsis ambigua.*
- Maize yellow mosaic virus [MZYMV0] = MaYMV.
- Pepper mottle virus [PEPMOV] = Chilli mottle virus, PepMOV, Pepper mottle potyvirus.
- *Phyllosticta cavendishii* [PHYSCA] = no synonyms were found.
- *Pratylenchus hippeastri* - no EPPO-code and no synonyms were found.
- *Pythium oopapillum* - no EPPO-code and no synonyms were found.
- Spinach latent virus [SPLV00] = GE36 virus, Spinach latent ilarvirus, SPLV.

Information about the pests were also requested from several Swedish experts (see Acknowledgement).

Results and discussion

Biscogniauxia rosacearum [BISCRO] (Fungi) Positive PeMoScoring

No reports of that *Biscogniauxia rosacearum* have been found in Sweden were found.

Additional information to that in EFSA (2022b unpublished): In addition to the hosts already listed, European olive (*Olea europaea*) is also a host of *Biscogniauxia rosacearum* (Spies et al. 2020). Pathogenicity tests showed that the lesions produced were small and indistinct and that it should be considered to be an intermediately virulent trunk pathogen on 'Frantoio' olive trees (Van Dyk et al. 2021).

Coniella granati [CONLGR] (Fungi) Negative PeMoScoring

No reports of that *Coniella granati* have been found in Sweden were found.

Additional information to that in EFSA (2022b unpublished): *Coniella granati* is a widespread pest and in addition to the EU-countries already listed, *C. granati* has also been found in the Netherlands (Farr & Rossman (2022) citing Richardson (1990)). The fungus has also been isolated from many more hosts than the listed *Punica garantum*, e.g., *Vitis vinifera* and *Citrus* sp. (Alvarez et al. 2016), and to cause blight of *Eucalypus* seedlings (Alvarez et al. (2016) citing Sharma et al. (1985)).

Epicoccum sorghinum [LEPTSA] (Fungi) Positive PeMoScoring

No reports of that *Epicoccum sorghinum* have been found in Sweden were found.

Additional information to that in EFSA (2022b unpublished): *Epicoccum sorghinum* is considered to be a cosmopolitan fungus (Pažoutová 2009).

Fusarium andiyazi [FUSAAD] (Fungi) Positive PeMoScoring

No reports of that *Fusarium andiyazi* have been found in Sweden were found.

Diaporthe ambigua [DIAPAM] (Fungi) Negative PeMoScoring

No reports of that *Diaporthe ambigua* have been found in Sweden were found.

Maize yellow mosaic virus [MZYMV0] (Viruses) Negative PeMoScoring

No reports of that Maize yellow mosaic virus have been found in Sweden were found.

Viruses within the genus *Polerovirus* can only be distinguished from each other based on sequencing and the knowledge about their distributions are currently limited (A. Kvarnheden, pers. comm. 2022). However, technical advances such as high-throughput sequencing has shown that several species have wider distributions than previously thought, e.g. recently several species of Poleroviruses were found for the first time in Sweden and Estonia (A. Kvarnheden, pers. comm. 2022; Sõmera et al. 2021). Consequently, it is not unlikely that maize yellow mosaic virus already is present in Europe (A. Kvarnheden, pers. comm. 2022).

Sõmera, M., Massart, S., Tamisier, L., Sooväli, P., Sathees, K., & Kvarnheden, A. (2021). A survey using high-throughput sequencing suggests that the diversity of cereal and barley yellow dwarf viruses is underestimated. Frontiers in microbiology, 12, 992. https://doi.org/10.3389/fmicb.2021.673218

Pepper mottle virus [PEPMOV] (Viruses) Negative PeMoScoring

No reports of that Pepper mottle virus have been found in Sweden were found.

Phyllosticta cavendishii [PHYSCA] (Fungi) Negative PeMoScoring

No reports of that *Phyllosticta cavendishii* have been found in Sweden were found.

Pratylenchus hippeastri (Nematoda) Negative PeMoScoring

No reports of that *Pratylenchus hippeastri* have been found in Sweden were found.

Pythium oopapillum (Oomycota) Positive PeMoScoring

No reports of that *Pythium oopapillum* have been found in Sweden were found.

Spinach latent virus [SPLV00] (Viruses) Negative PeMoScoring

No reports of that Spinach latent virus have been found in Sweden were found.

Additional information to that in EFSA (2022b unpublished): The spread of this virus is not limited to pollen since it may also spread with seeds and be transmitted mechanically (A. Kvarnheden, pers. comm. 2022). Since it has already been detected in tomato in Europe (GB and Serbia) it is very possible that it may come to Sweden, if not already present but unreported (Ward et al. 2022; A. Kvarnheden, pers. comm. 2022).

Ward, R., Fowkes, A. R., Conyers, C., McGreig, S., Pufal, H., Skelton, A., ... & Fox, A. (2022). First report of Spinach latent virus in tomato in the United Kingdom. New Disease Reports, 45(1). https://doi.org/10.1002/ndr2.12062

Conclusion

The search procedure described in the Methods section above did not reveal any information indicating that any of the eleven species has been found in Sweden.

Some noteworthy information was found for some of 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 2022b, unpublished).

Acknowledgement

We would like to thank the following experts on different groups of pests, from the Swedish University of Agricultural Sciences, for answering our request about the presence in Sweden of the above listed pests: Anna Berlin, Hanna Friberg, Anders Kvarnheden, Iryna Matsiakh, Audrius Menkis and Maria Viketoft.

Authors

This report was prepared by SLU Risk Assessment of Plant Pests at the Swedish University of Agricultural Sciences:

Niklas Björklund, Dept. of Ecology, Swedish University of Agricultural Sciences, P.O. Box 7044, SE-750 07 Uppsala, Sweden. Visiting address: Ullsväg 16, E-mail: Niklas.Bjorklund@slu.se

Johanna Boberg, Dept. of Forest Mycology and Plant Pathology, Swedish University of Agricultural Sciences, PO Box 7026, SE-750 07 Uppsala, Sweden. Visiting address: Almas allé 5, E-mail: Johanna.Boberg@slu.se

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