Animal and Plant Health Unit

Network on Risk Assessment in Plant Health Minutes of the 15th meeting

Held on 3-4 December 2019, Parma (IT)
EFSA M06

(Agreed on 23 March 2020)

Participants

- **Network Representatives of Member States (including EFTA Countries):**

Country	**Name**[1]
Austria	Sylvia BLUEMEL
Belgium	Kristien BRAEKEN
Bosnia Herzegovina	Katica ARAR
Bulgaria	Irena BOGOEVA
Croatia	Dario IVIC
Finland	Salla HANNUNEN
France	Christine TAYEH (Web)
Germany	Ernst PFEILSTETTER
Greece	Athanasios LAGKOURANIS
Hungary	Gabor HOLLO
Ireland	Oliver MCEVOY
Lithuania	Loreta VALATKEVIČIENĖ
Montenegro	Tamara POPOVIC
Netherlands	Dirk VAN DER GAAG
Poland	Tomasz KALUSKI
Portugal	Ana Paula CRUZ DE CARVALHO
Slovenia	Alenka ZUPANČIČ
Serbia	Ana VUCUROVIC
Spain	Belén MARTÍNEZ MARTÍNEZ
Turkey	Hasenem ERTAŞ
United Kingdom	Richard MCINTOSH

- **Observers:**

Federal Office for Agriculture (FOAG)	Peter KUPFERSCHMIED
European and Mediterranean Plant Protection Organization (EPPO)	Anne-Sophie ROY

- **European Commission (EC):**

EC DG SANTE	Panagiota MYLONA

- **EFSA:**

Animal and Plant Health Unit:

Caterina CAMPESE, Laura CAROTTI, Ciro GARDI, Mart KINKAR, Nikolaus KRIZ (Head of Unit), Maria Rosaria MANNINO (chair), Marco PAUTASSO, Maria Chiara ROSACE, Oresteia SFYRA, Giuseppe STANCANELLI (PLH team leader), Franz STREISSL, Emanuela TACCI, Sara TRAMONTINI

Assessment and Methodological support Unit:

Olaf MOSBACH-SCHULZ.

- **Tasking Grant Expert**

Magali LARENAUDIE, ANSES – French Agency for Food, Environmental and Occupational Health & Safety.

1. Welcome and apologies for absence:

The Head of the Animal and Plant Health Unit welcomed the participants. The chair acknowledged the participants. Apologies were received from, Anthemis MELIFRONIDOU (Cyprus), Vaclav STEJSKAL (Czech Republic), Anne Christine HELMS (Denmark), Birger ILAU (Estonia), Bruno FARAGLIA (Italy), (Luxemburg) Monique FABER DECKER, (Malta) Marthese LICARI, (North Macedonia) Ivica ANGELOVSKI, Micael WENDELL (Norway), (Portugal) Ana Paula CRUZ DE CARVALHO, (Serbia) Kristof CAPIEAU, Katarina Benovska (Slovakia), Anita BENKO (Slovenia).

2. Adoption of agenda

The agenda was adopted without changes.

3. Overview of EFSA Plant Health activities 2019-2020

EFSA presented an overview on the Plant Health main activities developed during the last year. Updates regarding *Pest categorisation, Quantitative pest risk assessment, Commodity risk assessment (high risk plants), Pest surveillance* and *Horizon scanning* were provided and discussed. Furthermore, the achievements of the European Conference on *Xylella fastidiosa* of October 2019, in Ajaccio were summarised.

Additional information concerning the number of new/already adopted dossiers (High risk plants mandate) and the pest survey cards (Surveillance mandate) were provided in response to participants' questions. Concerning the *Scolytinae* listing, EC specified that the outcome of the EFSA pest categorisation on non-EU Scolytinae will be discussed at the relevant working group in the beginning of 2020.

4. Report on the *Xylella fastidiosa* EFSA conference

In order to share all the information gained during the European Conference on *X. fastidiosa* 2019, EFSA provided a dedicated presentation to it. The highlights reported were about the active participation to the conference, the high intensity of the research activity in the EU, the considerable value of the common networking, the involvement of young researchers and the strengthened communication with stakeholders. Furthermore, the key issues and knowledge gaps were investigated (host range and pathogenicity, spread capacity, surveillance and detection, sustainable control measures) in order to guide the future research towards them. Most of the questions raised regarded EFSA's future role in the field. At the present, still no further risk assessment updates are possible, according to conference's conclusion. Hopefully, it will be updated when more resolution data are provided.

5. Expert Knowledge Elicitation (EKE) in Plant Health

5.1 EFSA contribution to ranking of EU candidate priority pests + Framing the question – Example: Priority Pests

In agreement with Article 6(2) of the plant health Regulation (EU) 2016/2031, the EC has been empowered by the Council and European Parliament to adopt delegated acts establishing a list of Union quarantine pests which qualify as "priority pests". The prioritisation is based on the severity of the economic, social and environmental impact that those pests can have in the Union territory. The EC Directorate-General Joint Research Centre (JRC) was designated for developing a methodology based on a multi-criteria decision analysis (MCDA) and composite indicators.

In this context EFSA provided technical and scientific data related to those pests, mainly in terms of capability of establishment, spread, time to detection and potential impacts. Expert knowledge elicitation was the methodology adopted by EFSA in order to provide these parameters in a consistent and transparent manner. The participants received an overview of the achievements obtained in

almost one year assessing the 28 proposed candidate pests. The process was facilitated by regular meetings with the relevant EC Expert Group on Plant Health Legislation and at the end of the process EFSA published one scientific report on the EFSA Journal detailing the methodology and reviewing the general results (https://doi.org/10.2903/j.efsa.2019.5731). 28 technical reports, one for each pest, providing the full assessment and the EKE results pest by pest, were published on Zenodo. The EFSA datasets obtained from expert assessments informed the JRC indicators and finally contributed to ranking the 28 candidate pests. This ranking facilitated the decision-making process regarding the establishment of the current list of 20 priority pests (Commission Delegated Regulation (EU) 2019/1702).

- The participants addressed questions on
  - Environmental component of the impact indicators: how to ensure that it properly covers all the different MSs natural environments and how the environmental impact could be properly assessed without overestimation.
  - Social component of the impact indicators, in particular about the effect of figures on job losses.
  - Tolerance/resistance at varietal level: the impact was separately assessed in case of substantial difference among groups of host species, based on experts' decision at the phase of "scenario definition". The same principle could be applied at varietal level, as in the case of citrus canker.
  - Quality losses of fruits: they were included in the analysis when causing a precise change in the final use of the product (e.g. cereals for human consumption to animal feed). However, most of the time, the quality losses can be assumed as full losses due to extreme fall in the final price of the product and were therefore quantified as yield losses during the EKE process.
  - Knowledge requirements: in order to properly define the scenario and conduct the EKE, a different group composition was identified for each pest. The specific groups were composed by experts on the pest and on the main crop.

5.2 High risk plants and commodity risk assessments

Article 42 of the plant health Regulation (EU) 2016/2031 introduces the concept of High-Risk Plant, defined as a plant, plant product or other object that poses a risk of pests to an unacceptable level for the Union territory. Following a request of the EC, EFSA published a technical report specifying the information required for the assessment. Furthermore, a format for the preparation and submission of dossiers was developed. The aim of these dossiers is to enable third countries in providing the information required by EFSA for the Commodity Risk Assessment. To support the potential applicants from third countries, EFSA published three main documents:

- the technical report "Information required for dossiers to support demands for import of high risk plants, plant products and other objects as foreseen in Article 42 of Regulation (EU) 2016/2031"
- the scientific opinion "Guidance on commodity risk assessment for the evaluation of high risk plants dossiers"
- the webinar guide "How to prepare dossiers to support demands for import of high-risk plants and plant products".

The procedure used for the Commodity Risk Assessment, and therefore for the dossier evaluation, was explained, presenting the case of study *Albizia julibrissin* from Israel. In particular, it was presented the EKE carried out for evaluating the effect of the phytosanitary mitigation measures on the pest freedom of the plants of *A. julibrissin* destined to export.

During the discussion it was asked if data on interceptions were taken into account in the assessment procedure. It was explained that data on interceptions, if any, will be reported in the pest data sheet as supporting information for the experts involved in the EKE.

Finally, the upcoming activities on High Risk Plants were presented: more than 10 dossiers are expected to be received in the beginning of 2020. Each dossier and the consequent commodity risk assessment will involve the performance of the EKE.

5.3 Exercise on Expert Knowledge Elicitation + Q&A

To conclude, a practical exercise was performed involving all participants. First literature extracts on the spread rate of *Bactrocera dorsalis* were given, then the exercise run to simulate the established procedure. The procedural steps were the following:

- summarise evidences,
- list uncertainties and define the best- & worst-case scenarios,
- individually judge the credibility range,
- median estimate and its precision,
- discuss the results within the group,
- combine judgements by behavioural aggregation,
- finally, express the uncertainty by a fitted distribution.

The questions raised during the practical exercise regarded the judgement precision and the possible influences produced by expert groups of different size and backgrounds. EFSA answered that the expert groups were formed according to a preference for heterogenous compositions.

6. Update on the progress of the Horizon scanning project

6.1 Media monitoring

In the framework of the new European Plant Health regime, the EC DG SANTE (Directorate General Health & Food Safety) requested EFSA to carry out a horizon scanning exercise on plant health threats for the European Union territory. The Horizon Scanning exercise started in 2017, according to the EC mandate, which will last until the end of 2020.

EFSA presented an update of the project including the ongoing collaborations with the EC Directorate-General Joint Research Centre (JRC) and the French Agency for Food, Environmental and Occupational Health & Safety (ANSES) in the framework of a tasking grant on Horizon scanning. EFSA is assisted in its tasks by experts in plant health of an EFSA ad hoc working group.

The main output of the project are two monthly newsletters gathering results of the media and the scientific monitoring on new plant health threats, that can be of relevance for EU. These newsletters are monthly presented to the EC and Member State representatives in the Standing Committee of Plants, Animals, Food and Feed (PAFF), section Plant Health. Up to November 2019, in total 32 Media Newsletters have been published. They are available at the following link:

https://efsa.onlinelibrary.wiley.com/doi/toc/10.2903/(ISSN)1831-4732.Horizon-scanning-for-plant-health.

The latest update of the IT platform of MEDISYS (Medical Information System) for the automated screening of media and scientific articles built by DG JRC was presented. The number of feeds[2] monitored are, at the present, 27850, coming from 10423 sources, from 201 countries in 66 languages. In the past year, members of the Network contributed to the enrichment of the ontology with more than 1200 new keywords (common names of pests in different languages). Network members were invited to indicate media and scientific sources of national level that are relevant for Plant Health, in order to improve the coverage of the monitoring carried out. A report on the media monitoring activities will be finalised in the first quarter of 2020.

6.2 Scientific literature monitoring

Another fundamental cornerstone of EFSA's collaboration with the JRC and ANSES in the Horizon scanning exercise is the monitoring of the scientific literature, the outcome of which is included in the monthly scientific newsletter.

The scientific newsletter is still in a pilot phase, with 11 editions produced. During the last year, the scientific monitoring has substantially improved. From November 2018 to November 2019, the scientific sources explored were increased from 300 to 450. In the pilot phase, EFSA is testing the IRC monitoring tool against a proved

[2] Feed is considered one source or the parts of one source generating continual flows of information. In one source, e.g. a scientific journal, different sections generate relevant information to be monitored (e.g. both "current issue" and "first online" pages).

database of scientific literature. For this purpose, Scopus was selected from the available databases, considering that it is faster than other sources to add articles.

In the ongoing pilot phase, Scopus is also used to complete the screening of relevant scientific articles to be included in the newsletter. However, the percentage of articles included in the newsletter that have been found through Scopus has steadily decreased during the past year (from 65% in 2018 to 25% in 2019), becoming lesser needed and it is supposed to end in 2020.

Increasing to 100% the percentage of articles included in the newsletter found through the MEDISYS platform, adding new scientific sources, finalising the pilot phase of the scientific newsletter and publishing it on the EFSA journal are the objectives of the tasking grant renewal between EFSA and ANSES for the next three years.

The participants raised questions about the use of Scopus. EFSA reiterated that its use is going to end together with the pilot phase. Moreover, it was explained that the main difference between the Scopus database and the MEDISYS is that only the latter is able to retrieve information from the sources at hourly intervals, providing in this way always the latest updates.

During the discussion clarifications were given by the EC and EFSA on the mandate. Concerning the potential overlapping of the activities of EFSA and EPPO in the domain of the horizon scanning, the interest in collaboration between these organisations was stressed and the established deadline of end 2020 for a common discussion was recalled. It was also underlined that the main goals of the two scanning activities remain separate. EFSA operates under an EC mandate, and the work aims at not only identifying plant health threats for the EU territory, but also developing an automatized procedure to carry out this activity. The tool developed in collaboration with JRC is based on machine learning technics. It can investigate a high number of sources and it highlights the relevant articles as soon as they are published online. On the other hand, EPPO mainly concentrates its efforts on the screening of the scientific literature and considers in its reports the official notifications directly provided to the organisation by its member countries.

The role of European Reference Laboratories in reviewing the literature on detection and identification methods was also recalled during the discussion.

6.3 Results of pest ranking

ANSES, the partner of EFSA in the tasking grant on Horizon scanning presented the ranking system of non-regulated pests in the EU identified via the Horizon scanning project. The whole procedure was explained step by step.

The first step consists in gathering reliable general datasets (for example trades and climate data). Then, pest-related data are retrieved and used to answer 16 questions. The answers are of various types: the binary ones ("0" or "1") are used to score answers like the existence of regulated pathways traded in the EU. Ordinal scales are used to score answers like the damages caused by the pest in its current area of distribution (semi-quantitative approach). The simple counting is used to score criteria as the presence of the pest in the PRA area. Quantitative answers are given to measures like the hectares of host plants cultivated in EU for a given

pest. The procedure takes into account the uncertainty when data are missing. A score matrix is constructed with 16 columns recalling the 16 criteria and rows representing pests. The score matrix is imported in Visual Promethée (VP), an interface of the Promethée method (Preference Ranking Organization Method for Enrichment Evaluation). This tool is an outranking method based on pairwise comparisons, so the ranking is dynamic and relative. In parallel, the uncertainty matrix is constructed (1 is the value indicating uncertainty in the available data, 0 is the value when no uncertainty is assessed). In the results, ranking and uncertainty are illustrated on the same figure.

The main strengths of the ranking system were highlighted: speed of execution (it is estimated that it takes a few hours to answer all the questions for a single pest); proactive approach (the approach makes it possible to detect dangerous pests); generic approach (it makes it possible to deal with a wide diversity of pests); transparency (missing data are tracked and uncertainty is indicated in the final results); simplicity (it only requires the use of Excel and a graphical interface). In addition, the exercise is carried out without the need for in-depth expertise in pathosystems and is based on a semi-quantitative approach.

Finally, the ranking results were presented. 67 pests which are not regulated the EU were found through the monitoring from February 2017 till May 2019 and were subsequently ranked. 46 of these pests came from media monitoring, 21 from scientific literature monitoring. Moreover, 7 scenarios with different weightings criteria were run to identify 17 "core pests" with a constant high ranking, whatever the weighting used.

Many questions were raised as to whether positive controls were included, how they were used and whether the ranking result was compared with expert judgement. The need to make the system dynamic was also expressed. Other comments stressed the need to consider sector- and industry-specific impacts in the ranking. Some comments were made on the position of certain pests in the ranking list, disagreeing on the order of pests. It was also observed that polyphagous pests are generally at the top of the list. In response, it was clarified that the 7 different scenarios considered in the analysis could be used to give more plasticity to the procedure. In addition, further work could be carried out soon to adapt the methodology to the different objectives of risk managers.

7. EFSA Toolkit for pest surveys

The EFSA Art. 31 mandate on pest surveillance and its progress were presented. In the context of the new plant health regulatory framework, EC requested EFSA to provide assistance in order to facilitate the MSs in the planning and execution of their survey activities. In particular, EFSA was asked to provide guidelines for the surveillance of 3 pilot organisms (*Phyllosticta citricarpa, Xylella fastidiosa* and *Agrilus planipennis*) and pest survey cards. Therefore, EFSA presented the toolkit developed. It includes the Pest Survey Cards, the general support provided to MSs (i.e.: workshops) and the Survey Guidelines.

Pest survey cards on 52 different pests will be finalised within the timeframe of the mandate, of which 19 are already available online:

(https://efsa.onlinelibrary.wiley.com/doi/toc/10.1002/(ISSN)1831-4732.toolkit-plant-pest-surveillance).

They include pest classification and biology, detection and identification methods, key elements for survey design.

The support to MSs was mainly offered through workshops dedicated to the pilot pests, focusing also on the use of the statistical tools developed by EFSA that are part of the toolkit. Citrus black spot (causal agent *Phyllosticta citricarpa*) was the subject of the workshops held in Malta (October 2018) and in Lisbon (November 2019). The emerald ash borer (*Agrilus planipennis*) was the subject of the workshop held in Tallinn (January 2019), while *Xylella fastidiosa* was further analysed during the workshop in Parma (March 2019). During these workshops the main aspects discussed were sharing, integrating and collecting feedbacks on the toolkit.

Concerning the Survey Guidelines, they were diversified depending on the aim of the survey: detection, delimiting and monitoring surveys. In this way specific advice was given, but still based on the same statistical principles. They include for example pest classification and biology, detection and identification methods, key elements for survey design.

The main concern highlighted by participants was about the dynamicity of the system. EFSA replied that the final platform is going to be dynamic, as the Survey Cards will be updated over time based on new information[3].

Participants agreed on the importance of statistical-based surveys. However, they mentioned the difficulty of using the method on pests for which data are scarce. Therefore, they suggested implementing the statistical-based survey methodology gradually, starting with pests for which data are available.

8. Assessing the probability of freedom from pine wood nematode based on 19 years of surveys

The Finnish Food Authority gave a presentation on the surveillance carried out over 19 years, aimed to assess the probability of country freedom from pine wood nematode.

The regulatory background of this activity was presented, in particular Articles 22 and 24 of the new plant health Regulation (EU) 2016/2031, requiring surveys of quarantine pests to be carried out by MS with a high degree of confidence for the timely detection of those pests.

The surveys were conducted in wood and in the vector, collecting respectively 8097 and 47 samples, in the period 2000-2018. The aims of the surveys were: 1) to justify import requirements and to facilitate export, 2) to make possible the

3 Development occurred after the meeting: The content of the EFSA pest survey cards is reproduced as a live document available at: https://efsa.maps.arcgis.com/apps/MinimalGallery/index.html?appid=f91d6e95376f4a5da206eb1815ad1489
where it will be updated whenever relevant new information becomes available.

early detection of the nematode and therefore facilitate the eradication. For both, specific design prevalence and target area (region or country) were defined. The sensitivity of the annual surveys carried out on wood and vectors, at regional and country level were assessed through the tool Ribess+ provided by EFSA and presented. Furthermore, the probability of freedom achieved in 2018 on the basis of data collected in the whole period for import-export and early detection surveys were illustrated. The results support the assumption that Finland is a pest free country. About surveys implemented to achieve the early detection, it was concluded that they were not sufficiently extensive to ensure that outbreaks would be discovered early enough to allow their timely eradication. A general conclusion underlined the need to find the appropriate design prevalence taking also into account the risk management capacity for surveys.

Questions were raised on the graphical representation of the probability of freedom, on the level of inspection of trees (ground level) as well as on the practicality of this methodology in Finland. In similar situations, characterized by very high pine densities (million trees), thousands of samples would have to be collected, which calls into question the capabilities of NPPOs to support the workload.

9. How much time does it take to inspect one tomato glasshouse?

The Netherlands Food and Consumer Product Safety Authority made a presentation on "How to inspect a tomato glasshouse and how much time does it take?". The Dutch surveillance program inspect yearly 125 glasshouses circa, however recognising all the outbreaks is still a difficult task. A survey was carried out to understand what is the probability to detect a (potential) quarantine pest in a glasshouse if it is present, how to optimize inspections (spend more time in one glasshouse or inspect more glasshouses). The target population was composed by around 440 glasshouses with an average size of 4 hectares. Harvest trollies were used for the inspections. The results were between 12 or 14 hours per glasshouse (95% chance to detect an incidence of 1% on 300 plants), depending on plant disposition. About the possibility of inspecting more than one glasshouse per time, it was reminded that one inspector is not allowed to visit more than one glasshouse on the same day.

The discussion focused on the unreliability of analysing only lower leaves, on the need of collaboration between authorities, company advisors and growers to improve controls (monetary compensations) and on the automatization of visual inspections via cameras and drones.

10. European Reference Laboratory for insects and mites

The Austrian Institute for Sustainable Plant Production, AGES, presented the European Reference Laboratory (EURL) for Insects and Mites. The European Reference Laboratories were designated under the Commission implementing Regulation (EU) 2019/530. The EURL for insects and mites is a consortium between the Plant Health laboratory of ANSES in Montpellier (FR), specialised in entomology and invasive plants, and the Institute for Sustainable Plant Production of AGES in Vienna (AT). Staff, facilities and equipment of the consortium were

presented with a focus on their huge reference collections and analysis equipment. The aims of the EURL's activities, defined under the Regulation (EU) 2017/625, as well as the work programme of the period 2019-2020 were presented. They include the following activities: recommend methods to national laboratories, supply reference material (specimens), organise proficiency tests, where relevant cooperate to develop new methods on a list of target species, provide support, trainings and information, support the EC, collaborate with laboratories in third countries and with EFSA, test and list recommended DNA extraction kits, build an EURL reference collection of insects and mites. The ongoing and planned activities on a list of 18 pests considered of priority in the working programme were presented. The website of the EURL for insect and mites was also presented (https://eurl-insects-mites.anses.fr/).

The discussion focused on accreditation procedures for specific methods, the need to define priorities in the work to be done and the relationship between EPPO and EU diagnostic methods. Concerning this last point, the EC clarified that although EPPO diagnostic protocols in some cases include several methods, the work of the EURLs should consider the need to promote uniform practices in the EU regarding the development and use of diagnostic methods. The scope and timing of their activities are included in the annual programmes.

11. Revision of the EPPO datasheets

EPPO presented a Revision Project of Datasheets. The project goals highlighted were revising existing EPPO Datasheets and preparing new ones when missing; transforming static documents into dynamic datasheets; storing dynamic datasheets in the EPPO Global Database (GD) to facilitate maintenance. A list of 100 pests considered of priority has been already established and a pilot for eleven of them has been launched collaboration with Euphresco and Ciheam.

12. A new digital collaboration space for the PLH Network

A brief presentation was given by EFSA to introduce the PLH Network to the new digital collaboration space, Office 365, which includes the use of Sharepoint and Teams. A short demonstration followed.

13. Any Other Business

None.

14. Meeting closure and wrap up

The date of the next meeting of the Network on Risk Assessment in Plant Health was defined after the meeting. It will be held in Parma, on 2 and 3 December 2020.

The Chair closed the meeting.