EFSA support for the identification of the *Union quarantine pests* qualifying as *priority pests*

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EFSA Working Group on Priority Pests

16/01/2018 Bruxelles

efsa
European Food Safety Authority

EC DG SANTE request to EFSA - 22/06/2017

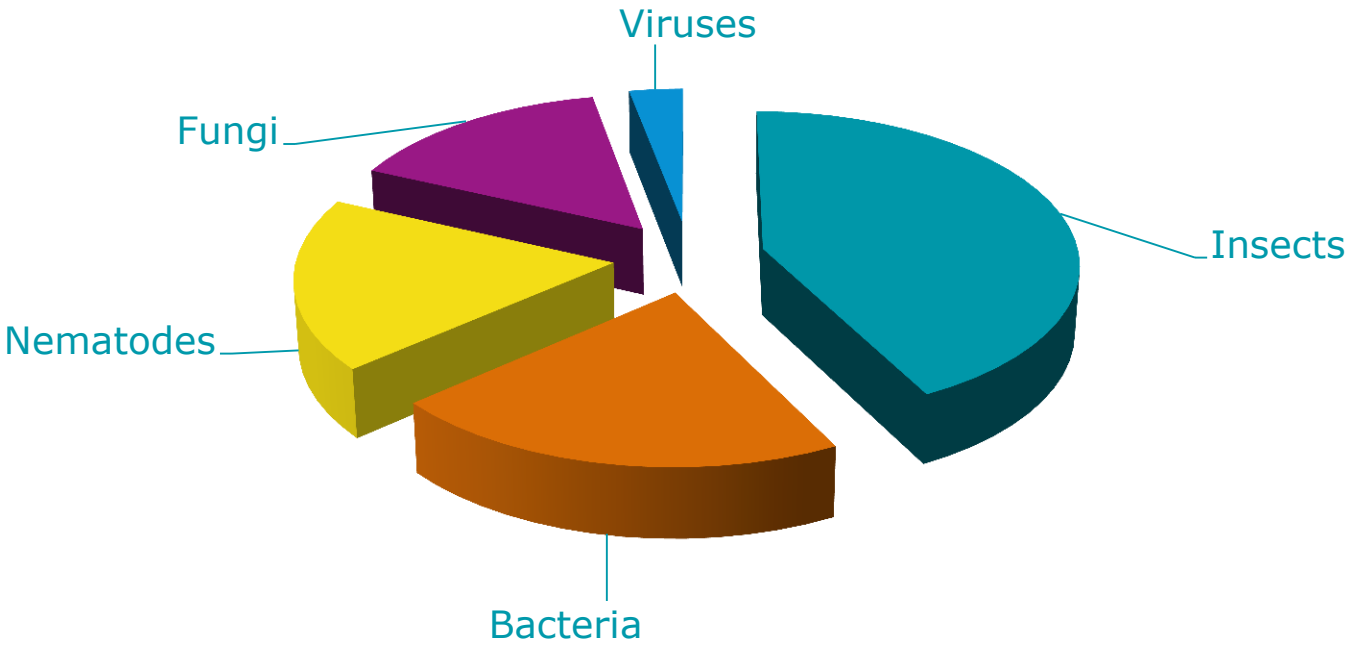
Request for technical assistance Art.31 Reg.EC 178/2002 to support Commission Joint Research Centre project by providing for each quarantine pest candidate as a Union priority pest:

- An indication of its potential establishment capacity in the EU at NUTS2 level;
- Available data on its potential consequences taking into account its economic and environmental impact (e.g. crop losses in terms of yield and quality, needs for additional control measures, in particular, when data are available, need for any significant and long-term increases of the use of plant protection products).
- Pest categorisation of candidate priority pests to be prioritised

EFSA WORKING GROUP

- Tomasz Kaluski and Giuseppe Stancanelli, EFSA Animal and Plant Health Unit
- Olaf Mosbach Schulz, EFSA Assessment Methodology Unit
- Carsten Behring, EFSA Digital Transformation Systems Unit
- Gianni Gilioli, Università di Brescia, EFSA Plant health Panel
- Trond Rafoss, Norwegian Institute of Bioeconomy Research, EFSA Plant health Panel
- Richard Baker, External expert (pest risk assessment, climate suitability)

Candidate “EU priority pests”, by taxonomy



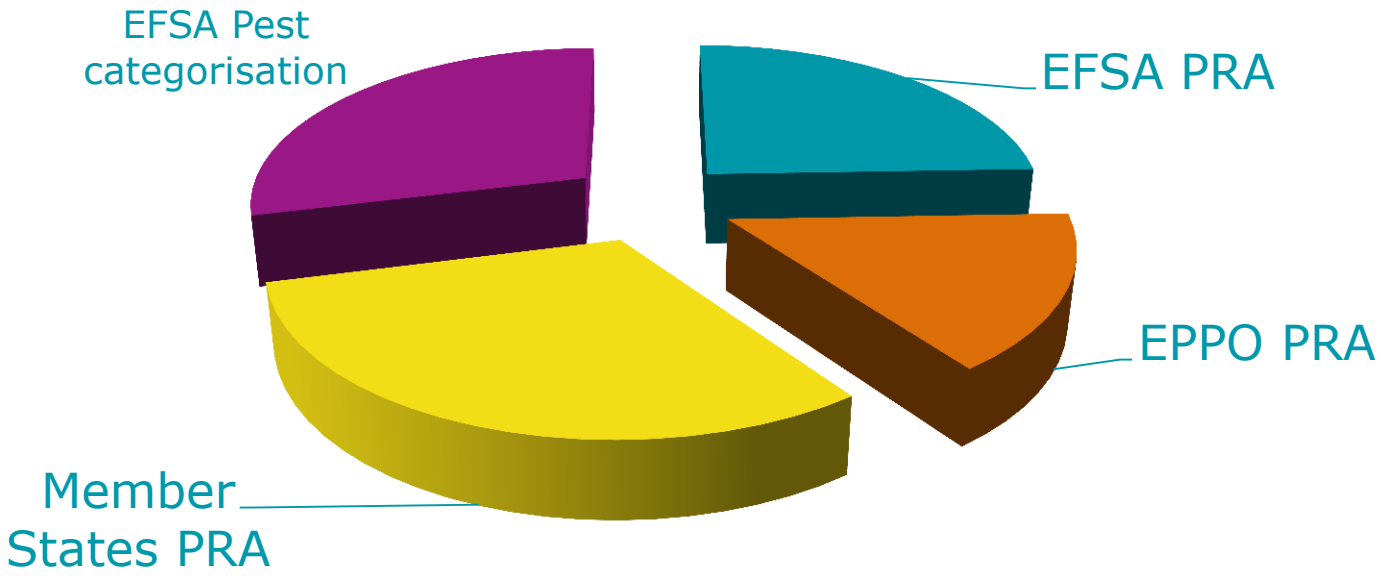
Candidate “EU priority pests”, by taxonomy

- Insects (42%)
  - *Agrilus anxius*
  - *Agrilus planipennis*
  - *Anoplophora chinensis*
  - *Anoplophora glabripennis*
  - *Dendrolimus sibiricus*
  - *Anthonomus eugenii*
  - *Bactericera cockerelli*
  - *Conotrachelus nenuphar*
  - *Monochamus alternatus* (*Monochamus spp*. (non-European))
  - *Pissodes spp*.
  - *Polygraphus proximus* (*Scolytidae spp*. (non-European))
  - *Popillia japonica*
  - *Rhagoletis pomonella* (Tephritidae (non-European))
  - *Thrips palmi*
- Bacteria (21%)
  - *Candidatus* Liberibacter spp. (citrus greening)
  - *Clavibacter michiganensis* subsp. *sepedonicus*
  - *Ralstonia solanacearum*
  - *Xylella fastidiosa*
  - *Erwinia stewartii*
  - *Xanthomonas citri*
  - Grapevine flavescence dorée

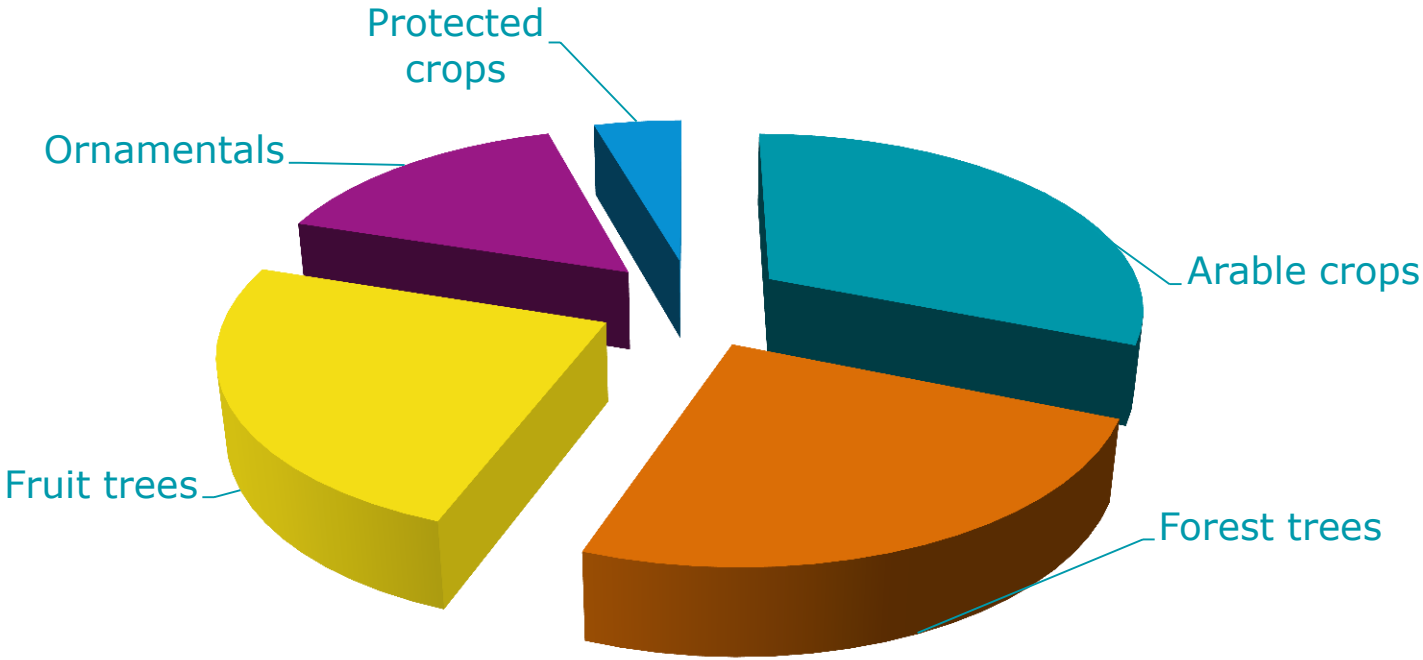
Candidate “EU priority pests”, by taxonomy

- Nematodes (18%)
  - *Bursaphelenchus xylophilus*
  - *Globodera rostochiensis*
  - *Globodera pallida*
  - *Meloidogyne chitwoodi*
  - *Meloidogyne fallax*
  - *Nacobbus aberrans*
- Fungi (15%)
  - *Ceratocystis fagacearum*
  - *Phyllosticta citricarpa*
  - *Synchytrium endobioticum*
  - *Fusarium circinata* (previously *Gibberella circinata*)
  - *Tilletia indica*
- Viruses (3%)
  - Tomato ringspot virus

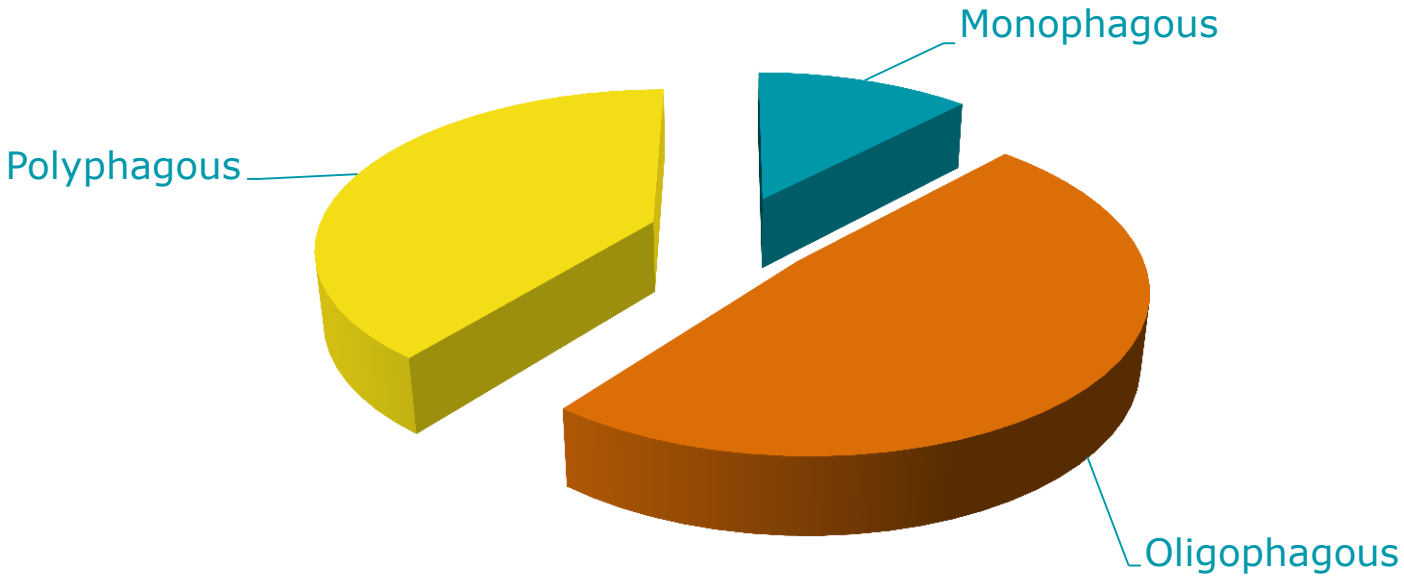
Candidate "EU priority pests, by PRA and pest categorisations



Candidate “EU priority pests”, by types of hosts



Candidate "EU priority pests", by number of hosts



Monophagous – hosts within one genus
Oligophagous – hosts within one family
Polyphagous – hosts within more than one family

Candidate “EU priority pests”, by presence/absence in EU

Methodology

- Extraction of information/data from PRAs or pest categorisations by EFSA, EPPO and/or EU MS
- When necessary and feasible, re-evaluation of original data sources and references
- For important data gaps or insufficient data quality, ad hoc literature search
- Structured expert judgement
- Uncertainty according to the EFSAs Guidance on Uncertainties in Scientific Assessments
- Assessment at NUTS2 level

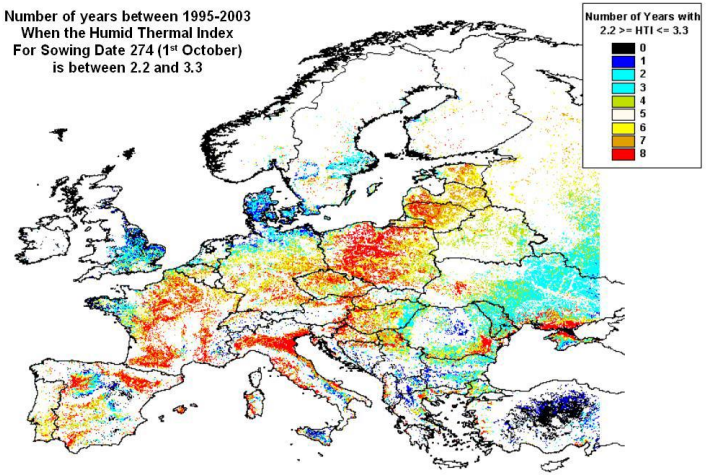
Data extracted/assessed

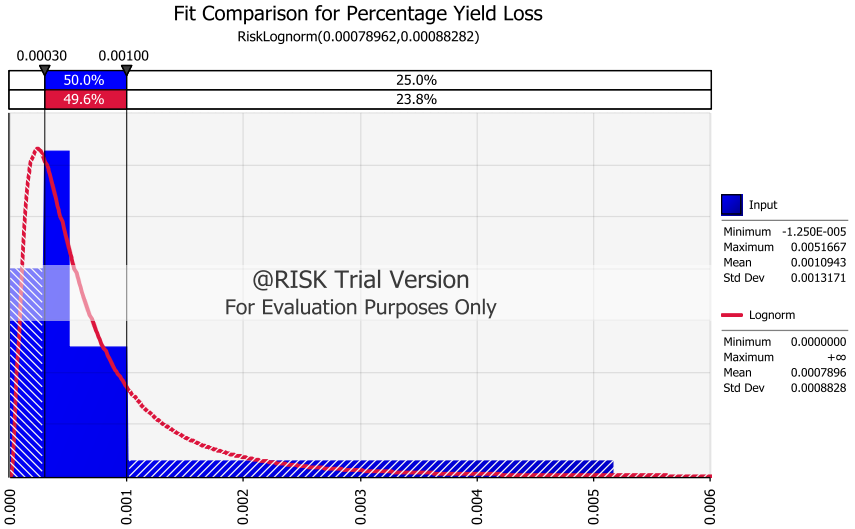
- Pest geographical distribution and quarantine status
- List of host plants
- Host plants maps/distribution
- Vectors
- Climate suitability
- Impact by yield losses
- Impact by quality losses
- Need for additional pest control (e.g. pesticide treatments, cropping practices)

Reference scenario for impact assessment

- The pest is already present throughout its area of potential establishment in the EU. The pest has spread to its maximum extent and there are no ongoing eradication or containment programmes.
- The pest has reached its maximum potential abundance, at each location, based on the current environmental conditions and crop production practices (e.g. pest management measures including the efficacy of pesticides targeted at other pests and agronomic factors).
- EFSA evaluates the yield/quality losses in a time frame long enough to take into account the temporal variation in pest population dynamics (e.g. population cycles), impacts, and cropping practices (e.g. the crop replacement time).
- EFSA uses current definitions and thresholds to assess quality losses.

Tilletia indica as case study: yield losses





Fitted values of the uncertainty distribution on the average proportion of yield loss in diseased fields in [%]

	1st percentile	25th percentile	50th percentile	75th percentile	99th percentile
Expert elicitation	0%	0.025%	0.05%	0.1%	0.5%
Fitted distribution	0.0065%	0.0287%	0.0526%	0.0966%	0.428%

Work in progress

- *Tilletia indica*: quality losses and need for additional pest control
- Other two pilots: citrus canker and *Agrilus anxius*
- Indicators for difficulty of eradication
- Data collection on the other candidate priority pests

Some of the challenges

- Type of data required for these impact assessments often missing in PRAs
- Assessment is time and resources limited
- Pest impact on annual vs. perennial crops e.g. trees

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