EPPO’s work on biological control agents (BCAs)

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3. The EPPO Panel on BCAs
4. The EPPO Standards on BCAs
5. Challenges for work on BCAs
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1. The European and Mediterranean Plant Protection Organization

- Regional Plant Protection Organization
- Created in 1951, now 52 member countries
- Supports National Plant Protection Organizations (NPPOs) of member countries
- Cooperation and harmonization
- Regional standards on Phytosanitary regulation and Plant Protection Products
- Technical meetings of experts
- International conferences
- Sharing information and expertise through networks
- Dissemination of information on plant health
1. Remit of EPPO

- Plant quarantine
- Plant certification and Regulated Non-Quarantine Pests
- Invasive alien plants
- Biological control agents
- Efficacy of plant protection products

By......

- Developing and adopting regional technical Standards,
- Pest Risk Analysis and prioritization of pests (plant pests and invasive alien plants),
- Dissemination of information,
- Facilitating networking through Panel meetings, conferences and workshops.
2. Types of biological control

Three main types:

(1) **Classical biocontrol**: Introduction and release of non-indigenous BCA to control a pest population

(2) **Augmentative biocontrol**: mass production and periodic release of a large number of BCAs (indigenous or non-indigenous)

(3) **Conservation biocontrol**: manipulation of habitats to promote indigenous BCAs
3. EPPO/IOBC Panel on Biological Control Agents

- The joint EPPO/IOBC Panel on “Introduction of Exotic Biological Control Agents” was established in 1997 also involving biological control industry.

- Since 2000 the Panel changed its name several times and became the ‘Joint EPPO/IOBC Panel on Biological Control Agents’.
3. EPPO/IOBC Panel on Biological Control Agents

- Only covers *invertebrate biological control agents*, microbiological control agents are generally covered by regulations for plant protection products.

- The Panel is focused on the *safety aspects of BCAs use*.

- The Panel *supports* the work of *national authorities* with recommendations:
  - first import of BCAs for research
  - import and release of non-indigenous BCAs
  - “Positive lists”
  - DSS for import and release of BCAs of plant pests

- Series PM 6 “Safe use of biological control” available on the EPPO website [www.eppo.int](http://www.eppo.int)
4. EPPO Standards on BCAs

EPPO Standards on import and use of Biological Control Agents

Published Standards

Since 1997, the Panel has developed the following standards. All can be retrieved from this website in our section on Standards. Files are also stored in the EPPO Global Database.

- PM 6/1 First import of exotic biological control agents for research under contained conditions
- PM 6/2 Import and release of non-indigenous biological control agents
- PM 6/3 List of biological control agents widely used in the EPPO region
- PM 6/4 Decision-support scheme for import and release of biological control agents of plant pests – new
4. EPPO (1999) PM 6/1 First import of exotic biological control agents for research under contained conditions

- Provides guidelines for the first import of exotic biological control agents for research under contained conditions
- Adopted by the EPPO Council in 1999
- Intended to be used by NPPOs or equivalent authorities responsible for introduction of BCAs
- Recognizes that introduction of some BCAs may present certain risks
- Provides guidelines on the notification to be prepared by an organization for the import of an BCA for research
- Provides national authorities with a guideline on safe handling of an BCA under research to avoid risks
- Provides some general safeguards measures for import of non-indigenous BCAs
4. EPPO (2014) PM 6/2 (3) Import and release of non-indigenous biological control agents

- Provides guidelines for the import, releases and required application procedures for non-indigenous biological control agents

- Adopted by the EPPO Council in 2000 and revised in 2010 & 2014

- Provides recommendations to EPPO countries on measures to be taken for safe import and releases of BCAs

- Provides guidelines on the dossier to be prepared by the applicant for import and releases of BCAs

- Provides guidelines on the evaluation of the dossier by national authorities

- Provides application forms for import, shipment, rearing and release of BCAs with the guidelines for the completion of this form
4. EPPO (2019) PM 6/3 List of biological control agents widely used in the EPPO Region

- First adopted by the EPPO Council in 2001
- Provides recommendations to EPPO countries on BCAs for which simplified procedures may be applied for their import and releases based on good experience
- Includes three lists (first two are the “Positive list”)
  - commercially used BCAs,
  - successfully introduced classical BCAs,
  - BCAs formerly recommended by EPPO.
- Annual revisions of the “Positive list” decided by the joint EPPO/IOBC Panel and approved by the EPPO Working Party on Phytosanitary Regulations
Main criteria for inclusion of a BCA to the “Positive list”:

1) commercially available BCA which is either
   - indigenous and widespread in the EPPO region or
   - established and widespread in the EPPO region or
   - has been used for at least 5 years in at least 5 EPPO countries or

2) successfully established classical BCA,

For both categories:
- no recognized adverse effects have been reported

On EPPO “Positive List”:
- > 100 BCAs commercially used
- > 40 BCAs successfully introduced

Procedures and introduction PM 6/3 in the process of being updated
APPENDIX I - Commercially used biological control agents

Further details are given for each agent on its name, common synonyms, taxonomic classification, the pests against which it is mostly targeted, its origin, the date of first use as a commercial agent. Countries where it is or has been used in the EPPO region are listed, on the basis of information provided by the industry and by some EPPO countries. This information was not available from all EPPO countries and may therefore be incomplete. Each agent has been used commercially at some time in the countries listed, but in some cases may no longer be commercially available or used there. Information is also given, when available, on natural distribution of the agent in the EPPO region, whether it is used in the field or under protected conditions. Additional remarks are appended when needed.

**INSECTA**

**Coleoptera**
- Adalia bipunctata
- Aleochara bilineata
- Atheta coriaria
- Chilocus baileyi
- Chilocus bipustulatus
- Chilocus circinatus
- Chilocus nigrita
- Coccinella septempunctata
- Cryptolaemus montrouzieri
- Delphastus catalinae
- Propylea quatuordecimpunctata
- Rhyzobius lophanthae
- Rodolia cardinalis
- Scymnus rubromaculatus
- Stethorus punctillum
- Compairella bifasciata
- Cotesia marginiventris
- Dacnusa sibirica
- Diglyphus isaea
- Encarsia citrina
- Encarsia formosa
- Encyrtus aurantii
- Encyrtus infelix
- Ephedrus cerasicola
- Eremocerus eremicus
- Eremocerus mundus
- Gyranusidea litura
- Leptomastidea abnormis
- Leptomastix dactylopii
- Leptomastix epona
- Metaphycus flavus
- Metaphycus helvolus
- Metaphycus lounsburyi

SAFE USE OF BIOLOGICAL CONTROL

LIST OF BIOLOGICAL CONTROL AGENTS WIDELY USED IN THE EPPO REGION

PM 6/3 English

2020 Version
4. EPPO (2018) PM 6/4 Decision-support scheme for import and release of biological control agents for plant pests

- The scheme assesses risk and benefits

- The scheme is universal for BCAs (classical and commercial BCAs, macro and micro BCA, BCAs of plants and invertebrate pests)

- Scheme consists of two sections

- Express assessment: yes to allow OR no to prohibit

- Full assessment decision on acceptability of release OR identifies research needs

1. Initiation
2. BCA categorization
3. Impact assessment
4. Decision taking

Low risk
release can be recommended

Potential risk
release not recommended

1. Pre-assessment
2. Probability of establishment
3. Probability of spread
4. Potential environmental consequences
5. Recording uncertainty
6. Conclusion

What is the overall impact (positive or negative) to introduce the BCA in the IAA
5. Challenges for work on BCAs, EPPO perspective

- **Lack of harmonisation** within the EPPO region (between countries and between national authorities in countries) in **procedures and requirements for authorization** of import and releases of BCAs.

- Countries have **no or only for part of BCAs regulation for release**,.

- **Different authorities** are involved in the process,

- Exchange and **communication on BCAs with neighboring countries** limited.

- **Different organisms** as BCAs, different pests to be controlled, results in **different assessment, management and benefits**, different interpretation of key words and **different regulations** involved. **Wide range of different practices**

- Most biological control experts are working **outside of the NPPO systems**

- Difficult to find **responsible authorities** in some countries
6. Future work of EPPOs on BCAs

- EPPO promotes harmonisation by recommendations
- EPPO’s work is driven by needs of member countries
- EPPO would like to know needs in the area of biological control
- If there is anything EPPO can do for its member countries to facilitate and support their work in assessment or authorization of BCAs, EPPO is willing to work on it

- Work programme 2021 includes:
  - Development of an EPPO Standard on evaluation of host specificity of BCAs for invasive alien plants
  - Development of a platform to exchange information on BCAs
Thank you for your attention