A short history of EPPO's work on Biological Control Agents

EPPO Council Colloquium

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EPPO/IOBC Panel on Biological Control Agents

- EPPO/CABI Workshop on Safety and Efficacy of Biological Control in Europe (Streatley, GB, 1996)
- The idea appeared of developing “Positive lists”
- 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 stayed ‘dormant from 2002 to 2008’) and became the ‘Joint EPPO/IOBC Panel on Biological Control Agents’
- Last Panel meeting: Paris 2016-10-11/13
- Next Panel meeting: Moscow 2017-10-10/12

LAST PANEL MEETING: PARIS 2016-10-11/13

The use of Biological Control Agents (BCAs)

Three biological control methods (except the use of microbiological pesticides):

1. Classical biocontrol (introduction & releases of non-indigenous BCAs aiming their establishment)
2. Augmentative biocontrol (using indigenous or non-indigenous BCAs)
   - Inundative biocontrol (mass releases of BCAs produced by biofactories)
   - Seasonal colonisations (releases of BCAs produced by biofactories)
3. Conservation biocontrol (manipulation of habitats to support indigenous BCAs)

The EPPO Panel on BCAs deals with 1st and 2nd

EPPO/IOBC Panel on Biological Control Agents

- The Panel at its first meeting decided to cover only invertebrate biological control agents (BCAs) because microbiological control agents are generally covered by regulations for plant protection products
- The Panel initially focused mainly on the safety aspects of BCAs use
- The Panel worked on the development of:
  - regulations of first import of invertebrate BCAs for research
  - regulations of import and release of non-indigenous BCAs
  - "Positive lists"
- These were done in the format of EPPO Standards of the series PM 6 "Safe use of biological control" available on the EPPO website www.eppo.int. These Standards are not explicitly limited to Invertebrate BCAs

STANDARD PM 6/1 "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 a BCA for research
- Provides national authorities with a guideline on safe handling of a BCA under research to avoid risks
- Provides some general safeguards measures for import of non-indigenous BCAs

STANDARD PM 6/2 "IMPORT AND RELEASE OF NON-INDIGENOUS BIOLOGICAL CONTROL AGENTS"

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

STANDARD 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
- Includes three lists (first two are the "Positive list"):
  - commercially used BCAs,
  - successfully introduced classical BCAs,
  - BCAs formerly recommended by EPPO.
- The new procedure of the "Positive list" annual revisions (conducted since 2008) is now under development

STANDARD PM 6/3 "LIST OF BIOLOGICAL CONTROL AGENTS WIDELY USED IN THE EPPO REGION"

- 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) successful classical BCA,

AND

3) no negative non-target effects has been reported

- The 3rd list of "BCAs formerly recommended by EPPO" is composed of species deleted from the first two lists which does not mean that EPPO recommends its countries not to use them

EPPO Workshop on BCA regulations

- The EPPO Workshop on the Evaluation and Regulation of the use of Biological Control Agents in the EPPO Region was organised in Budapest (2015-11-23/24). The main conclusions were (http://archives.eppo.int/MEETINGS/2015_conferences/biocontrol.htm):

1) lack of harmonisation of BCA regulation within the EPPO region (between countries and between national authorities in countries) (a questionnaire is sent to EPPO countries to get progress in harmonisation)

2) necessity to develop an EPPO Standard on 'Environmental Risk Assessment (ERA)' which should be comparative (risk/benefit)

3) necessity to use biocontrol as a phytosanitary measure

EPPO Questionnaire on BCA regulations

- Twenty EPPO countries responded in 2017 to the Questionnaire on BCA regulations: Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Hungary, Israel, Italy, Jordan, Luxembourg, Norway, Slovenia, Slovakia, Spain, Sweden, Switzerland, Turkey
- Other EPPO countries are still encouraged to send their responses to EPPO
- The results confirmed wide diversity of national regulations and responsible authorities between EPPO countries

EPPO Questionnaire on BCA regulations

- There are no countries which have specific provisions for releases of BCAs against regulated pests
- Most of countries do not use terminology specific to BCAs
- Most of countries do not exchange information on BCA releases with their neighbours
- Half of countries refers in their regulations or guidance to EPPO Standards
- Most of countries publish information on BCAs on their web-sites but only few produce material for public awareness

EFFICACY OF BCAS AGAINST NON-INDIGENOUS PESTS

- The EPPO/IOBC Panel considered that it should not focus in future only on safety aspects of BCA use which creates a presumption that BCAs are more dangerous than beneficial
- Most of biological control experts are working outside of the NPPO systems and therefore it is important that NPPOs consider the use of BCAs as one of the important phytosanitary measures
- Non-indigenous pests are specifically important in new areas because of the absence of their natural enemies which suppress their populations at origin
- Therefore it is logical to introduce natural enemies from the pest origin

EFFICACY OF BCAS AGAINST NON-INDIGENOUS PESTS

- Main challenges for managing risks from a non-indigenous regulated pest are (in chronological order):
  1) to prevent entry
  2) to eradicate incursions
  3) to prevent spread (to contain the pest)
  4) to suppress pest populations to reduce economic impact to an acceptable level
  5) to suppress pest populations to restore environment and biodiversity damaged by the pest
- BCAs could be successfully used at all these stages except the first one, but especially at stages 4 and 5

One important IPPC definition

Quarantine pest: a pest of potential economic importance to the area endangered thereby and not yet present there, or present but not widely distributed and being officially controlled

ERA FOR INTRODUCTION OF NON-INDIGENOUS BCAs

- Background

- For the assessment of potential risks from the BCAs introductions, it had been recommended to use Pest Risk Analysis (PRA) schemes, but the EPPO/IOBC Panel believed that PRA is not appropriate for BCAs assessment for several reasons

- The Panel decided that a specific scheme should be developed for BCAs assessment as a tool for EPPO countries in the absence of FREG

- A draft ERA scheme was developed by the EPPO Secretariat and presented to the Panel

PEST RISK ANALYSIS

PEST RISK ANALYSIS

The scheme is aimed to assess BCAs and not pests

PEST RISK ANALYSIS

We cannot call is ‘analysis’ but just ‘assessment’ because we do not have ‘management’ stage

PEST RISK ANALYSIS

The scheme should be comparative (environmental risk/benefits)

ERA FOR INTRODUCTION OF NON-INDIGENOUS BCAs

- The WPPR approved the specification for the development of the EPPO Standard: 'Decision-support scheme (DSS) for import and release of non-indigenous invertebrate biological control agents of plant pests'
- The scheme should be comparative (risk/benefits) and universal (for assessment of both classical and commercial BCAs, natural enemies of weeds and of invertebrate pests)
- The main difficulty: to reach consensus between EPPO and IOBC approaches

DSS FOR INTRODUCTION OF NON-INDIGENOUS BCAs

Consensus reached at the last Panel meeting (Paris, 2016-10-11/13):

- The draft short scheme based on the IOBC approach prepared by IOBC Panel members was discussed by the Panel and after corrections will be included in the DSS as a first part: 'express assessment' with three conclusions possible on the potential BCA release: (1) yes (to allow), (2) no (to prohibit) and (3) to go to 'full assessment'
- The draft scheme prepared by the Secretariat on the basis of the EPPO PRA scheme after corrections will be included in the DSS as a second part: 'full assessment'
- The DSS will be tested at the next Panel meeting on several examples, then sent to country consultation

Thank you for your attention