Experiences with applications for exotic BCA’s in Spain

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Regulation in practice

- Spain as an example for Southern European situation
- Regulation in place since 2002
- Important greenhouse industry: 35,000 ha
Regulatory framework Spain

• Phytosanitary law: Ley 43/2002 article 44
  • Native organisms: notification Ministry of Agriculture
  • Exotic organisms: authorisation Ministry of Agriculture after approval of Dpt of Environment

  • Requirements (Annex 1A, 1B) general, including efficacy trials
  • Exemption from data requirements agreed, not official
Procedure

• Application to be sent to Ministry of Agriculture
  • Data requirements not specified
• Consultation Dpt of Environment
• Trial permit granted
• Submission of trial report
• Again consultation Dpt of Environment
• Approval Ministry of Agriculture
Examples:
4 predatory mites against whitefly, thrips:

- **Amblyseius swirskii**
  - Eastern Mediterranean
  - Exotic?

- **Amblyseius montdorensis**
  - Australia

- **Amblydromalus limonicus**
  - US, New Zealand

- **Euseius gallicus**
  - France, NL, Tunisia
  - Exotic?

- different characteristics
- different niches
Predatory mites
Southern Europe

Risk assessment criteria:
• Establishment highly likely
• Polyphagous organisms
Predatory mites most important IBCA’s

<table>
<thead>
<tr>
<th>Biocontrol Agent</th>
<th>Turnover</th>
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<tbody>
<tr>
<td>Amblyseius swirskii</td>
<td>65%</td>
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<tr>
<td>Phytoseiulus persimilis</td>
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<tr>
<td>Neoseiulus californicus</td>
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<td>Macrostemum pygmaeum</td>
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<td>Encarsia formosa</td>
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<td>Orius laevigatus</td>
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<td>Nesidiocoris tenuis</td>
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<td>Neoseiulus cucumeris</td>
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<tr>
<td>Eretmocerus eremicus</td>
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<td>Aphidius colemani</td>
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</tbody>
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Top-10 of biocontrol agents used in greenhouses (turnover)
Amblyseius swirskii

• First application 2004: EPPO dossier including efficacy data Spain

• Permit granted September 2006
• Made ‘Green Revolution’ in 2007 possible
Green revolution Spain

< 2007: hardly any biocontrol

2007: Greenpeace report MRL violations: Isofenfos, illegal pesticides

> 2007: immediate response *Orius + A.swirskii* > rapid increase biocontrol
Amblyseius montdorensis

- First application 2007
- Additional questions answered twice
- Trial permit received 2011
- Trials performed, incl. post-release monitoring
- More questions on environmental tolerances were answered
- Still no commercial permit
Amblydromalus limonicus

• First application 2012: EPPO dossier
• Additional questions:
  • Release rate Spanish conditions
  • Egg hatching Spanish conditions
  • Dispersal
  • Product composition (% active stages)
• Trial permit received
• Trials running
**Euseius gallicus**

- First application 2013: EPPO dossier
- Additional questions:
  - Intraguild predation
  - Semi field trials Spanish conditions
  - Dispersal
  - Assess escape routes from greenhouse
  - Justify necessity of importation <> possible ‘native’ solutions
- Trials running
- 2015: *E. gallicus* EPPO listed based on wide distribution in EPPO region
Take home messages-1

- Despite large scale releases of specialized, generalist and plant feeding phytoseiids, and the establishment of key species, no cases have been documented that have showed any negative effects.

- Yet if risk assessments would have been conducted according to the current guidelines probably these successful BCAs would not have received authorization for release.

- Additionally we saw that the criterion for successful insect BCAs do not fit generalists such as *Amblyseius swirskii*. This infers that the criterion for risk assessment for generalist and host specific predatory mites needs to be re-thought.
Examples

• Parasitic wasp
• against *Dryocosmus kuriphilus*
• From Asia
• Now released in Italy, soon also France, Portugal
• Project with government
• Application made, no permit received, instead more trials
Conclusion

• Hard to come through:
• Data requirements unclear
• No clear definition ‘exotic’
• No direct communication with Environment

➢ Increasing costs extra trials
➢ Uncertainty
Consequences

• Biocontrol companies will stop investing in development of new products

• No adequate response in case of new emerging pest
What happens if these pests arrive?

- Pepper weevil?
- Tomato psyllid?
- Neoleucinodes elegantalis
- Citrus psyllid/ huanglongbing?
Recommendations

• Clear procedures required
• Open communication between Environment and applicants
• Broader definition of exotic
• ‘Mutual recognition’
• Criteria for risk assessment
  • Further specified, especially in case of establishment
  • Specific per risk category, especially predatory mites
  • Proportionate to risks
Thank you for your attention