Agrolab

RESULTS THROUGH KNOWLEDGE

NORBARAG

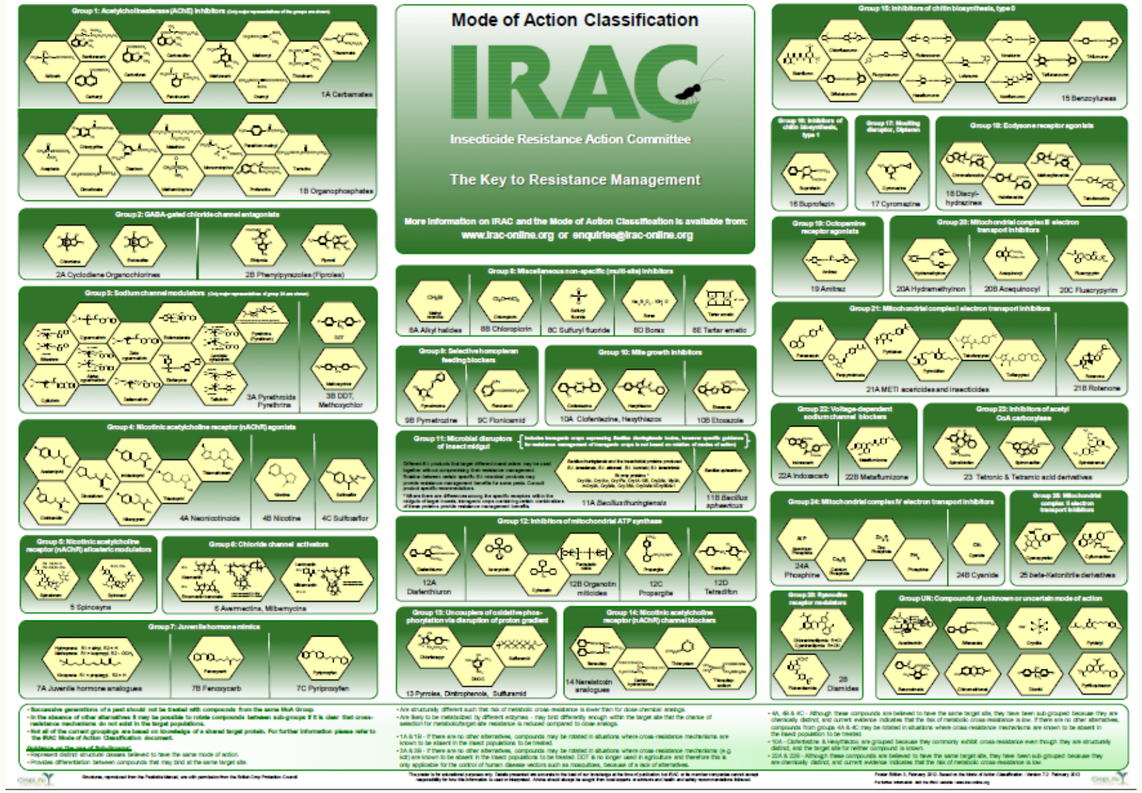
13-14 March 2025

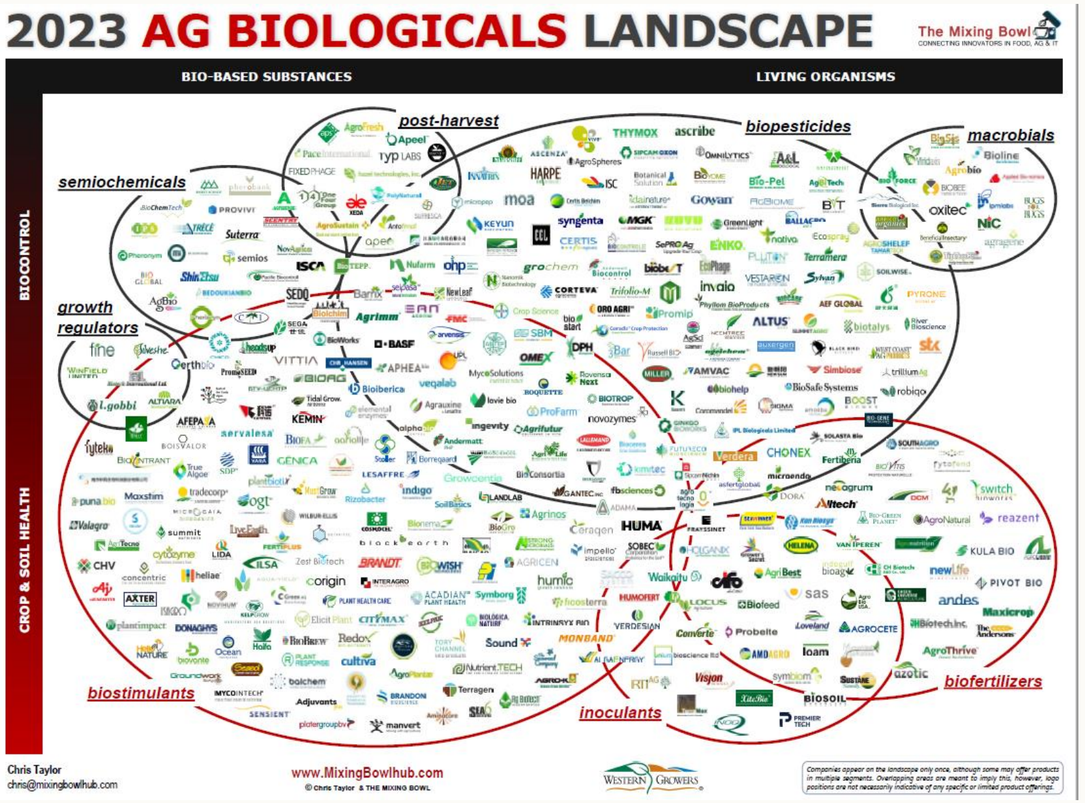
Insecticide testing

Challenges are the same for maintaining current products and future biocontrol products.

No GEP trials in the Northern EU Regulatory Zone – no product approvals

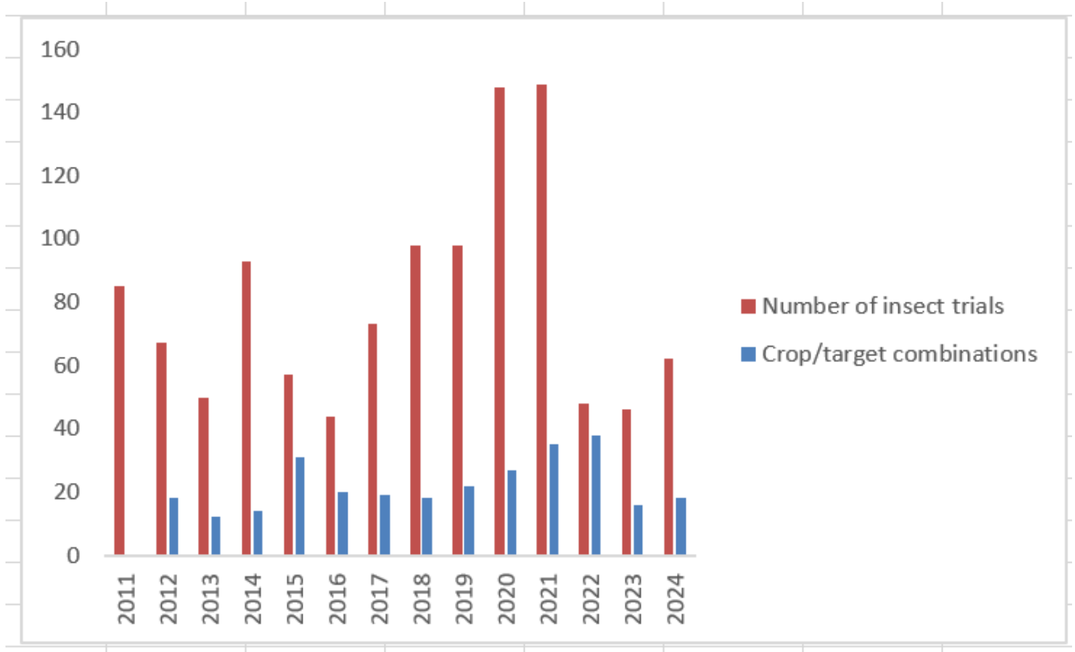
Conducting valid GEP insect trials is an increasing challenge

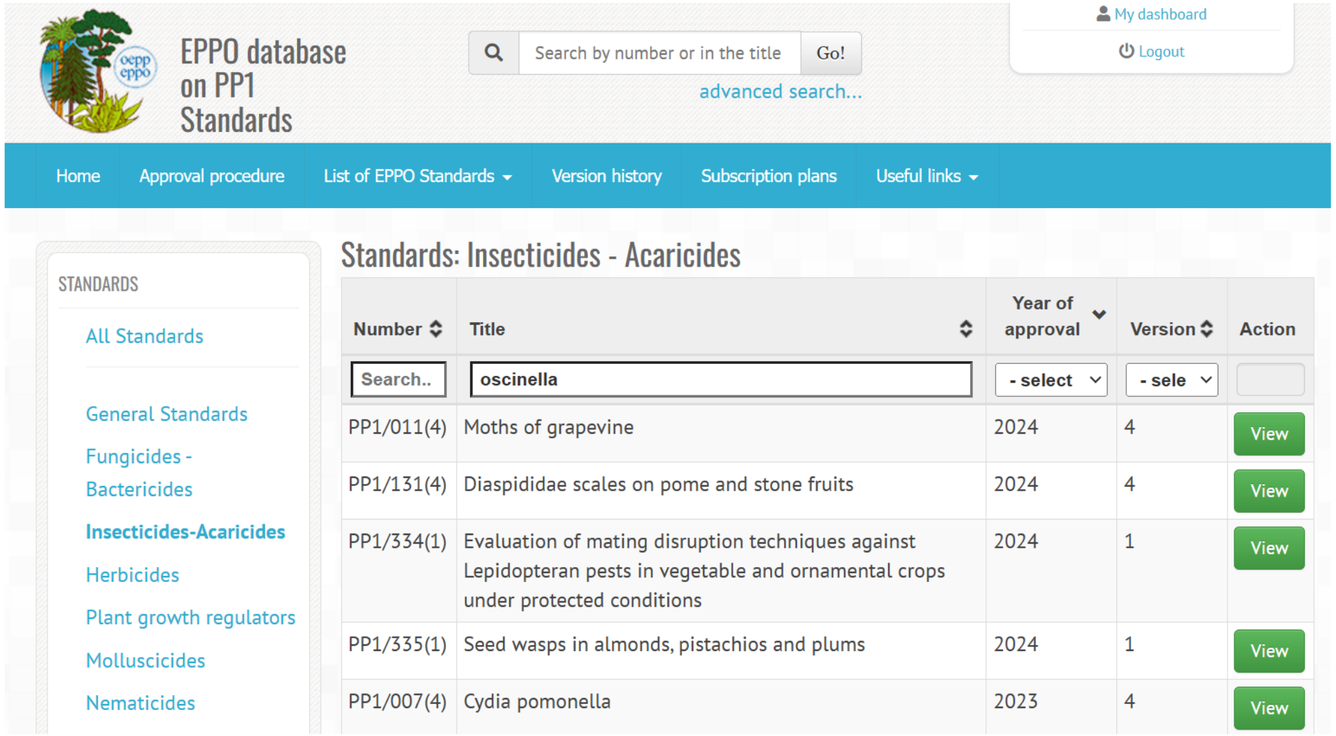




Insecticide testing

- GEP trials according to regulations and guidelines.
- EPPO Standard test guidelines
  - 137 insect crop/target combinations.





Insecticide testing - challenges

- **Trial site finding** strategy and timing in terms of different threshold drivers:
  - EPPO/protocol – challenging infestation
    - EU – 27 member state consideration
    - Scandinavia, Baltics and Finland are small markets - impact trial design driver
  - Economical thresholds – avoid challenging infestations

- Regional differences in pest pressure – hot spots

- Tracking populations and access to trial sites in time, population crashes

- Locked down (reserved trial area) vs. staying mobile

- Northern Regulatory zone (NEU) guidance document reduces requirements for number of trials/use.

Insect trial thresholds

Need for clarification and adaptation of suitable field trial thresholds.

EPPO	Crop/Target	Year of first approval	Threshold in guideline	Financial thresholds for applications (DK)	Efficacy evaluator thresholds for valid field trial	NEU guidance doc
PP1/220(1)	Dasineura brassicae	2002	Not specified, suficient and active	Confirmed flight	Not publicly available, refer to local thresholds	Challenging level of infestation in untreated, 5% infestation for pests
PP1/178(3)	Meligethes aeneus on rape	2004	Not specified, sufficient density	4-8 beetles pr plant early stage, 5-10 beetles/plant late stage		
PP1/007(4)	Cydia pomonella	2023	Not specified	At risk of flight/eeg laying		
PP1/073(4)	Psylliodes chrysocephala on oilseed rape	2020	Not specified	10 % plant damage at BBCH 14, larvae stage 25 adults over 3 week period in catch trays (11 cm radius)		
PP1/281(1)	Drosophila suzukii	2013	Not specified	At detection in traps		
PP1/020(3)	Aphids on cereals	2006	Not specified	25-40 % tillers with aphids, 100 % in late stages		
PP1/107(3)	Ceutorhynchus assimilis	2002	Not specified	6 adults/plant		
PP1/217(1)	Oscinella frit	2001	Not specified	Confirmed flight		
PP1/070(4)	Aphid vectors of Barley yellow dwarf virus	2017	In autumn, not specified, local thresholds. In spring-sown cereals, at least 5% of tillers infested.	2 %, 2024 recommendation was to spray at first sight		
PP1/229(1)	Aphids on leguminous crops	2004	Beans, when 5-10% of plants are infested. Population crash above 25 degrees	Peas 50 % of plants with aphids		
PP1/230(1)	Aphids on potato	2004	180 aphids per 100 leaves, with numbers increasing.	Confirmed pressence in field		
PP1/237(1)	Thrips on cereals	2004	1-3 thrips/stem	1 thrips/tiller		
PP1/228(3)	Aphids on beet, including aphid vectors of viru	2022	10% of plants are infested, 1 aphid per beet for Myzusand, 1 small colony of 3 to 10 aphids per 2 beets for Aphis). Aphid vectors of virus, at first sign of infection.	At first appearance of aphids		
PP1/236(1)	Oulema spp. on cereals	2004	0.5 larvae/tiller	0.5-1.0 larvae/tiller		

Insect trial thresholds

Threshold driver is to reduce the use of insecticide (Pollen beetle). Will farmers wait that long?

Threshold driver to prevent crop damage (Aphids in potato). Pests in 10 out of 10 fields.

High infestation for a homogenous population in field trial area, should be reached for validity

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Threshold overlap, early application – challenging scenario for field trials

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Areas of interest

- New methodology and updated EPPO guidelines
- Developing NEU catalogue of thresholds for insecticide field testing
- Climate change and impact on agronomical pest populations – research?
- Insect field trial network.
- Define acceptable efficacy levels for pests