Bee Life

European Beekeeping Coordination

Bees and Neonicotinoids

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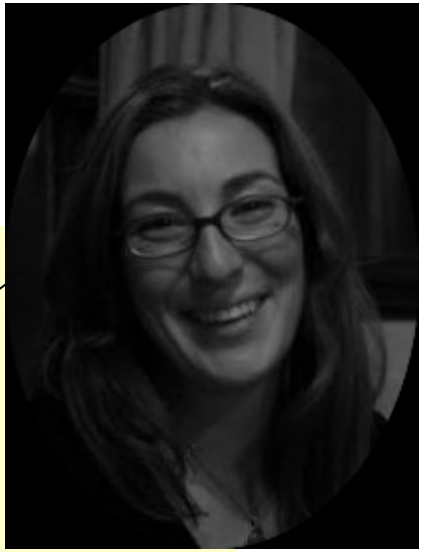
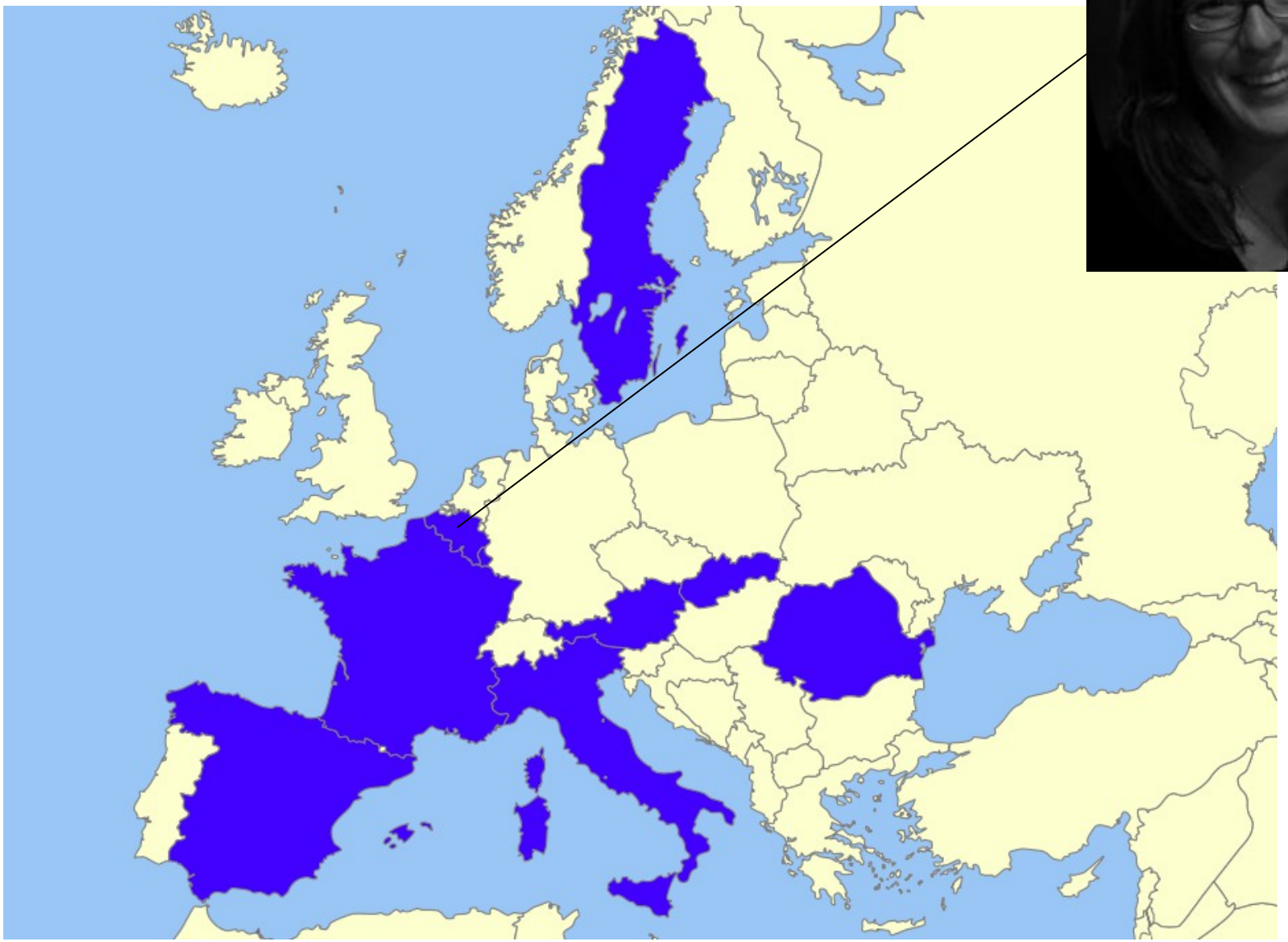
European association

There is strength in numbers

Geographical coverage

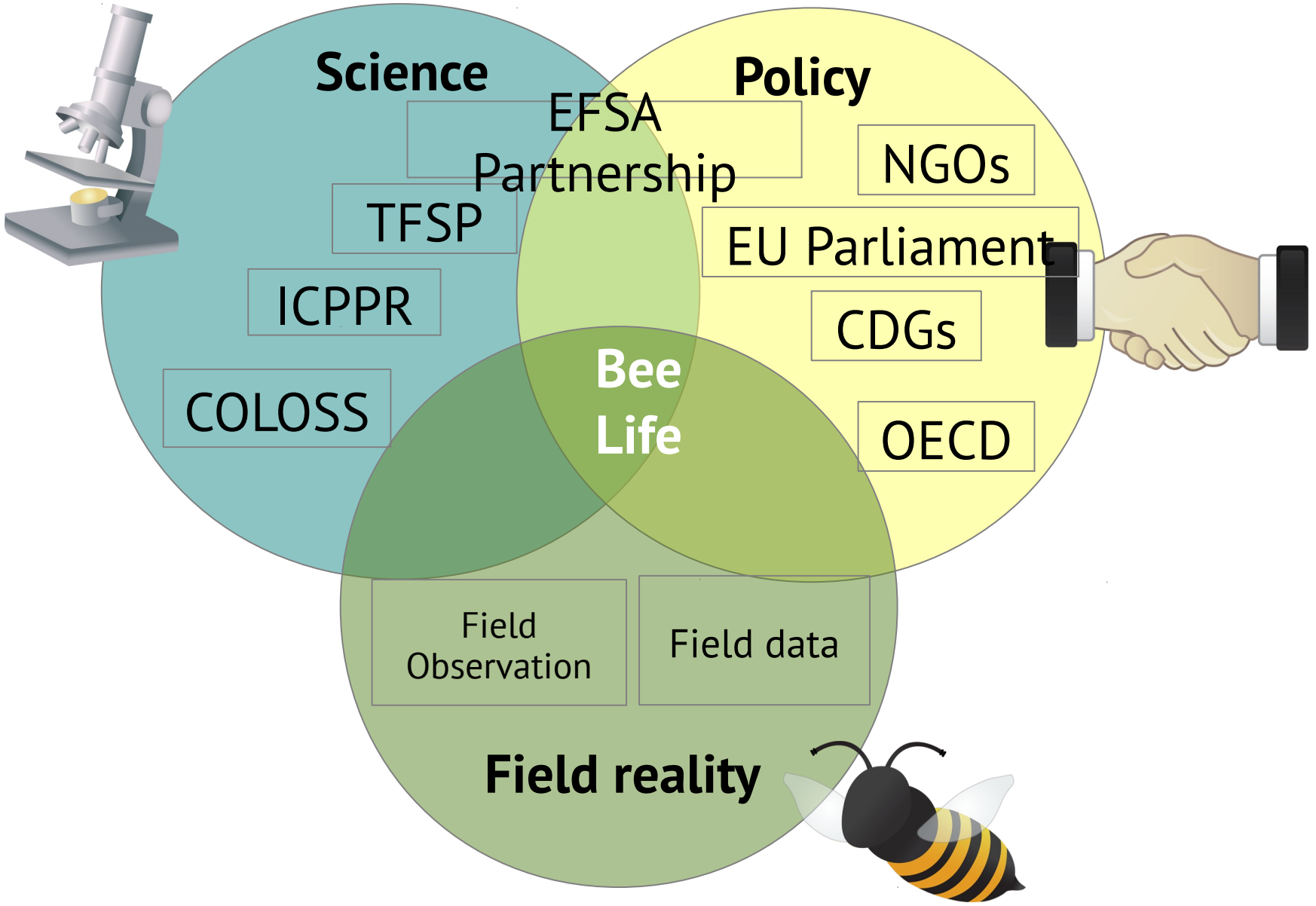




Principles and Philosophy

- **Protect** bees is protecting our **health and nutrition**
- Bees are essential **pillars** of **life** and **biodiversity**
- Protection of pollinators (bee as representative) from **environmental threats**

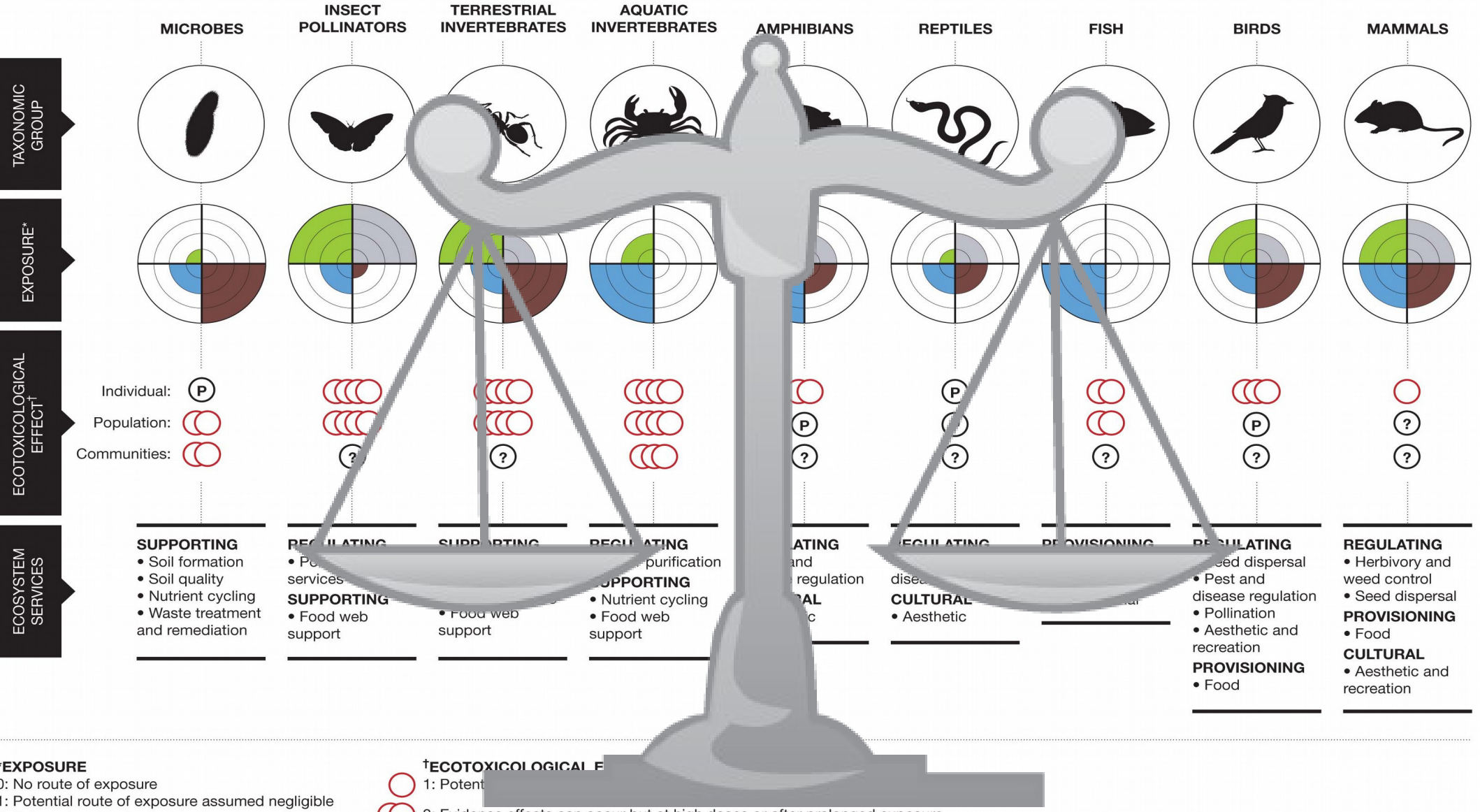
How do we work?



How do we work?

- For field observations/research – BOTTON-UP (reaction at policy level)
- Always proactive
- For policy issues/research - UP-BOTTON (information about EU policy issues)

Neonicotinoid insecticides



***EXPOSURE**

0: No route of exposure
1: Potential route of exposure assumed negligible
2: Relevant route of exposure low
3: Relevant route of exposure moderate
4: Relevant route of exposure high

0 1 2 3 4

Plants
Air
Soil
Water

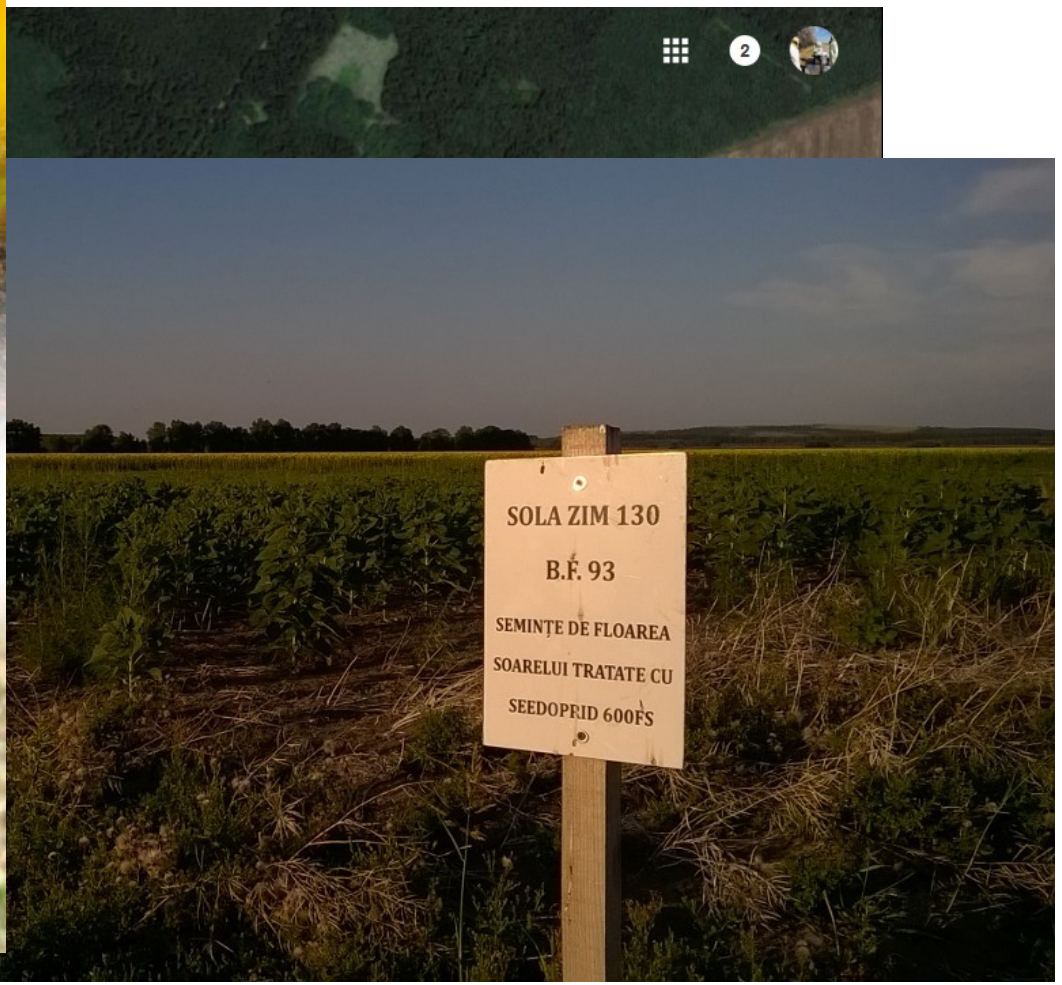
†ECOTOXICOLOGICAL E

1: Potent
2: Evidence effects can occur but at high doses or after prolonged exposure
3: Evidence effects can occur at moderate doses
4: Evidence effects can occur at low doses or after acute exposure
? Unknown: in situations where no judgement could be made because of lack of evidence, e.g. data unavailable
P Probable: no accurate judgement could be made due to incomplete evidence, but data suggests a potential effect level above (1)

Ex

https://www.youtube.com/watch?v=1K0kziy60y4

https://www.youtube.com/watch?v=VICPL8YRR6M



Save The Bees Coalition

WHAT | WHY | WHEN | MEMBERS | JOIN US! | RESOURCES

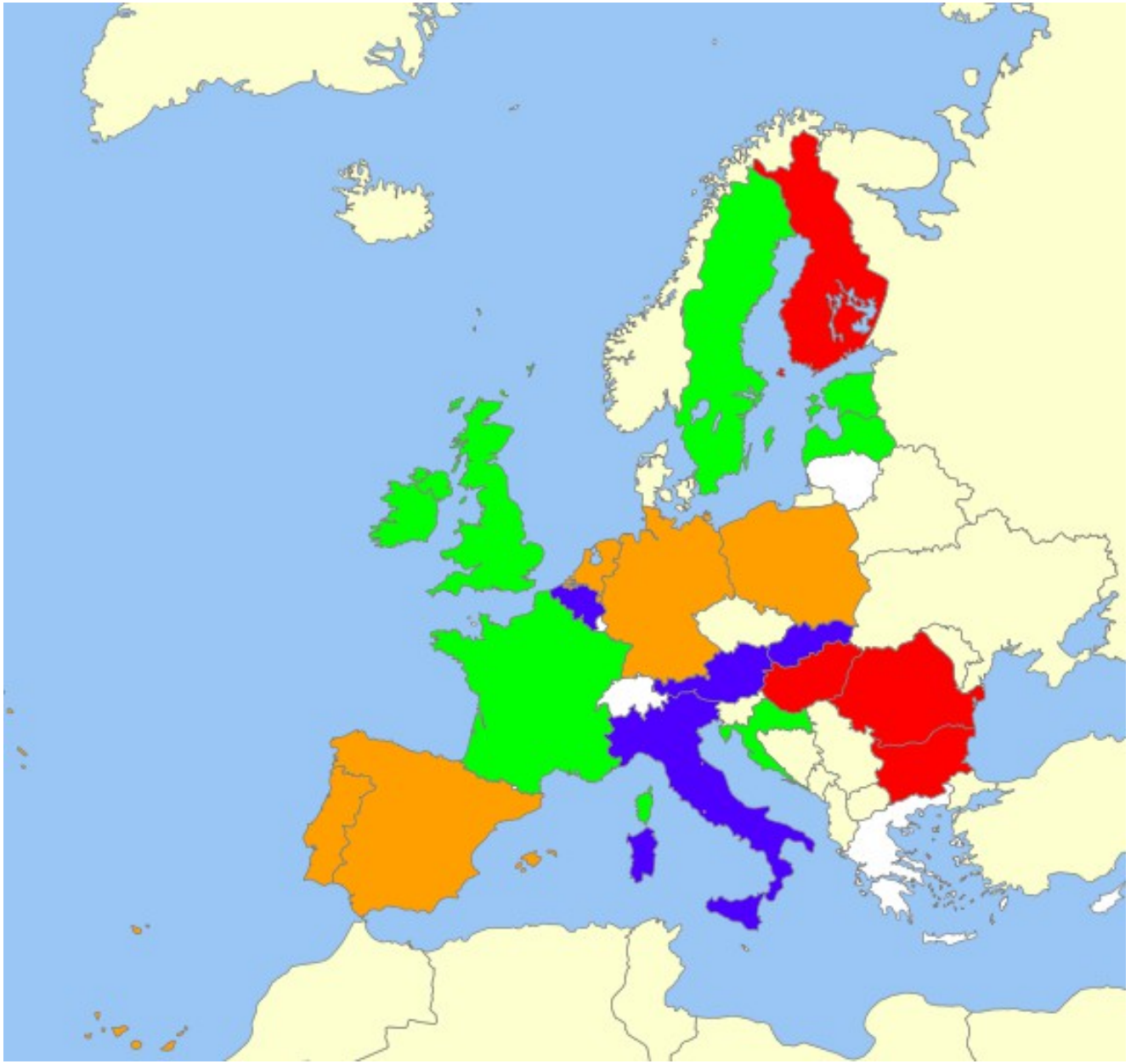
WHO

The Save the Bees Coalition is a platform of European NGOs working to achieve a ban on neonicotinoids in the European Union. The Coalition also aims at implementing a better protection of pollinators against pesticides in general.

SHOW MORE

https://www.beecoalition.eu

Situation on neonics



Latest COM Proposal – only allow in permanent greenhouses

MS in favour

MS attending EFSA

MS against

MS requesting exception for sugarbeet

EFSA activities

- EFSA 2012. Statement on the findings in recent studies investigating sub-lethal effects in bees of some neonicotinoids in consideration of the uses currently authorised in Europe. EFSA Journal. 2012;10: 1–27.
- EFSA 2013a. Conclusion on the peer review of the pesticide risk assessment for bees for the active substance clothianidin. EFSA Journal. 2013;11: 3068 [55 pp.]. doi:doi:10.2903/j.efsa.2013.3068.
- EFSA 2013b. Conclusion on the peer review of the pesticide risk assessment for bees for the active substance imidacloprid. EFSA Journal. 2013;11: 1–55.
- EFSA 2013c. Conclusion on the peer review of the pesticide risk assessment for bees for the active substance thiamethoxan. EFSA Journal. 2013;11: 3067 [68 pp.]. doi:10.2903/j.efsa.2013.3067
- EFSA 2015a. Conclusion on the peer review of the pesticide risk assessment for bees for the active substance clothianidin considering all uses other than seed treatments and granules. EFSA Journal. 2015;13: 4210, 77 pp. doi:doi:10.2903/j.efsa.2015.4210
- EFSA 2015b. Conclusion on the peer review of the pesticide risk assessment for bees for the active substance imidacloprid considering all uses other than seed treatments and granules. EFSA Journal. 2015;13: 4211, 82 pp. doi:doi:10.2903/j.efsa.2015.4211
- EFSA 2016a. Conclusion on the peer review of the pesticide risk assessment for the active substance clothianidin in light of confirmatory data submitted. EFSA Journal. 2016;14: 4606(34 pp.). doi:doi:10.2903/j.efsa.2016.4606
- EFSA 2016b. Conclusion on the peer review of the pesticide risk assessment for the active substance imidacloprid in light of confirmatory data submitted. EFSA Journal. 2016;14: 4607, 39 pp. doi:doi:10.2903/j.efsa.2016.4607
- EFSA 2016c. Technical report on the outcome of the consultation with Member States, the applicant and EFSA on the pesticide risk assessment for thiamethoxam in light of confirmatory data. EFSA supporting publication. 2016; 1020. 27 pp.

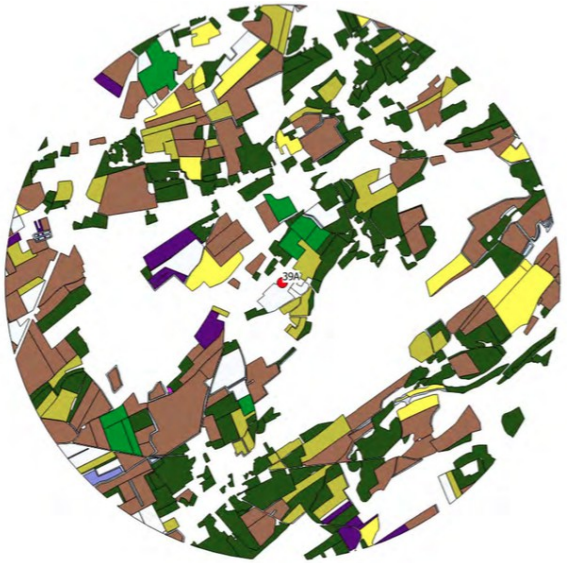
Position of Bee Life and the Bee Coalition

- Full ban – the environment is too contaminated
- Alternative is not in chemistry, but in agronomy, culture, socio-economic and machinery
- Including sugarbeet, reasons :
  - There is no such concept of crop non attractive to bees for pesticide exposure (see later)
  - Alternatives exist (see later)
  - The fact of continue using NNs hampers innovation on alternatives

Exposure to pesticides

Pollen from July to October

Pollen pellets Botanical origin

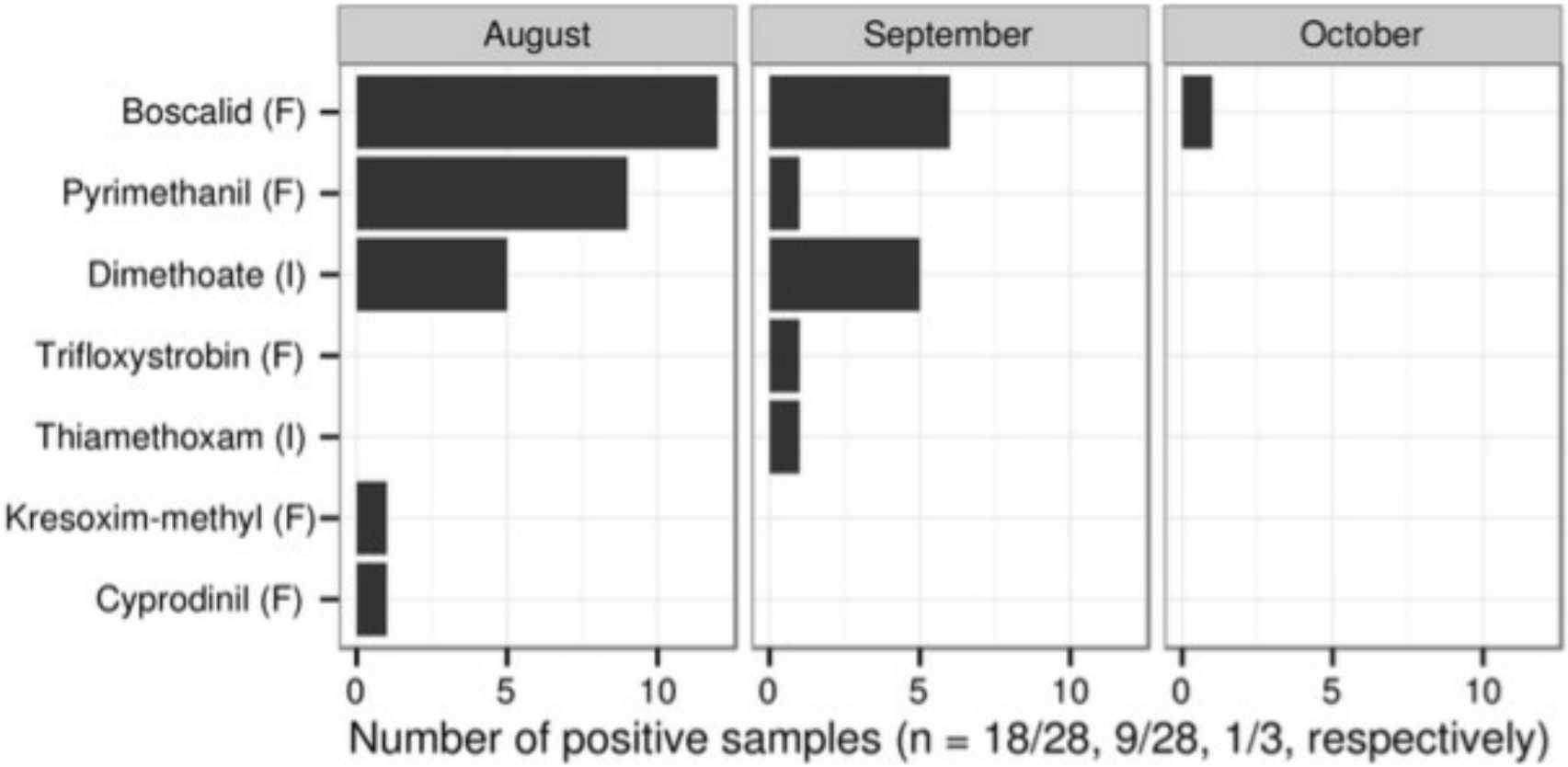


Pollen pellets : residues

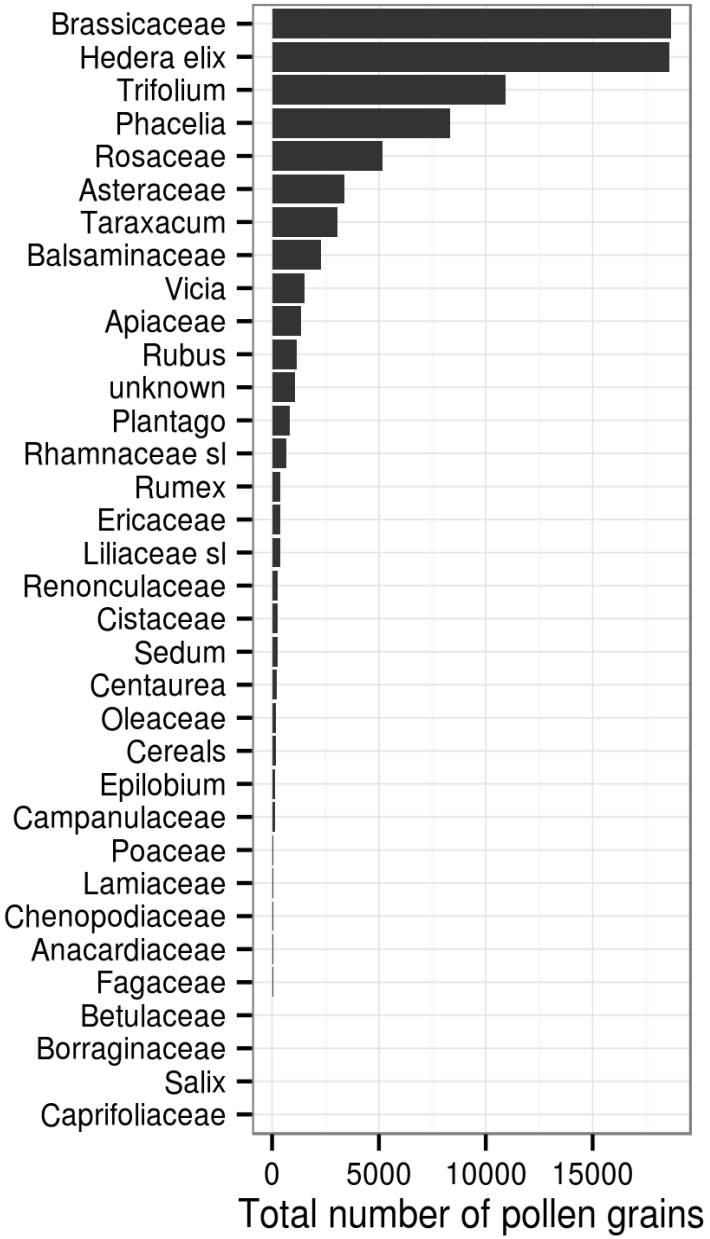
Landscape

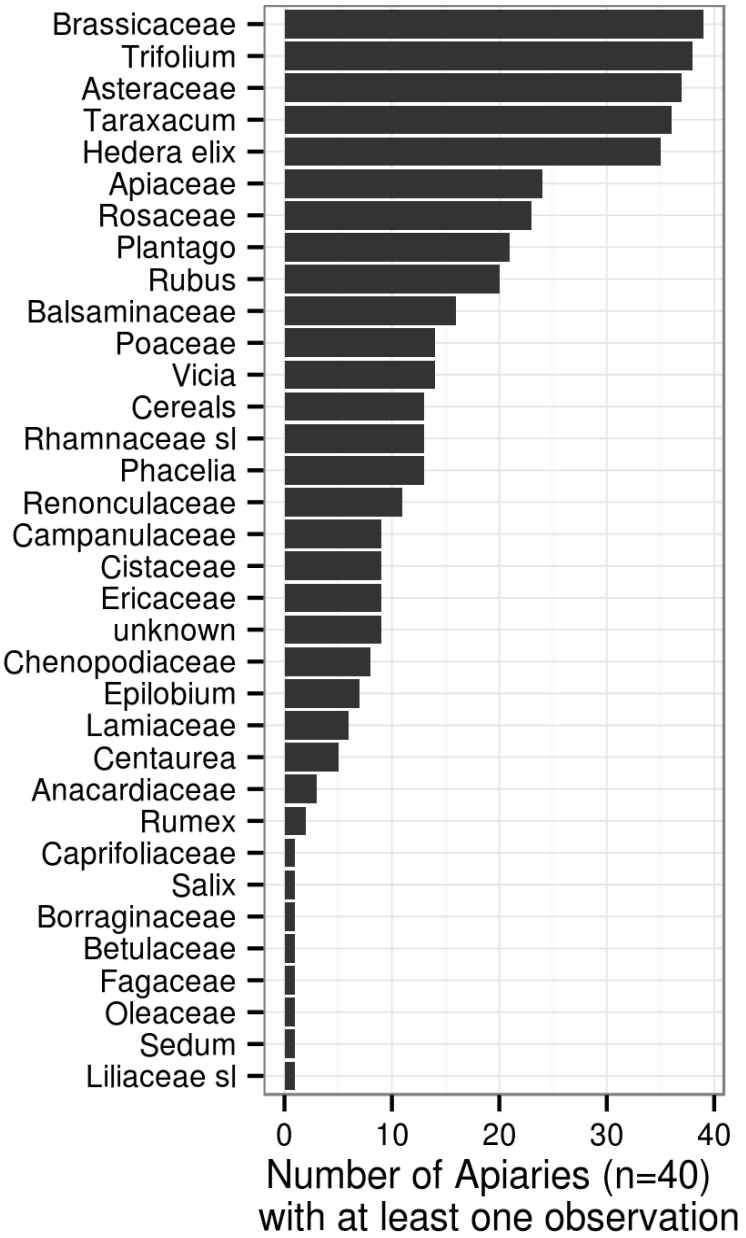
500 m, 1 km, 1,5 km and 3 km
(SPW - SIGEC)

Results – Contamination



Results – Pollen diversity





34 different botanical origins

Pollen from july to october

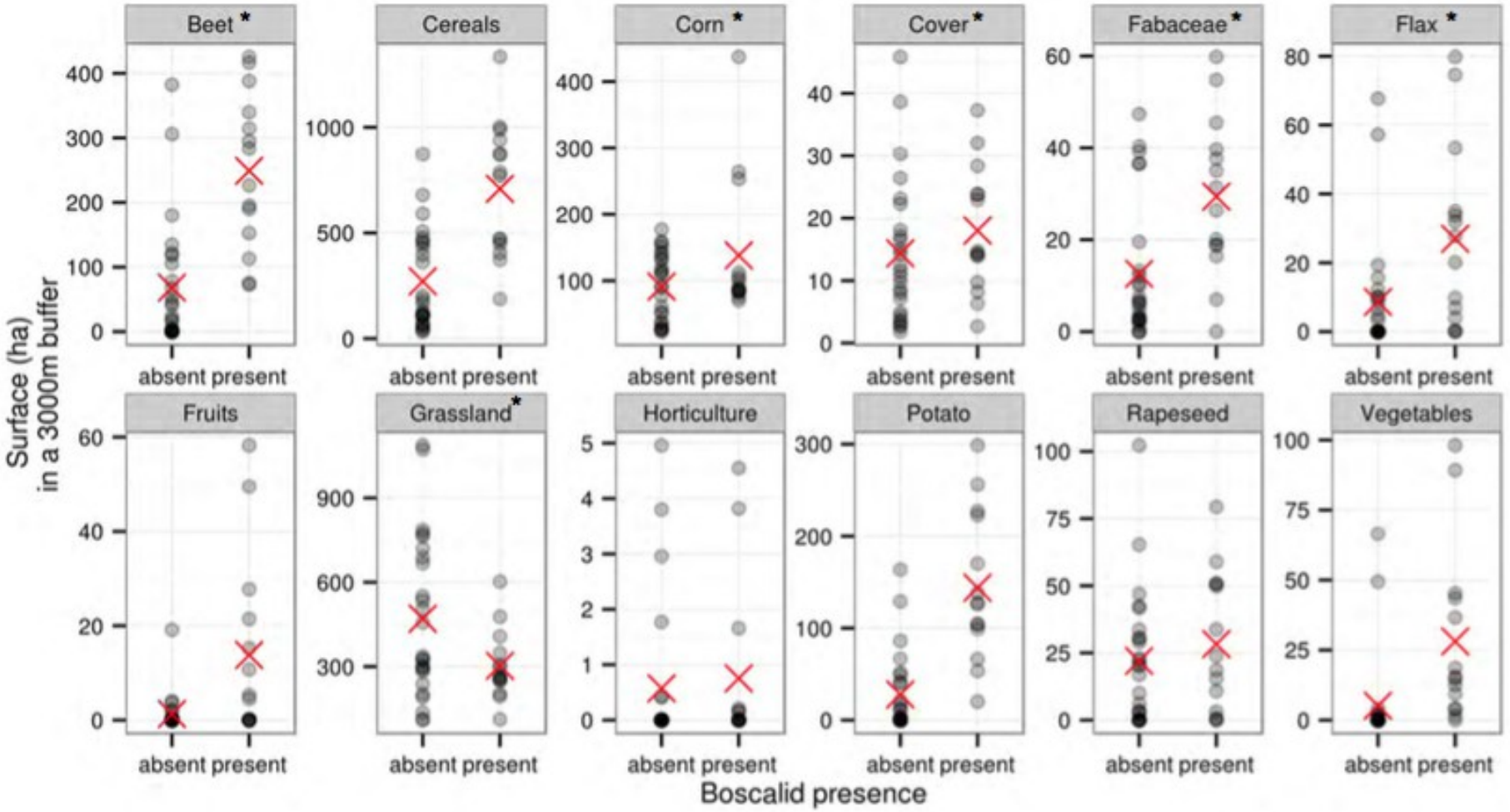
Boscalid – source?

Fungicide
Persistant (DT50 in soil = 200 days)
Systemic

Authorised in Belgium in 2011 for:
Cereals
Potato
OSR
Vegetables
Fruit
Horticulture

Results: Boscalid – landscape?

Frequency of boscalid vs different types of arable crops (boscalid authorised or not)



* Boscalid NOT authorised

Results: boscalid – landscape

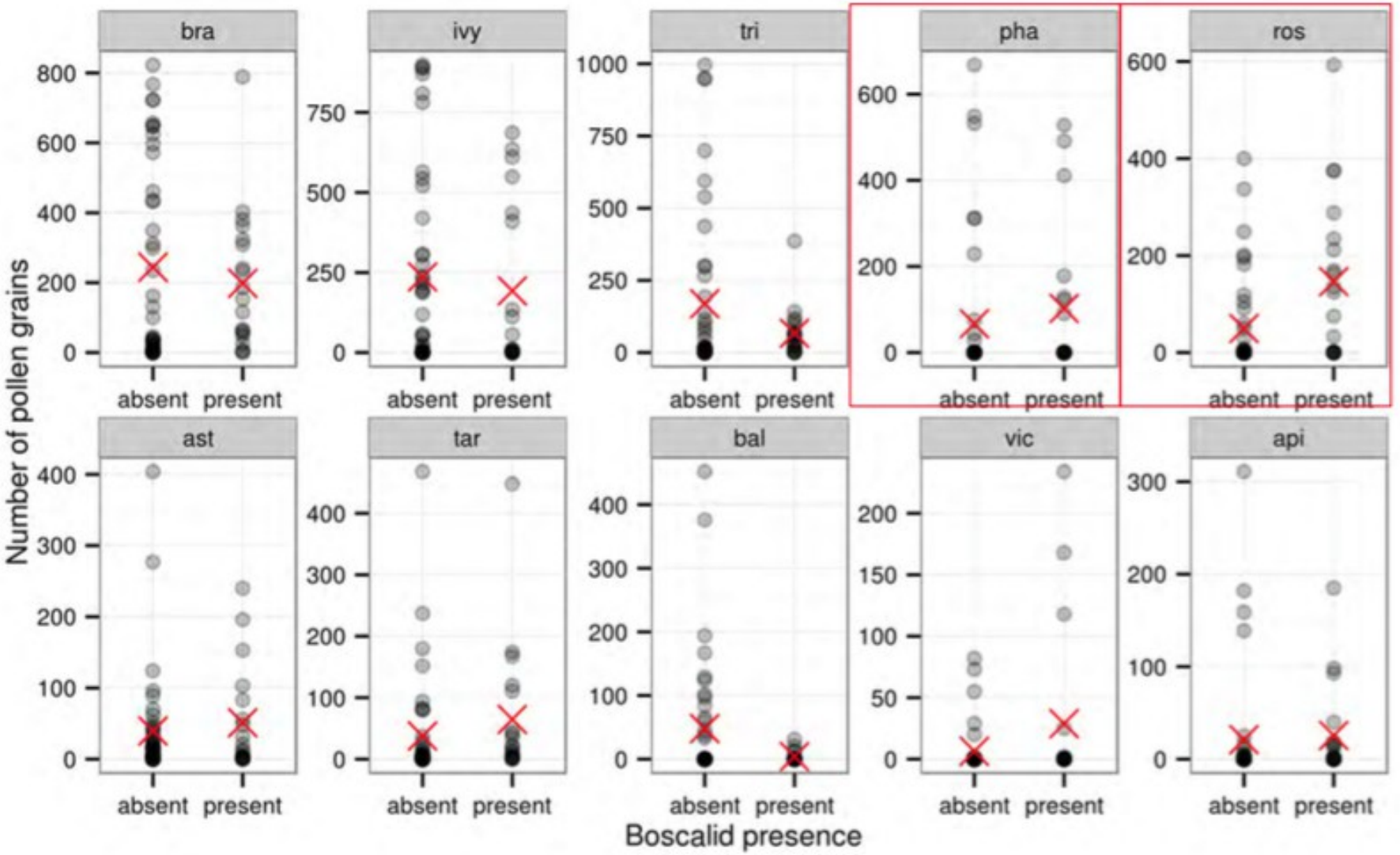
Virtually all cultures have a predictive power for boscalid excl. corn, rapeseed, major cover crops and horticulture

3 km models are the best models to predict contamination and 500m the worst

Beets (Not authorised), cereals and potatoes are crops that explain the best the presence of boscalid in pollen

"All crops confounded" explain the presence of boscalid better or as good as only the "Authorized Crops"

Results: boscalid – pollen origin



Phacelie and rosacea sare the types of plants that better explain the presence of boscalid in pollen

Hypothesis about the origin of contamination

1 Application in August - September?

EXPLANATION – Drift to cover crops (Phacelie) and wild flowers

2 Considering the frequency of contamination - **Application earlier in other crops ?**

Considering that:

- Few of the authorised crops in blossom are “attractive” to bees
- Typical crop rotation is cereals-beets or potatoes (2-1)

EXPLANATION - contamination through wild plants and succeeding crops (catch/cover crops), like phacelia

Take home messages

Concept of “BEE-ATTRACTIVENESS” needs to be RECONSIDERED for exposure of bees to pesticides (autorisation)

Important DRIFT/MOBILITY of pesticides in time and space

Bees – landscape indicators of chemical contamination and vegetal diversity (at least 3 km radius)

Great potential of Land use data to understand bee exposure to stressors

Agro-environment measures like buffer zones, flower stripes, etc may be a food supply for pollinators, but a source of contamination by pesticides – Importance to reduce use of pesticides