- December 2019 -

OPINION FOR EUROPEAN COURT OF AUDITORS (ECA)

IMPACT OF THE CAP

1. **Which of the current CAP measures do you consider as to favour most wild pollinators and why?**

Agri-environment measures (AEM) and organic farming

AEM are a good example of measures which favour wild pollinators. AEM tackling local biodiversity protection challenges (e.g. Natura 2000 territories), but mostly systemic AEM, favouring a global consistency of farm practices with biodiversity conservation, can have positive impacts on wild pollinator populations. AEM focusing on biodiversity goals include wildlife set-aside land, wild-flower set aside, grass strips, grasslands, but also hedgerow and tree management measures. AEM constitute an incentive tool for promoting agroecological infrastructures, which supply essential resources for wild pollinators, and form ecological corridors favouring species movements.

A study comparing AEM impacts in Switzerland and Netherlands (Kohler et al. 2007) concluded that AEM impact positively biodiversity. The study also highlighted that depending on the way AEM are implemented, their impacts could vary, and suggested that an AEM should be created specifically for pollinator insects.

Next CAP should enhance and promote AEM, in order to use them as strong incentives to help farmers change their practices and their system. Indeed, transition measures should be completed with measures such as Payments for Environmental Services (PES), which support ecological farming systems that have already operated their transition.

By encouraging farmers to reduce the use of pesticides and fertilizers, subsidies directed to organic farming favour the conservation of pollinators. However, France has stopped supporting organic farming maintenance since 2018 and only converting to organic farming is still supported.

Greening measures for more effective impacts on wild pollinator populations

The greening of the CAP has directed 30% of the first pillar to farmers respecting three ecological practices: diversification of cultures, keeping a permanent grassland ratio at regional level, and having 5% of the total surface as Surface of Ecological Interest (SEI). The main goal was to reduce monoculture practices, avoid the conversion of grassland into crop culture, and fight soil erosion and biodiversity collapse.

However, despite ambitious goals, greening measures have not been effective due to a too weak level of requirement (aligned with business-as-usual practices) and too many derogations (76% of the farmers in 2015; European Court of Auditors 2017). Payments have mostly supported farmers' incomes and had too little positive consequences, especially on biodiversity. Indeed, **only 5% of EU agricultural surface has been concerned by a change of practices in order to benefit from these measures**, between 2015 and 2020 (European Court of Auditors, 2017). Most farmers having either already met the greening requirements or being exempted. As an example, winter wheat and spring wheat are considered as two different cultures and, in France, even corn monocultures have benefit from green payments according to exceptions.

Greening measures should have a clearer definition of its environmental goals and be better framed regarding their impacts on biodiversity and on wild pollinators populations. Regarding the proportion of **Ecological Focus Areas (EFAs)**, ecologists in EU considered a minimum of 20 % of the agricultural land should be occupied by semi-natural elements (Le Roux et al. 2008), especially due to the productive function of EFAs. A true diversification of cultures, including legumes, and a higher proportion of EFAs, would provide more habitats and food resources, as well as ecological corridors and shelter for many wild pollinator species. Indeed, depending on the nature of the EFAs, their management and the overall farming system, these areas can either have positive, neutral or even negative impacts on pollinators. For instance, flower beds in farming systems which rely on chemical pesticides and monocultures have shown to be harming for pollinators. In Switzerland, despite an ambitious agriculture policy promoting hedgerows, the overall agricultural biodiversity is following the same trend as other European countries. A study concluded that even though EFAs such as hedgerows provide numerous services (for water, soil, cultures and livestock), they do not protect species from chemical pesticides and fertilizers (Knaus et al. 2018), especially birds and insects.

Post-2020 CAP **greening measures should also include Payments for Environmental Services (PES), as suggested by the French platform for another CAP** (Pour une autre PAC 2019)**.** PES support non-market services provided by agriculture, rather than offsetting shortfalls. Strengthening such mechanisms would encourage farmers to maintain beneficial practices and engage integrated agroecosystem management, in which biodiversity would be better preserved (among others).

Schemes for Areas with Natural Handicaps (SANH)

By favouring extensive farming in sensitive regions, schemes for Areas with Natural Handicaps (SANH) helped in maintaining landscapes and ecosystems, which would have otherwise disappeared. In France, it particularly helped farming systems in mountain regions as well as permanent grasslands conservation, which contributed to biodiversity conservation (among other services, such as water quality, carbon storage; Hanus et al. 2018) by providing grass as main feed resource. Moreover, grassland systems provide habitats to wild pollinators, which may otherwise not adapt to closed landscapes. However, they depend on fertilizing, mowing and grazing practices, on which SANH has no direct effect.

Coupled support schemes. The promotion of certain crops (such as legumes, fresh fruits, vegetables) and practices (grassland with limited livestock) through **coupled support schemes** could indirectly benefit wild pollinators, as such diversified farming systems provide essential resources to wild pollinator populations. These schemes should rely on environmental and territorial criteria, as well as animal welfare and social benefits.

2. Which CAP measures do you consider to have potential negative impacts on wild pollinators?

The use of tools such as quotas, thresholds, prescriptions and derogations limits the efficiency of the system at the environmental level and induce negative impacts on wild pollinators.

Area payments: In the 2015-2020 CAP, the budget dedicated to non-sustainable farming practices was much more important than the subsidies allocated to biodiversity or climate change mitigation. In particular, first pillar subsidies, which represent 70% of the total CAP budget, are allocated to farmers regardless the impacts of their practices on the environment.

Direct income support to farmers are calculated depending on the cultivated area and yield. Such mechanisms lead to penalize small farms, diversified farms and certain crop productions, whereas it encourages big structures with specialized and intensive agro-industrialized farming. Thus, these subsidies have had indirect negative impacts on biodiversity and wild pollinators, among which:

- **Plots extension**, which restricts species' movements. In fragmented habitats, these movements are essential to wild pollinator population conservation. Without a sufficient flux, genetic flow within insect populations decreases, putting them at risk. CAP should, on the contrary, promote measures which encourage farmers to reduce plot size and increase interfaces (hedgerows, banks) which promote species' movements by becoming ecological corridors (Tscharntke et al. 2005).

  Reducing EFAs to extended plots has also led to various **semi-natural habitat removals**, which would otherwise shelter a great diversity of pollinator insects and their nests**.**
- **Specialization** of farming systems (cereals, milk) has created food deserts for pollinators due to the lack of pollen and nectar in sufficient quantity, quality and diversity all along the year. Even honey-crops, such as colza, do not provide sufficient diversity to wild pollinator population. The progressive phasing-out of legumes, diversified grasslands and integrated crop-livestock farming systems, has dramatically reduced the food offer for wild pollinators.
- **Direct subsidies:** to stop their negative impacts on wild pollinators, EU could allocate them according to **labour force** rather than farmed areas (which limits the number of employees per head of the holding). This would foster small size farms engaging alternatives practices and diversification (e.g. crop rotation, polyculture, permanent soil cover) and also support agricultural employment since more respectful farming practices require often more work.

Conditionality: which links CAP payments to a range of obligations, does not include any rule regarding chemical pesticides and fertilizers use. This lack leads to a continued use of pesticides, and to a collapse in insect populations. Post-2020 CAP needs to address environmental challenges by adding new obligations to the conditionality. Mostly, next CAP should include a mechanism which aims at significantly reducing the use of chemical pesticides and fertilizers, in order to encourage farmers to engage in holistic changes strengthening biodiversity.

Ending the regulation of production volumes: The removal of milk quotas, quotas for sugar, and the setup of a mechanism allowing vine planting in new areas have intensified productions. This intensification has often had negative effects on the environment, without necessarily improving farmers' income. For milk production, grasslands have been replaced by intensive battery farming, relying on feed importations, mostly coming from deforestation. In the case of sugar, especially sugar beet production, CAP has encouraged a production based on systemic pesticides use, some of which have been forbidden in the EU because of the danger they entail for pollinators.

Member States should not undercut environment goals: The 2015 CAP reform has given Member States the possibility to adapt EU decisions to their national priorities. However, Member States have sometimes undercut EU ambitions regarding environment challenges.

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Reducing environmental damages and biodiversity loss linked to agriculture is still major challenge that current CAP fails to effectively address, especially by supporting intensive industrial agriculture responsible of the two main drivers of wild pollinator decline: continued use of synthetic substances (chemical pesticides and fertilizers), and loss of habitat and resources. Wild pollinators have been deprived of their basic needs: feeding on a diversity of pollen and nectar, finding shelter, reproducing and moving from one ecosystem to another.

Negative impacts of agriculture on the environment and pollinators have to be better addressed and public investment should be restructured in order to improve, not deteriorate, environmental conditions**. Measures which target ecological systems are too rare**, not sufficiently endowed and not easily accessible to all farmers, despite they represent an efficient lever for agroecological transition. The budget they represent is too weak compared to other subsidies, resulting in the collapse in pollinator populations.

Post-2020 CAP should promote non-market services of agriculture, such as biodiversity protection, in order to favour wild pollinators. A pollinator-friendly agriculture in Europe can be envisaged by paying particular attention to specific tools under the first and second pillars, and by making pollinators stronger allies for agriculture, allowing to measure the effectiveness of policies. An important proportion of the next CAP should be consecrated to environmental and climate challenges, including agri-environment measures (AEM), payments for environment services and support to organic farming. Harmful subsidies and incentives in the CAP should be replaced with incentives for practices benefitting biodiversity and pollinators.

3. Would you recommend any specific studies, reports or evaluations of these measures and their impact on pollinators?

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IMPACT OF NATURE CONSERVATION MEASURES

4. **How relevant do you think the measures included in the EU Biodiversity Strategy and the Habitats Directive are for wild pollinators?** n.a.
5. **What should the Commission do to efficiently address the decline of pollinators in nature conservation measures?** n.a.
6. **What are in your opinion the most important monitoring schemes at EU and Member States level of wild insect pollinators and their main habitats (such as on semi-natural grasslands, environmentally sensitive permanent grasslands etc.)? Do they provide a sound basis for decision-making at European level/Member State level?** n.a.

IMPACT OF THE USE OF PESTICIDES

7. **What do you think are the main weaknesses in the current assessment of the impact of active substances on pollinators?**

The main weaknesses of the current assessment scheme can be summarized as follows:

a) It does not take into account **chronic toxicity** (i.e. chronic or repeated exposure of adult bees to active substances), which cannot be reliably predicted from acute oral LD50 data (i.e. acute toxicity, on which is based the current assessment scheme). It thus fails to provide an estimation of the long-term effects due to exposure to low concentrations, which is a crucial parameter to assess the overall toxicity of an active substance/PPP (in particular for systemic pesticides, seed- and soil- treatments).

b) It does not investigate **larval toxicity**, i.e. the effects of active substances on honeybee development and other honeybee life stages, except for insect growth regulators. Therefore, potential risk to larvae are ignored.

c) As this assessment scheme provides evaluation protocols on honeybees only, it does not **cover risks for pollinators other than honeybees**, thus failing to identify potential effects on non-Apis bees (bumblebees and solitary bees).

d) It does not include an assessment of **cumulative toxicity**. As pesticides are often applied in tank mixes (2 to 9 active ingredients at the same time), non-target organisms are exposed to mixtures of compounds following sequential applications to crops which may produce cumulative and synergistic effects. These effects are not taken into account by the current assessment scheme.

e) It does not properly cover **sub-lethal effects**. f) It does not include all the possible routes of exposure (dust drift, surface and puddle water,

including guttation, pollen and bee products, exposure to plant metabolites, etc.).

g) Several of its protocols and methodologies for semi-field and field tests are outdated and show weaknesses. These have been identified for each of the semi-field test guidelines (e.g. the limited size of crop area, the impossibility to evaluate all the possible exposure routes of the systemic compounds used as seed- and soil-treatments (SSST), the limited potential to extrapolate the findings on larger colony sizes used in field studies or the relatively short timescale (one brood cycle) (EFSA PPR 2012:3-4). For the field tests, as well, several major weaknesses have been pointed out (e.g. the small size of the colonies, the very small distance between the hives and the treated field, the very low surface of the test field), leading to uncertainties concerning the real exposures of the honey bees (EFSA PPR 2012: 48-100). Indeed, field studies conducted according to the current risk assessment scheme have often showed cross-contamination between control and treated fields; also the low number of colonies/fields used in these tests has deemed insufficient to detect any effect (with statistical methods) due to a lack of replication (= low statistical power). These problems hinder the capacity to detect significant effects.

Also, the current risk assessment scheme does not include the refinement of exposure estimates based on measured residue levels in pollen and nectar and the sugar content in nectar, which offers a cost- and resource-efficient intermediate tier before proceeding with semi-field or field effects studies (see Rortais *et al.* 2017).

h) Finally, the current scheme does not comply with the approval criteria and data requirements established by the legal framework (Reg. (EC) 1107/2009; Reg. (EU) 283/2013; Reg. (EU) 284/2013), as it does not provide all the protocols necessary to produce all the required data.

8. What do you think are the main reasons behind the non-approval of the 2013 Bee Guidance by the Member States?

In addressing this question, it is important to specify that:

a) Contrary to the current risk assessment scheme, the 2013 EFSA Bee Guidance Document (hereinafter EFSA Bee GD) is the result of an accurate, exhaustive and transparent scientific research: the overall scientific process of producing the EFSA Bee GD has been conceived to include, beside the scientific opinion of an ad hoc panel of high-level experts (EFSA PPR 2012), the output of independent studies, through a review of the available scientific literature and the organization of public consultations.

b) Its Specific Protection Goal (SPG) have been established in consultation with risk managers in the SCoFCAH (replaced by the SCoPAFF in 2014).

It is thus difficult to understand why this Guidance Document has not been approved by the very authorities which agreed its SPG. Unfortunately, the lack of transparency of the SCoPAFF deliberations prevents us from knowing officially which Member States (MS) oppose the approval of this document, as well as their justifications for this 6-year long blockage. The European Commission (EC) has refused, on the basis of confidentiality rules, to give POLLINIS access to a list of documents which could have clarified this situation, despite the Ombudsman's recommendation to provide us all the requested documents (see POLLINIS' complaint to the European Ombudsman: https://www.pollinis.org/admin/wp-content/uploads/2019/02/document- saisine-mediatrice-pollinis-1.pdf;

the Ombudsman's recommendations:
https://www.ombudsman.europa.eu/fr/recommendation/en/113624; the EC's opinion: https://www.pollinis.org/admin/wp-content/uploads/2019/11/opinion-commission-europeenne-pollinis-novembre-2019.pdf).

What we do know, however, is that the European Crop Protection Association (ECPA), the association representing the agrochemical industry in Europe, has been strongly and repeatedly trying to influence the SCoPAFF in order to reject the adoption of the EFSA Bee GD. As one of the « inputs » addressed by ECPA to SCoPAFF's members states (on 10-03-2017): "ECPA will continue to ask that the Commission, EFSA and Member States not to adopt [sic] the guidance document as it currently stands, on the basis that it is not fit for purpose and does not provide useful support to decision-making [...]" (see POLLINIS report for a detailed analysis and Appendix 3 of the report for the original documents).

On the contrary, the GD fits its purpose and provides useful support to decision-making, as demonstrated, for instance, by EFSA's reports assessing the impact of three neonicotinoids (thiametoxam, clothianidine, imidacloprid) on bees. These reports were based on the GD and led to the ban of the same three molecules in the EU (EFSA 2018).

Another criticism addressed by the agrochemical industry to the EFSA GD is that "[m]any of the laboratory test methods required by the guidance document were either not available or not fully developed for regulatory purposes" (ECPA 2017). That was the case in 2013, at the time of the GD publication. However, in the meantime, several of these test methods have been developed and are at present available (see question 9).

So, in theory, nothing prevents the adoption of at least the first section of this document (first tier, i.e. laboratory tests). To our knowledge, there are no studies produced by the independent scientific community contesting this section. On the contrary, a large number of scientific studies point out the importance of assessing chronic toxicity[1]. The European Parliament has also recently (on 23-10-2019) emphasized the crucial role of these tests for a reliable risk assessment and the urgency of including them in the PPP evaluation procedures in the EU.

9. When the 2013 Bee Guidance document was prepared, some test methods were missing. In your opinion, has this gap been filled-in since 2013?

This gap has been completely filled for the first tier assessment on honey bees (laboratory tests), and partially for the laboratory tests on bumblebees.

For honey bees, beside the test guidelines on acute toxicity (OECD 213 and 214, which were already available at the time of the EFSA Bee GD publication), the test methods for **chronic toxicity** and **larval toxicity** are available:

- OECD Test Guideline 245: Honeybee chronic toxicity test (10-day feeding) - 2017;

- OECD Guidance Document 239 on Honey Bee Larval Toxicity Test following Repeated Exposure - 2016.

1 See the Selected bibliography on chronic toxicity at the end of the document.

For bumblebees, test methods for acute toxicity (oral and contact) are at present available:

- OECD Test Guideline 246: Bumblebee, acute contact toxicity test - 2017;

- OECD Test Guideline 247: Bumblebee, acute oral toxicity test - 2017. As for solitary bees (Osmia spp.), the test protocols for acute toxicity (oral and contact) have been recently ring-tested (2019) and the test itself is ready to be implemented.

Therefore, from a technical point of view, nothing prevents the implementation of the full first tier (laboratory tier) for honey bees, as suggested in the EC implementation proposal of the EFSA Bee GD in July 2018. Also, acute toxicity for bumble bees and solitary bees could be tested.

10. The Commission launched the review of the 2013 Bee Guidance. What do you consider to be the main threats in the current process? What is your opinion on the composition of the stakeholder consultative group for this review?

The main threat in the current revision process is that the level of protection established in the EFSA Bee GD could be weakened, i.e. that the Specific Protection Goal (SPG) and related trigger values will be modified to be less protective, as requested by the ECPA.

It should be noted that this revision was not considered necessary by the EFSA, as this agency indicated during the SCoPAFF meeting of July,19/30, 2018: « EFSA does not consider it currently the right time to revise the Bee Guidance Document but [...] this can be discussed with the Commission as soon as new models become available » (see Summary Report of the SCoPAFF, 19/20-07-2018, §A.08, point 3).

However, this revision was strongly advocated by the industry, as shown in a « input » letter addressed to the SCoPAFF by the ECPA:

EXCERPT FROM A LETTER DATED 3 DECEMBER 2018 (integral text in POLLINIS report, Appendix 5):

"ECPA is supportive of a robust pollinator risk assessment, however we would reiterate our requests for a significant revision of the proposed EFSA guidance document before any type of implementation. [...] We believe that the elements suggested by the Commission as ready for implementation require substantial work before being applicable".

One of the main reasons why the industry has been repeatedly demanding a revision of this document is the present level of protection guaranteed by the EFSA Bee GD (and associated trigger values) which the industry considers to be too protective, as shown in this ECPA "input" letter to the SCoPAFF:

EXCERPT FROM A LETTER DATED 13 JULY 2018 (integral text in POLLINIS report, APPENDIX 9):

"ECPA is supportive of a robust pollinator risk assessment, however we maintain that a significant revision of the draft EFSA guidance document is required to establish a practicable and consistent approach. [...] [W]e have observed the practical consequences of this overly conservative document [...]. We have previously raised our concerns especially in relation to the conservatism of the proposed honey bee chronic trigger values (which grossly overestimate the risk [...]".

This statement is based on an impact analysis conducted by the industry (Miles *et al*. 2018) showing that many PPPs currently authorized in the EU failed to pass the test of chronic toxicity. But if many PPPs failed this test, is it because its trigger value is too conservative or because the previous risk assessment scheme was not adequate to identify the risk? In addition, the chronic oral trigger value seems very conservative because we have at present only little experience with chronic exposure. Currently, most ecotoxicological information on bees is based on acute exposure (=acute LD50). Information on chronic tests is currently available only for some compounds but there are indications that exposure time can amplify the toxicity of pesticides, even at very low doses (see Simon-Delso *et al*. 2018; Holder *et al*. 2018). There is also evidence of the existence of non-monotonic dose–response relations, which implies that some compounds have unexpected and potent effects at low doses (see EFSA Colloquium 17 Summary report: Low-dose-response in Toxicology and risk assessment).

For these reasons, and in order to guarantee a high level of protection of pollinators in the EU, the SPG and associated trigger values of the EFSA Bee GD have been conceived to be protective.

These values are calculated on the basis of "natural background mortality", which shouldn't increase over a certain limit following exposure to an active substance/PPP, to avoid the risk of an "unacceptable effect" (as established in Reg. EC 1107/2009). Hence, to guarantee a high level of protection and ensure colony or population recovery, the SPG and trigger values of the EFSA Bee GD are based on the lowest natural background mortality levels found in the scientific literature (see EFSA GD 2014:9).

Now, one of the main points of the revision will be precisely a new assessment of the natural background mortality of bee colonies, bumblebees and solitary bees. This new assessment will be conducted according to the draft protocol established by the EFSA to this end.

However, it is worrying that this protocol should suggest to consider as « natural » the exposure of bees to chemicals that are normally found in agricultural landscapes, totally neglecting the problem of pesticide residues in these settings. If the objective of this protocol is to assess « natural background mortality », i.e. mortality due to any aspect that is « independent from accidental exposure to pesticides » (as defined in the draft protocol, p. 5, lines 174-175), then bees' exposure to PPP residues regularly encountered in a field-realistic scenario must be accounted for, and not being considered as « natural ». There is an increasing evidence that bees are routinely exposed to mixtures of agro-chemicals in agricultural landscapes (Bot²as et al. 2017; David et al. 2016; Lambert et al. 2013; Long and Krupke 2016; Mullin et al. 2010; Pettis et al. 2013) [2]. Therefore, exposure to PPP residues is likely to be regularly encountered in a field-realistic scenario and contact with these combinations of active compounds might be more prolonged in time and more widespread in the environment than previously assumed. This exposure to a cocktail of compounds has detrimental effects (both chronic and sublethal) on bee health, longevity and mortality (see, among others, Azpiazu et al. 2019; Engel et al. 2016; Leza et al. 2018; Pettis et al. 2013; Tsvetkov et al. 2017; Van der Sluijs et al. 2013). Neglecting this parameter may entail an overestimation of mortality rates, due to exposure to PPP residues ubiquitously present in the agricultural landscapes. This ubiquitous « accidental exposure » could entail a biased assessment of natural background mortality if not properly taken into account.

Also, according to this protocol, the research will be limited to agricultural areas (thus excluding natural and urban areas), which would result in a restrictive choice, and one not in line with the previous orientation of the EFSA GD. Indeed, for the calculation of the SPG of the 2013 Document, EFSA considered all the available literature on background mortality, including studies conducted

2 The exposure of bees to PPP residues present in agricultural settings is confirmed by the widespread occurrence of mixtures of agrochemicals in bee forage (David et al., 2016; Henry et al. 2015; Long and Krupke, 2016), honeybee matrices (Lambert et al., 2013; Mullin et al., 2010; Pettis et al., 2013; Sanchez- Bayo and Goka, 2014), and bee tissues (Botias et al., 2017; Hladik et al., 2016). In bee tissues, such mixtures are detected not just during the crop flowering period, but also later in the season (Bot²as et al., 2017).

in an urban environment (which actually provided the lowest mortality rates). Thus, provided that food sources are available (e.g. in the case of urban gardens), studies in urban settings should be considered eligible in the new assessment of natural background mortality. Urban gardens are an important food source in cities and towns, and they can host a great diversity of pollinators (Baldock et al., 2015; Botias et al., 2017; Fetridge et al., 2008; Goulson et al., 2010).

Finally, the protocol does not include any measure to identify studies which could be flawed by conflicts of interest. Such a criterion should be added to the list of the eligibility criteria for the selection of the studies which will be included in the assessment.

To sum up, focusing only on crop areas already saturated with chemical residues, without a proper assessment and quantification of these residues, may lead to an overestimation of the mortality rate which, in turn, will lead to weaker SPGs and weaker trigger values.

As for the composition of the Stakeholders' WG, we remark that three stakeholders belong to the agrochemical industry: M. Miles representing ECPA (he authored several papers contesting the trigger values established in the EFSA Bee GD), A. Alix representing the European Seed Association (ESA) and S. Hinarejos, representing the International Biocontrol Manufacturers Association (IBMA); four stakeholders represent environmental associations (PAN, Beelife, Apimondia, POLLINIS) and two other stakeholders come from professional associations (C. Hartfield represents COPA COGECA and A. Krick CIBE) which are notoriously in line with the position of the agrochemical industry. So, in our opinion, there is no real balance among stakeholders, especially given that environmental associations have less financial and human resources to allocate for such a task, as commenting on the revision process.

11. **When the Commission reassessed in 2012 clothianidin, imidacloprid and thiamethoxam using the 2013 Bee Guidance, do you know why acetamiprid and thiacloprid were not included?** n.a.

12. **The Commission proposed decisions to stop Romania and Lithuania from granting emergency authorisations of the banned neonicotinoids for future seasons. The ScoPAFF vote resulted in no opinion. What do you think the Commission should take as next steps to ensure that unjustified emergency authorisations are granted?**

The Commission should fully use its control rights under art. 53(2) and (3). It should also finalize finalise methods to determine when certain derogations should be applied, if at all, in particular as regards 'negligible exposure' or 'serious danger to plant health.

13. **Do you think the ban of the three neonicotinoids had a real impact on the decline of pollinators if alternatives are other chemical products for which the 2013 Bee Guidance is not fully applied? What is your opinion on EFSA establishing that acetamiprid has a low risk for bees?**

If the banned neonicotinoid molecules are replaced with other equally dangerous molecules (like sulfoxaflor, flupyradifurone) which are not tested according to updated protocols and risk assessment schemes (i.e. the EFSA Bee GD), the ban will not have a real impact. To this regard, recent scientific research suggests that sulfoxaflor should be considered a nicotinoid, and more specifically a « fourth-generation neonicotinoid », considering that it interacts with the same cellular receptors and is active on the nervous system of (targeted and non-targeted) organisms. The nicotinic acetylcholine receptor pharmacological profile of sulfoxaflor in aphids is consistent with that of imidacloprid (Cutler et al. 2013).

Sharing the same mode of action of neonicotinoids, sulfoxaflor is assimilated with the other substances belonging to this class in the scientific literature analyzing the impact of pesticides on pollinators (see e.g. Van der Sluijs et al. 2013). Indeed, several studies point out the urgent need to preemptively evaluate the potential sub-lethal effects of sulfoximine-based pesticides on bees, because such effects are rarely detected by standard ecotoxicological assessments but can have major impacts at larger ecological scales (Siviter et al. 2018; Brown et al. 2016). See in particular Siviter et al. (2018) for the risk on bumblebees.

For the risk on bees, see also EFSA scientific opinions (EFSA 2015: 14-15): « First-tier risk assessments (HQ approach) for the active substance and the representative formulations indicated high risk to honey bees… »; (EFSA 2019: 3): Based on the data assessed, a low risk could not be demonstrated for honeybees and non-Aphis bees as a result of the current assessments (points a – d).

For these reasons, neurotoxic molecules having the same mode of action as neonicotinoids should be evaluated with special attention and considered as equivalent to these insecticides (even if they show different impacts in terms of resistance), as recently decided by the French government (see the draft decree listing the active substances present in plant protection products and presenting identical modes of action to those of the neonicotinoid family).

Concerning acetamiprid, we remark that the use of this molecule (and thiacloprid) as a second-generation neonicotinoid has been largely generalized to replace compounds banned in EU in 2018 (imidacloprid, clothianidin and thiamethoxam). According to the EFSA peer review of acetamiprid risk assessment (EFSA, 2016), '*a low risk to honeybees (acute, chronic and larvae) and to bumble bees (acute) was concluded for all scenarios for the representative uses on pome fruit (post-flowering application) and potatoes*'. However, **important data gaps** have been identified and efforts are still needed on the provision of complementary data for a broader range of representative uses, especially regarding sublethal effects on bees and the risk via exposure to residues in guttation fluids.

According to El Hassani et al. (2008), **particular vulnerability of honeybees' behaviour** to sublethal doses of acetamiprid has been shown. While no extra mortality has been reported compared to control group (doses between LD50/100 and LD50/10), acetamiprid affects locomotor activity, Proboscis Extension Reflex (PER) to water and memory performances (at LD50/100). In addition, bees' physiology and behaviour are more affected by acetamiprid than by thiamethoxam, both tested in the LD50/100 and LD50/50 range.

Regarding the effects of the **mode of application** (orally or topically) on behavioural variables, significant differences have been reported whatever the dose tested, which has implications on the recommended uses.

While exposure routes must be better addressed (e.g. residues in guttation), **synergistic effects** are another major priority research considering co-application of pesticides as a common phenomenon which submit bees to direct exposure to pesticide mixtures. For example, Han et al. (2017) tested a combination of acetamiprid and a commonly applied fungicide (propiconazole) at field-realistic doses and showed that sublethal doses of propiconazole (1.2g/honeybee) increased the acute toxicity of acetamiprid to *Apis cerana cerana,* as previously reported by Iwasa et al. (2004). More recently, Han et al. (2019) reported a severe increase in *A. c. cerana*'s mortality with chronic exposure to acetamiprid and propiconazole at field-relevant doses, either alone or combined (23.3 % to 69.7 % respectively), a **level of magnitude which corresponds to a large effect on population**.

According to EFSA (2016), a higher sensitivity to acetamiprid has been reported for bumble bees than for honeybees. In addition, Yue et al. (2018) reported a higher sensitivity of *A. c. cerana* to acetamiprid than *A. mellifera*. Thus, **sensitivity to acetamiprid varies with the species considered** and the precautionary principle must be applied until new scientific evidence guarantees safe use for all species, including complete risk assessment of bumble bees and solitary bees.

Finally, EFSA's peer review highlighted the **lack of transparency** in the reliability of reported criteria for inclusion and exclusion of the retrieved ecotoxicology papers. This has led to a non-reproducible analysis, which constitutes an important bias in the EFSA assessment.

On the basis of these observations, low risk for bees cannot be guaranteed without assessing acetamiprid in a more exhaustive way to complete the risk assessment.

14. Do you know which control measures are used in France as an alternative to banned neonicotinoids and whether such practices could be transferred to other Member States?

Alternative control measures have been analysed and listed by the French ANSES. The results of these studies can be found here:

- AVIS et RAPPORT de l'Anses "Risques et b®n®fices relatifs des alternatives aux produits phytopharmaceutiques comportant des n®onicotinoµdes" - Tome 1
- AVIS et RAPPORT de l'Anses "Risques et b®n®fices relatifs des alternatives aux produits phytopharmaceutiques comportant des n®onicotinoµdes" - Tome 2
- AVIS et RAPPORT de l'Anses "Risques et b®n®fices relatifs des alternatives aux produits phytopharmaceutiques comportant des n®onicotinoµdes" - Tome 3
- https://www.anses.fr/fr/content/risques-et-b®n®fices-des-produits-phytopharmaceutiques-¨- base-de-n®onicotinoµdes-et-de-leurs

It should be noted, however, that these reports do not take into consideration the important studies conducted in Italy and replicated in several other European countries on uses and alternatives to neonicotinoids on maize crop areas. These studies conclusively show that a reduction and even an elimination of treatments involving neonicotinoids can be achieved for these crops. More specifically, a 29-year research and survey on a large-scale maize crops area (47,000 ha) in Italy demonstrated that an approach combining a risk assessment/monitoring of effective pest risk factors (identifying low-risk and high-risk areas; Furlan et al. 2014) and the adoption of Mutual Funds insurance (covering risk from IPM implementation) was effective in reducing the use of pesticides without negative impact on average yields. This allowed not only to avoid negative environmental impacts, but also to increase farmer profits (Furlan et al. 2015, 2017, 2018).

The approach developed in Italy can easily be replicated in many other European regions (Furlan et al. 2016; Saussure et al. 2015) and beyond, which may lead to the immediate containment of the environmental impact of agriculture with no negative repercussions on farmers' income (Furlan et al. 2018).

EU POLLINATORS INITIATIVE (CONTRIBUTION FOR BOTH QUESTIONS 15 AND 16)

15. **What is your opinion on the EU Pollinators initiative? Do you think the initiative and its action plan efficiently tackle the main threats to wild pollinators in the EU?**

16. **Is the initiative likely to halt the decline of wild pollinators in Europe? If not, what are the most important elements lacking?**

The initiative fails to sufficiently address the root cause of pollinator decline: intensive industrial agriculture, which entails massive pesticide use and loss of habitat and resources. While preserving habitats is legitimately one of the priorities of the action plan (together with the reduction of the use of pesticides and the management of exotic species), **actions targeting specifically the impact of intensive agriculture are still underrepresented**. Indeed, maintaining and restoring both urban and rural pollinator habitats as well as increasing landscapes connectivity, must be aligned with policies enhancing biological diversity, soil quality and healthy food sources for pollinators: **the quality of habitats** is of paramount importance. Thus, stronger concrete measures on the implementation of alternative agricultural practices and mitigation of agriculture intensification are required. **Win-win options** need to be better identified and deeply synchronised within the action plan in order to effectively preserve ecosystem services and contribute globally to food security.

In this sense, legal measures on **land use changes** are urgently needed to preserve healthy habitats with high rates of indigenous flowers (such as semi-natural grasslands) and to avoid the conversion of such ecosystems into arable lands. In addition, the management of already-converted lands should be improved with incentive measures for delivering access to more food sources for wild pollinators, for example crop diversification and mixed cropping in agriculture lands, or the increase of melliferous trees in urban areas.

Pesticide reduction is a key lever to mitigate pollinator decline. Clarifications on how the Plant Protection Products (PPP) regulation (1107/2009/EC) and the Sustainable use of pesticides Directive (128/2009/EC) will be better implemented are needed, to ensure the transition to non-chemicals methods for pest control and with the aim of reducing the use of pesticides. In this context the adoption of the EFSA Bee Guidance Document (2013) is of crucial importance. This adoption must be supported by EU intitutions, in order to ensure effective criteria for risk assessment and the transparency of the decision-making process. Finally, detailed rules framing emergency authorizations of banned substances (i.e. imidacloprid, clothianidin and thiamethoxam) must be set up and applied by all member States. Only strong arguments publicly notified should be considered, with minimum standards.

Concrete **policy changes** are required and **consistency** among European strategies (articulation between the Biodiversity strategy and post-2020 measures, the new CAP and Multiannual Financial Framework) should be enhanced. Also, the initiative should consider harmful subsidies and incentives in the CAP and replace them with incentives for practices benefitting biodiversity and pollinators. The EU pollinator initiative should comprise both legally binding measures (e.g. on pesticides regulation) as well as voluntary elements (exchange of knowledge and best practices). Given the multiplicity and complexity of relationships maintaining ecosystem durability, as well as the question of synergistic effects - which is still totally underestimated at the regulatory level – actions must be based on complementarity: **resilience can only be reached by adopting holistic**

approaches. Isolated actions will not be enough to curb the decline of pollinators, while concrete, integrated and **multi-level measures** are now urgently needed to establish a virtuous cycle.

Research funding should be quickly and strongly reinforced (especially on wild pollinators), as well as better channelled to enable independent and collaborative studies that guarantee accuracy of results through transparent monitoring, reporting and evaluation processes. Continuous assessment of pollinator populations, as well as regular evaluation of existing – and upcoming - policies measures should be planned with **relevant indicators**. As stated in the action plan, the establishment of a **monitoring scheme at the European level** aims at filling the gap on data needs. The initiative should guaranty the viability of such monitoring system with financial mechanisms, in order to ensure the collection of **long-term data on a wide range of species, to** enable the detection of changes in pollinator populations trends. This constitutes one of the major pillars for the provision of high-quality data and must provide **usable, open and freely available data,** target specifically **wild pollinator populations** (crucial needs) and ensure **coordinated and networked** management.

Finally, as the initiative aims to take the lead at the international level, only resolute actions with measurable impacts can constitute accurate indicators of effectiveness and serve as an example to support, facilitate and foster international action on pollinators.

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