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Environmental risk assessment for non-target arthropods

Dear Dr. Url, Dear Dr. Gallina,

I am writing on behalf of EASAC regarding work that is starting at the European Food Safety Authority to develop a new environmental risk assessment (ERA) for non-target arthropods (NTA) following instructions from DG SANTE in June 2024.

As you may know, EASAC brings together the combined scientific expertise of the EU's science academies (plus those of Norway, the UK and Switzerland). Through EASAC, the academies provide independent and evidence-based advice on key policy issues to EU policymakers.

In recent years we have conducted two comprehensive studies related to the sustainable use of pesticides. The first, in 2015¹, examined the evidence on the effects of neonicotinoids on agriculture and ecosystem services and informed the Commission's decision at the time to instruct EFSA to work on honey, bumble and solitary bee pollinators. The second, in 2023², updated the evidence on neonicotinoids and their substitutes, as well as their role in integrated pest management. On the basis of this work we would like to comment on the challenges currently faced by EFSA on developing a new ERA for NTAs.

In our previous work, we pointed to the failure of the pesticide approval system to identify the broader system effects of neonicotinoids, which eventually led to their withdrawal. That these failures continue can be shown by the similar trajectory of substitutes such as sulfoxaflor that was also approved, only to be later withdrawn when its negative side effects were seen in field use.

These cases have, as you have recognized, sparked many calls to update the pre-approval process. We need better evaluations of real-world effects. This change can prevent approvals that harm the environment and waste industry resources. Companies lose their investment when new pesticides are later withdrawn. An improved ERA should spot negative impacts before approval.

Regarding the current debate on the development of the ERA for NTAs, we would like to make the following comments, in line with similar points made by the scientific opinion of the Group of Chief Scientific Advisors on "EU authorisation processes of plant protection products from a scientific point of view"³.

The concept of "Ecosystem Services for Humans" is an unnecessary and scientifically unfounded simplification

First, we note the use of the concept of Ecosystem Services for Humans (ESH) is strange because the definition of ecosystem services already includes the human relevance⁴. Our work has shown the interdependence of agriculture with several ecosystem services, as well as agriculture's interdependence with the ability to achieve other regulatory objectives such as biodiversity. We therefore find the concept

¹ EASAC Policy Report 26, April 2015, "Ecosystem services, agriculture and neonicotinoids", [LINK](#)

² EASAC Policy Report 45, February 2023, "Neonicotinoids and their substitutes in sustainable pest control" [LINK](#)

³ <https://op.europa.eu/en/publication-detail/-/publication/5306df12-79b9-11e8-ac6a-01aa75ed71a1/language-en>

⁴ <https://www.ipbes.net/glossary-tag/ecosystem-service>

currently being discussed of 'Ecosystem Services for Humans' (ESH) as a scientifically unfounded simplification.

The Commission's support and focus on Integrated Pest Management recognizes the importance of protecting and strengthening nature's contribution to sustainable agriculture which embraces pollinators, natural pest control agents, soil diversity- the full range of ecosystem services. At the same time, macrofaunal biodiversity also depends on a wide range of NTAs that provide foods at important stages of the reproductive cycle (especially birds) as well as cultural services of beauty (e.g. butterflies) and general ecosystem health and resilience. The negative trends over recent decades in insect biomass drive biodiversity loss higher in the food chain and thus impinge on social objectives beyond the narrow ones directly related to agriculture. We thus see the ESH focus as inconsistent with other objectives and lacking a scientific rationale.

Active agents with widespread ecosystem impacts should not be approved anymore

Regarding the procedures for testing NTAs themselves, we understand that many detailed procedures and models are being discussed. It is important in these detailed discussions not to lose sight of the ultimate goal of the revisions: these must ensure that the new system avoids any continuation of the current unsatisfactory position whereby active agents with widespread ecosystem impacts continue to be approved, only to be withdrawn later.

As you will see from the annex in our later report, there are many new active agents at different stages of research and development that could be submitted for approval, and an improved ERA should be able to demonstrate that it will avoid a repeat of the experience with neonicotinoids and substitutes such as sulfoxaflor. Relevant to this will be the issues raised in section 3 of our 2023 report which includes:

- Selecting test species that represent organisms of a range of sensitivity and ensuring data on all are made available in the pesticide dossier.
- Neonicotinoids show the importance of testing not just short-term exposure but also cumulative and long-term impacts. Testing should thus include such tests.
- Current testing based on one-substance fails to account for the potential for combined (additive or interactive) toxic effects in mixtures and exposure to different pesticides and co-formulants simultaneously. This cocktail exposure should be considered in the new ERA.

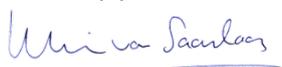
As we note in section 3.2 of our 2023 report, such shortcomings may be better addressed through the adoption of a more systems-based ERA.

Recovery of depleted populations should be considered as the exception not the rule

More attention also needs to be given to the assumption of recovery of depleted populations from surrounding reservoirs. This may be a false assumption - not only because such reservoirs simply do not exist for many intensive agricultural landscapes, but because the decline in arthropods has been shown to be widespread and extending to protected areas. Even when a recovery source exists, their survival in the treated fields may be limited by residual toxicity due to the persistence of some pesticides in soils and crops. We understand this point has already been made (see <https://efsa.onlinelibrary.wiley.com/doi/abs/10.2903/j.efsa.2016.4313>.) where recovery is the exception not the rule. Any assumptions at the pre-approval stage would also need to be validated later by field trials.

These are just some general comments that we encourage EFSA to consider in its challenging work programme. We remain ready to study these issues in greater detail where it would assist in the development of an effective policy that maintains the EU's food security while reducing negative impacts on the environment and biodiversity - in harmony with the Farm to Fork and Biodiversity strategies.

Sincerely yours,



Prof. Wim van Saarloos
EASAC President

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