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HS Applications
Environmental Protection Authority
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Submission APP204203 – Herbicide Trifix

Introduction

This submission has been prepared by the Apiculture New Zealand Science and Research Focus Group.

Apiculture New Zealand (ApiNZ) is the national body representing the apiculture industry in New Zealand. It covers the full range of sectors, from hobbyist and commercial beekeepers to honey exporters, packers and suppliers. ApiNZ aims to support and deliver benefits to the New Zealand apiculture industry by supporting a thriving long-term future for New Zealand honeybee products and services, including having a strong bee health and biosecurity position.

Application APP204203

This application is for a new herbicide, trade name Trifix, which contains the active ingredient 500g/kg Triflurosulfuron methyl. The applicant is FMC NZ Limited. Trifix herbicide is to be used to control broadleaf weeds in Fodder Beet crops. It is proposed for use by professional ground applicators only.

Endocrine Disrupting Chemicals and New Zealand

Our major concern with this application is that this active ingredient is recognised as an Endocrine Disrupting Chemical (EDC) by overseas authorities.

The European Food Safety Authority has recently banned the use of Triflurosulfuron methyl because it is an Endocrine Disruptor Chemical. Their major concern is contamination of groundwater by this chemical and its metabolites.

The New Zealand Parliamentary Commissioner of the Environment published a summary document on Endocrine Disrupting Chemicals in April 2023.¹ This report recommends; *“more stringent assessment of the potential for endocrine disruption, better characterisation of the sources of pollution, the need for a multi-disciplinary approach to manage the risk posed by endocrine disruptors...”*⁽¹⁾

Cawthron Institute conducted an overview of the New Zealand situation with respect to knowledge about the extent of use and distribution of EDCs in the New Zealand environment (2). A key concern is that not much is known about their effects of EDC in the New Zealand environment, and a precautionary approach is required.

Ecotoxicity to Bees

The data supplied in the application and assessed by the EPA in the Science Memo supports the non-classification of Trifix ai and product as being non-hazardous to adult honey bees (i.e., acute contact and oral LD50 values are $> 100 \mu\text{g ai/bee}$).

Data has been supplied by the applicant for Trifix mixed with the surfactant DPX-KG961 (isodecyl alcohol ethoxylate). This data shows that the addition of this non-ionic surfactant increases acute toxicity to bees and non-target arthropods compared with Trifix alone. (3)

ApiNZ is pleased to see that when used with a surfactant this tank mixture will be treated as a hazardous substance when sprayed. Please note that ApiNZ has made previous submissions calling on the EPA to address the hazardous properties of surfactants, which are widely observed by beekeepers.

There is an indication of hazardous risks to honey bees during their development in the hive. Loss of larvae and developing pupae within the hive can lead to total colony loss. Death of larvae is a known symptom of the effects of an EDC. The application shows data that honey bee larvae tests showed statistically significant mortality of larvae at D8 stage and statistically significant reduction in emergence at D22 stage after dosing with Trifix. See Reference Page 69 of the application.

Beekeepers are concerned that Trifix, its active ingredient (triflusaluron methyl) or metabolites, will end up in the hive and affect the development of larvae and the bee. (4) This may lead to the loss of the hive.

Trifix was identified by the EFSA in their Peer review (2022) to be soluble in ground water. Is this a risk to foraging bees who gather surface water and take it back to the hive?

Summary

Endocrine Disrupting Chemicals are a risk to our environment and honey bees. Beekeepers and farmers need further research on the effects in the New Zealand environment to ensure the safety of their existing systems.

Apiculture NZ looks forward to attending a public hearing on this application. We would be happy to answer any questions you may have.

Yours sincerely



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References

1. <https://pce.parliament.nz/publications/endocrine-disrupting-chemicals-in-aotearoa-new-zealand/>
2. Tremblay LA, Leusch FDL, Shaw IC 2022. Overview of Endocrine Disruption – an Aotearoa New Zealand perspective. Prepared for the Parliamentary Commissioner for the Environment. Cawthron Report No. 3800. 42 p.
3. [Page 114](#). EPA Science memo for application to import or manufacture Trifix Herbicide for release (APP204203) August 2025
4. J Fine & V Corby-Harris. 2021. Beyond brood: the potential impacts of insect growth disruptors on the long-term health and performance of honey bee colonies. DOI: 10.1007/s13592-021-00845-x