

Dear editor,

Thank you very much for the new comments to our manuscript and your positive view of the new version. Below we answer to the reviewers' comments. We hope you consider the new version suitable for publication.

Sincerely yours,

Daniel González-Tokman

Review by anonymous reviewer 1, 31 Jan 2024 15:24

The authors have taken into account most of the comments and have made corrections. The manuscript looks fine to me, with the exception of one sentence:

Line 304 - 306 "We also cannot discard that the observed reductions in the number of emerged beetles in some of our studied generations has resulted from genetic drift, preventing the detection of adaptation to ivermectin."

It is the large population reduction (i.e. bottleneck), possibly due to the deleterious effects of ivermectin, that can cause genetic drift, and not the other way round. Next, genetic drift can lead to an erosion of genetic diversity, reducing the capacity of populations to adapt to the pollutant.

RESPONSE: Thank you for your positive comment. We re-worded the incorrect sentence, as suggested, indicating that deleterious effects of ivermectin might have caused genetic drift and prevented adaptation to the contaminant.

Review by /public/user_public_page?userId=375 Marcel Amichot, 02 Feb 2024 14:36

Dear authors,

I was glad to read your responses and the manuscript with the changes you made to it. I therefore withdraw my suggestion to rewrite the manuscript (last sentence of my conclusion). On the subject of resistance to ivermectin, I now fully understand your objectives, which are not to obtain a resistant population but to check whether resistance can develop with doses recorded in the field. From that point of view, I agree with my colleague who stated in his review " In the context of ecotoxicology, the

questions posed in this study seem very relevant to me ". What's more, the discussion clearly mentions the importance of the number of generations required to reach a significant level of resistance. In fact, given the identified effects of ivermectin on insect mortality and reproduction rates, would there not be a basis for modelling the demographic impact of ivermectin on *Euoniticellus intermedius*?

The figures are more explicit now with the additions you made to their captions.

In conclusion, it seems to me that the manuscript has been modified to make it compatible with the requirements of the PCI Journal.

RESPONSE: Thank you for your positive view of the new version of the manuscript. We agree that by knowing the effects of ivermectin on *E. intermedius* survival and reproduction, there is valuable information for modelling the demographic impacts of the contaminant in natural populations of this important dung beetle in cattle pastures.