

## ***Interactive comment on “HESS Opinions: Agricultural irrigation with effluent – Pharmaceutical residues that we should worried about” by Dror Avisar and Gefen Ronen-Eliraz***

### **Anonymous Referee #3**

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The manuscript introduces a topic that is largely discussed, but presents general statements that are poorly discussed and it's not clear the aim of this discussion. For a reader that is not familiar with the topic, it might give a general idea, but it does not go beyond that. Moreover, it does not present a comprehensive overview, but rather gathering different pieces on the topic. It appears like a regional assessment focused on Israel, but the title of the manuscript suggests something different. In fact, the topic the manuscript deals with, is presented by the authors as an issue that has been addressed mainly by Israeli researchers and is overweight of Israeli studies, of which a number are from the same authors of this work. Thus, it is very limited in presenting relevant and updated references. There are several works that could be cited, being

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an issue that has caught a lot of attention worldwide in the last decades. In my opinion, the focus of the paper has to be better clarified and consequently the title and the abstract (and the manuscript too) modified to match the real focus of the paper.

The introduction and section 2 are dedicated specifically to water reuse and do not addresses the topic until section 3. Moreover, figure 1 and 2 (which, by the way lacks of a reference) do not contribute to the discussion, presenting irrelevant data regarding the topic of the manuscript. Half of section 3.1 is dedicated to describe general aspects of wastewater treatment rather than discussing the section's title, and the question remains unanswered ... which compounds at which concentrations? Carbamazepine and diclofenac ... which concentrations? Section 3.2, 3.3 and 3.4 are discussed poorly, for instance, half of section 3.4 discusses the conventional parameters present in water regulations (in Israel) just to say that pharmaceuticals are not regulated and regulation drug residues are required. Discussing in detail all the questions proposed could be too ambitious, but it would be more interesting discussing properly only one aspect, without losing focus. It's important to stress that reuse and emerging compounds are over debated topics in scientific community and therefore there are many papers, both reviews and research papers, dealing with these subjects.

Section 4: What about treatments (other than AOPs) for pharmaceutical residues removal and their efficiencies? It's not clear how discussing about AOPs application is strictly related to the topic defined in the title, also remembering that this processes are not the only option to remove emerging compounds. It's strange to dedicate a specific discussion on AOPs for emerging compounds removal, not discussing in deep the effect of biological process which is always present in a conventional wastewater treatment plant, meaning that current reuse practices are mainly referred to biologically-treated effluents.

Conclusions do not conclude anything and do not bring a new perspective, falling in commonplaces.

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Moreover, sections 5 and 6 refer to OMPs rather than pharmaceuticals (what the manuscript is supposed to deal with according to the title). OMPs include compounds from sources other than pharmaceuticals.

Based on this remarks, in my opinion the manuscript is not recommended for publication.

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