

# Review of: "Uptake of $^{15}\text{N}$ -urea and phosphates in *Triticum aestivum* with *Pseudomonas putida* and *Rhizophagus irregularis* endophytes of calcareous soil weeds"

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Potential competing interests: No potential competing interests to declare.

This study explores the synergistic effects of *Pseudomonas putida* and *Rhizophagus irregularis* endophytes in improving the absorptive capacity, and thus growth, of *Triticum aestivum* for nitrogen (N) and phosphorus (P) nutrients in calcareous soil environment.

Please ponder and consider the following comments and suggestions:

Isn't it that *P. putida* and *R. irregularis* are the endophytes isolated from the roots of *Resenda luteola* and *Arista purpurea*, which were then inoculated to *T. aestivum*? However, the second sentence of the abstract specifies otherwise. If I may quote, "An alternative ecological solution for *T. aestivum* is to inoculate *Pseudomonas putida* and *Rhizophagus irregularis* with endophytes that increase phosphorus uptake such as  $\text{P}_2\text{O}_5$  and urea". The sentence tells me that *P. putida* and *R. irregularis* are not the endophytes, but other organisms (not mentioned) are the endophytes. Please reframe your sentence and clarify that *P. putida* and *R. irregularis* are indeed the endophytes you are referring to.

The researchers can still improve how the objectives are presented, they are not well-stated and thus unclear to readers. It says to analyze the uptake of N, but how about P?

Likewise, in the objective section of the research paper, the term "distribution" appears ambiguous, and its contextualization within the study is not entirely clear to me. Although the researchers utilized labeled N-urea, suggesting a focus on tracing the nutrients' localization within the plant body, it is unclear if the objective also encompasses understanding the distribution (invasion) of the endophytes within the roots of *T. aestivum*. Unfortunately, both aspects are insufficiently developed in the discussion section.

I strongly recommend that the researchers provide a more comprehensive and detailed analysis of the results related to this specific objective. As it is one of the main aims of the research, "to analyze the distribution" (of what precisely?), it deserves substantial discussion and elaboration in the paper. By doing so, it will enhance the overall clarity and impact of the study's findings. Therefore, I encourage the authors to delve into this aspect and elucidate their findings related to "distribution" thoroughly in the paper.

