

Dear Editor,

We have improved the article following the Reviewers comments. Our answers are written in red.

We hope that the manuscript is now suitable for publication in PeerJ.

On behalf of all authors.

Chathura Perera



Answers for Reviewers:

Reviewer 1

No suggestions

Reviewer 2: Peter Török

Comments to the Author

1. l141 some additional info would be fine here. For example which type of substrat was used for the sowing (?potting soil? Soil collected from the restoration sites?), and what was the watering regime? How was the sowing executed? Was there a soil covering applied after sowing?

We have added to the text information on substrate, watering and sowing method:

"The pots were filled with commercial garden soil (pH = 6.07; N = 8.04 g/kg; P = 42.25 g/kg; K = 295.00 g/kg; Mg = 157.21 g/kg; C ≥ 30 %), and the seeds were broadcasted on the soil. They were pressed to the soil, and not covered by additional soil layer." (lines 144-146)

"Twice a week a manual watering was applied, except for the winter season" (lines 149-150)

2. l151-161 – Not clear what are these treatments and why are these important for the sowing experiment?

We have added sentence that explain the importance of the sowing experiment.

“A field experiment was carried out in two city parks in Wrocław to compare the seeds collected from mower with commercially used seed mixtures, and fresh hay application, whether it has the features and potential for city grassland improvement (*Fig. S6, S7*).” (lines 156-158)

3. l192 It is a pity that rototilled but non-sown plots were not established as control for local dispersal and seed banks. It would be nice to see which species were those which were present in the vegetation of the surroundings and also were established in the sown plots (of course they were also sown).

We agree, that it will be interesting to compare the rototilled but non-sown plots with experimental ones. However, the goal of the experiment was to improve the biodiversity of existing vegetation. Thus, we decided to establish the control on undisturbed plots.

4. l46 – maybe “high quality plant material” would be better here

We changed the text following the suggestion.

“Successful restoration requires high-quality plant material, which is expensive and often not easy to acquire.” (lines 46)

5. l86 – instead of “employed” use “applied”

Changed following the suggestion.

“Therefore, alternative methods such as spreading fresh hay or using seeds brushed from semi-natural meadows are applied, but they are also costly (Schaub et al., 2021).” (lines 86)

6. l206 These figures for pure seeds are really high – where were 5kg seed material attached to a mover? Some photos would be interesting to see how the experiments were implemented or how this material looks like.

The seeds gather on the upper cover of the mower and were collected several times during each technical break. It was a front-mounted mower, thus the inflorescences were not shaken by the tractor, and most of the seeds fall directly onto the mower. Moreover the mower was about three meters in width. We have added the technical description of the mower, as well as photos of the mower and collected material as supplementary figures: *Fig. S1, S2, S3, S4, S5 and S6*.

“The seeds were collected accidentally as remains on a mowing machine (front-mounted disc mower Kuhn GMD3125F-FF) after mowing an area of ca. 8 ha semi-natural grassland on July 14, 2020 (*Fig. S1*). The seeds and residuals (e.g., chuff, husks, and dirt) were collected from the mower housing using a brush, several times during each technical breaks, and stored in a cloth bag. The weight of the fresh material collected was approximately 5 kg (*Fig. S2*). (Line 111-115)”

“To determine the purity of the seeds (i.e., fraction of pure seed mass to residuals), 20 samples were taken, each weighing 1 g (Fig. S3).” (Line 120-121)

“Thirty seed samples each weighing 1 g (sampled in June 2020) were taken for germination trials (Fig. S4).” (Line 129-130)

“The seeds were sown in two periods: July and October of 2020 (Fig. S5).” (147-148)

“A field experiment was carried out in two city parks in Wrocław to compare the seeds collected from mower with commercially used seed mixtures, and fresh hay application, whether it has the features and potential for city grassland improvement (Fig. S6, S7).” (Line 156-158)

Reviewer 3: Jan Zarzycki

1. The title of the work does not fully correspond to the content. It would be advisable to include in the title that the seeds were harvested during mowing. The word "accidentally" is ambiguous.

We changed the title following the suggestion

“Seeds harvested during mowing from semi-natural grasslands as an ad hoc but effective solution for grassland restoration” (lines 1-3)

2. The work also requires some editing corrections. Describing the units in which the frequency is represented would be advisable.

1. Fig. 1B. Lack of b for J20 and M21 for the first week

We have added the letter “b”

2. Fig. 3 in the description (), Fig. 1 [] standardize to be uniform

Changed to “{)”

3. References format in List of references are different than in the authors' guidelines. Dates in brackets, "&" instead of "and".

We have corrected the format of the references

4. Material and methods are well described, but more information can be added with respect to the seed extraction method. The type of mower should be described in more detail, as not all types of mower will allow you to collect seeds.

We have added the information to the text and additional supplementary figures.

“The seeds were collected accidentally as remains on a mowing machine (front-mounted disc mower Kuhn GMD3125F-FF) after mowing an area of ca. 8 ha semi-natural grassland on July 14, 2020 (Fig. S1). The seeds and residuals (e.g., chuff, husks, and dirt) were collected from the

mower housing using a brush, several times during each technical breaks, and stored in a cloth bag. The weight of the fresh material collected was approximately 5 kg (*Fig. S2*). (Line 111-115)”

5. There should be a point as the decimal separator in table S2.
The commas were changed into points in the table S2.