

TRANSLATION:

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Peer reviewer:

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Peer review of the study**Balancing of greenhouse gas emission from potting soils**

On behalf of Ricoter, the greenhouse gas emissions of different potting soils were evaluated. The study concerns different formulations from the Ricoter assortment as well as another product for comparison, a universal potting soil containing 100% peat. Thereby, emissions of the whole life cycle were considered. The aim of the study was to determine if there are products that produce significantly lower greenhouse gas emissions than others. Such products could be suggested for a climatop labelling.

Functions of a critical peer review

Calculations of life cycle assessments are complex, because of the large amount of data that needs to be collected, processed and evaluated for its impacts on climate respectively the ecosystem. A review of all data and calculations is neither usefully feasible nor reasonable, because nowadays there are large amounts of base data from renowned databases on one side and software tools on the other side that are being used for such calculations. It is admissible to rely on the calculations when using a certain selection of data and calculation methods. The experience shows that the critical point of such calculations is rather the selection of the constraints and the goals of the study, in other words, the critical points are the procedure and the preconditions of the calculations and not the calculations themselves. Accordingly, these points have to be checked when performing a review. According to ISO 14040, the process of a peer review should ensure, that

- the applied methods are corresponding with the international standard,
- the applied methods are scientifically and technically sound and applicable,
- the used data are appropriate and reasonable for the aims of the study,
- the conclusions consider the goals and limitations of the study,
- the report is transparent and consistent.

Within this review all of these points were examined and the results were reviewed for their plausibility.

The review was made concomitant to the study, the most important decisions, such as the definition of the functional unit or the system boundaries, intermediate results as well as their plausibility were discussed, and the results of those discussions were incorporated in the final

report. This review is based on one hand on those discussions and on the other hand on the draft of the report from the 28th January 2009.

Aims and constraints

The chosen constraints such as the functional unit, system boundaries and the considered indicator are adequate for the imposed goal. It was clearly defined what was and what was not considered.

Of decisive relevance is the composition of the potting soils, especially where they contain peat, as the decomposition of peat releases large amounts of CO₂. In addition, it was attended to the emissions of methane and nitrous oxide, e.g. from the composting. Although the aim of the study was to evaluate the climate relevant emissions, other ecological impacts were considered using the Swiss method of ecological scarcity (Environmental Impact Points, UBP 06). This was considered as desirable, as the experience shows that results from climate impacts are often not consistent with environmental impacts in general.

Methods and data

The methods used within the study are scientifically comprehensive and consistent with the aims and constraints of the study. The data mostly came from other studies, indications from the manufacturer as well as from the database ecoinvent. The modifications of the allocations from compost production were considered as reasonable. It was remarkably positive that sensitivity tests were performed to show their influence on the results.

The traceability is given by the assignment of the primary data to the data from ecoinvent used for the calculation to which we had insight, as well as by the description of the assumptions and the fundamentals of the calculations. As for all life cycle assessments, also in this study one had to make several assumptions and some of the used data are afflicted with some uncertainties. However, as far as we can assess it, the used data, assumptions and estimations can be considered as justifiable.

The respective uncertainties were collected, evaluated, displayed and considered at the discussion of the results. We consider this as inevitable and it was exemplarily realised in this study.

Results

The results were reviewed for their plausibility, thereby the transparent description of the different steps of the life cycle were adjuvant. In addition, the relevance of the different processes was tested with an assessment. Based on these tests and the examination of the input data I came to the conclusion that the results are correct. It was remarkably positive that uncertainties were identified and analysed with respect to their significance for the results. Therefore the results can be considered as stable and assured.

Basically we embrace the usage of the method of the environmental impact points (UBP), because it considers on one side the impacts on the environment and on the other side it allows a statement on the relevance of the climate impacts in regard to those overall environmental impacts. The results from the UBP method show much smaller differences between the different potting soils than those results considering only greenhouse gas emissions. However, the ranking of the potting soils remains the same. The results from the UBP method show that the recommendations based on the basis of the climate relevant emissions do not lead to increased environmental impacts whilst trying to realise climate protection goals. Therefore the recommendations are justifiable.

The results answer the initially defined question.

Summary

The results regarding the climate impacts are plausible and according to the performed checks they can be considered as correct. The procedure is scientifically correct and corresponds to the initially defined objectives. The performance of sensitivity analyses, the indication of uncertainties and the performance of the UBP method are remarkable. This supports the results of the life cycle assessment and the given recommendations. In addition, it is also remarkable that relevant influencing factors and their effects on the results as well as the diverted recommendations were discussed.

Basel, 30th January 2009