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Critical review of "Comparative LCA study between Tempe and Seitan"

Present some overall comments on your impression of the report.
A good written report with interesting topic. It could be a bit more detailed in order to increase the credibility. It has all the parts needed for a good LCA.

It was a good description of the scope of the study, as it had clear and concise assumptions and limitations, for example you made clear points why you chose Netherlands as the location for the LCA.

In the result, it was good that you discuss from what processes the impacts are coming from directly in the process, as it gave a broader perspective for the report.

In the tables fives and six, it is a bit uncertain where the information is coming from. It seems you have taken the information from table 6 to table 5 in order to calculate table 5, is this correct? Or is it a standard value from a report or a simapro value? It could also be good to merge some of these tables as it is so many for just one topic.

The table of contents should have all headlines in it, also the subheadings.

Do you have any reflections on the choice of topic?
The subject of this report is very interesting and current in time, especially as many people today are looking for alternatives to meat and want to make environmentally sound decisions.

Was the language good?
Some typos were discovered so a suggestion is to read it through one more time in order to correct them. It could also be good if you don't used the we-form in the report, as it lowers its formality.

A suggestion could be to write potential environmental impacts instead of environmental impacts as we don't know if it is environmental impacts until the results.

Should 'tempe' and 'seitan' be capitalized?

Does the report have the required structure? Are all parts of the LCA sufficiently and transparently documented?
The structure is good and all necessary headlines are included. Some sections could be expanded upon in content and transparency, such as the flowcharts presented in sections 2.1 and 2.2. These could have been more thoroughly described to give a clearer idea of what is happening within the processes and to increase the ability for the reader to double-check facts.

The summary was good in the sense that it managed to capture the reader's interest but the research questions and the conclusion on which product is considered to have the lowest potential environmental impact should be added.

System boundaries and limitations are well defined and described with good motivation to every choice. What could have used some motivation is how you chose your four significant impact categories. Were these decided after SimaPro was run or before? If the latter then what source/information was this decision based on?

In the result section (page 11) you discuss freshwater eutrophication, where you mention that the total impact of tempe is lower but it has a higher impact on phosphorus to

water. It is not really clear where this information was derived from. This should be explained since it can't be seen in the diagram.

The sensitivity analysis is good and based on relevant weaknesses in the default model.

Are any questions left unanswered?

You could maybe have described what normalization is a bit better, because now it is a bit unclear under the section 1.8 - Normalisation and weighting.

One thing that might be interesting to know is why you chose seitan and tempe among all possible vegetarian alternatives?

Are results sufficiently documented and explained?

The process flow charts as constructed in SimaPro (Figure 2 and 4) are a bit unclear. They do not answer many questions with regards to the impacts. For example it does not look like the processes for soybean production and tap water in figure 4 are included in the processes above them. They are also placed with the methodology whereas we think they should belong in the results section. A suggestion could be to revise the flow charts and consider providing a legend to clarify the process. (Page 5 and 6).

Are the conclusions supported by the results?

The conclusions are supported by the results, which is good, and the aim and objectives are answered by the conclusions.

Improvements

The presentation of the hotspots was presented through a logical flow chart structure, but could have been ranked and compared to each other further. The charts used seem to have had some errors in presentation, and could be revised. The presentation of the hot spots were generally unclear, and could be further developed by referring to specific tables and diagrams.

Table 1 could be combined with the overlying text in order to associate the references used with the input data. The caption, as well as other captions throughout the report, could be more descriptive to give more information at first glance.

An appendix could be added near the end to show and summarize all calculations. Whilst the mathematics is not hard, showing the calculations adds transparency to the report.

Consider consolidating the smaller tables (2b- 6b) into one or two large tables, rather than have it spread out. It is a bit difficult to read with the small captions, and can be a bit confusing. Consider making the captions the same size as the text, and centering the captions as well as the tables.

Separate table of contents from the cover page and the introductory page, allowing it a page by itself, granting more room for the subheadings.

Some references have different citation style than others (See Page 1 for example, brackets [] vs parentheses ()) - consider making all the citations in a similar style.