

Conclusions from PEF-workshop with Danish feed industry

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Notes:

1. Emissions from grass cultivation still has high uncertainty and the default emission factors proposed in PEFCR cannot well reflect the actual emissions and impact of management practices such as crop rotation.
2. The current PEF results of GPC are still uncertain due to the following aspects (among others):
 - a. Model has developed under the unsteady state production both at farm level and biorefinery level
 - b. Lack of reflection on crop rotation and optimization of rotation for reduced impacts and increased production and profitability.
 - c. Economic data used for allocation backs to 2020 and needs to be updated
 - d. Currently grass protein has a higher protein content (~50%) compared to the primary data used in the model (~47%).
 - e. Current results only reflect the situation for one specific biorefinery in Denmark while farm practices varied a lot across Denmark.
 - f. PEF results are not representative of organic compound feeds
3. GFLI carbon footprint model is currently used by Vestjyllands Andel to implement carbon footprint of compound feeds. GFLI model does not currently cover organic feed ingredients as this is the same challenge in the PEF studies.
4. PEF is currently used indirectly (informally without verification) by feed companies for internal purposes and carbon footprint estimation and not for official PEF certification.
5. The following expectations are for any future PEF tools:
 - a. To be user-friendly
 - b. Include variations/differences in grass protein production
 - c. Tool should include regional changes in the model
 - d. Collecting data on feed ingredients is still a challenging part when working with any tools including GFLI model.
6. Although PEFCRs have detailed the certification of PEF studies, the certification and verification have not been practiced for the products entering into the EU market. The same

- applies for feed and compound feed products. One of the main concerns for verification and certification is to share company data with external people which endangers confidentiality.
7. Other parameters should be further included when PEF of grass protein is evaluated. Among others are omega 3 content in GPC and other compounds that give GPC better nutritional value.
 8. Further collaboration is needed to cover the current gaps in the implementation of PEF studies, bringing organic products into PEF database, and for further certification practices.



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