



**Practice Abstract 17 -
Small Ruminant GHG Monitor: An Emissions and Farm
Performance Tool for Dairy Sheep and Goat Farming (SIP3)**

17. Small Ruminant GHG Monitor: An Emissions and Farm Performance Tool for Dairy Sheep and Goat Farming (SIP3)

Short Summary for Practitioners in English

Problem:

Dairy goat and sheep farmers are increasingly asked to document and reduce the climate impact of milk production. Many existing carbon-footprint tools are designed mainly for cattle, use general sector averages or require data that smaller farms do not routinely collect. Their results can therefore be difficult to connect to feeding, milk yield, roughage production and farm profitability. The Small Ruminant GHG Monitor is an online tool developed specifically for dairy sheep and goat farms. It calculates greenhouse gas emissions per kg of fat- and protein-corrected milk using standard farm information, including animal numbers, milk production, feed use, purchased and home-grown feed, housing and manure management.

Solution:

The calculation model is based on established GHG-accounting principles and was adapted to small-ruminant production. Unlike a basic carbon calculator, it combines the emission result with technical and economic indicators. A rule-based advice function identifies possible improvements in areas such as ration composition, feed efficiency, milk production and roughage management. Relevant background information is linked through Capripedia/Ovipedia, another ADS conjointly piloted within the Farmtopia project.

Benefits:

- The GHG Monitor was validated on four commercial dairy sheep and goat farms during two pilot phases. Across the full pilot period, average milk production was 12.19% above the baseline, emissions per kg of FPCM were 17.53% lower, and feed profit per animal was 66.97% higher.
- The recommendations were discussed with farmers and agronomists and assessed against the practical situation of each farm. Farmers used the results to evaluate possible changes in feeding, forage production and herd management. The pilot showed that lower emissions per kg of milk can be combined with improved technical and economic performance.
- These results cannot be attributed solely to the tool. Feed prices, weather, feed availability, animal performance and other management decisions also influenced the outcomes. The monitor supports the identification, comparison and follow-up of possible measures rather than predicting a guaranteed farm result.
- The main added value compared with general carbon-footprint tools is its specific focus on dairy sheep and goats, its limited data requirements, and the direct connection between emissions, farm economics and practical recommendations. No sensors or IoT equipment are required.

Practical Recommendations:

- Farmers should use recent and complete farm records. Milk production, ration composition, feed quantities and dry-matter intake have a strong influence on the calculation. When only standard farm data are available, the results are suitable for benchmarking, identifying major emission sources and comparing scenarios, but they remain calculated estimates rather than direct emission measurements.
- Use the first calculation as a baseline. Discuss the proposed measures with an advisor, select

actions that are realistic for the farm and repeat the calculation after implementation. Not every recommendation will be technically or economically suitable for every farm.

Further information

- n/a

About this practice abstract and Farmtopia

Publisher: Govaerts & Co

Authors: Lander Govaerts, Wim Govaerts

Contact: wim@wimgovaertsenco.be ;
lander@wimgovaertsenco.be

Permalink: [EU CAP Network](#)

This practice abstract was elaborated in the Farmtopia project, based on the EIP AGRI practice abstract format. ©2026

Farmtopia: The project is running from September 2023 to August 2026. The overall goal of Farmtopia (**GA No.: 101083541**) is to democratize digital farming to empower small and medium farms.

Website: <https://farmtopia.eu/>

Govaerts & Co: As part of the Farmtopia project, WGov is the Leader and main agricultural digital solutions (ADS) provider of SIP3 on dairy sheep and goats (Belgium, Netherlands, France). It acts as a consultancy SME focusing on technical and business advice for dairy farmers.

Website: <https://www.wimgovaertsenco.be/>

Disclaimer

Co-funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Research Executive Agency (REA). Neither the European Union nor the granting authority can be held responsible for them.



Co-funded by
the European Union

