Re-Livestock
RESILIENT FARMING SYSTEMS

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PRACTICE ABSTRACT 11
Manure management to reduce emissions and optimize nutrient recycling

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WP4:
Re-Managing at farm level for livestock resilience

Sustainable Manure Management in Agriculture

Manure is a key source of nutrients for agriculture. By **using manure** as organic fertilizer, the impact of producing and using synthetic fertilizers in agriculture might be reduced while also contributing to the improvement of soil quality.

However, nutrient losses of manure through gaseous emissions, leaching and runoff result not only on pollution to the environment but also to the loss of fertilizing potential, reducing the circularity on **livestock production**.

Optimizing Nutrient Conservation in Livestock

In the **Re-Livestock project**, different alternatives aimed to optimize nutrient conservation in **manure** will be tested.

Management options for **solid and liquid manures** will be considered. Different composting strategies will be evaluated for nutrient fluxes using **beef cattle manure.**

The main aim is to promote **nitrogen conservation** and to assess the potential **carbon sequestration** in soils when applied to agricultural land.

Solid-liquid separation combined with **composting** of the solid fraction will be also evaluated using **pig slurry**.

Promising results are being obtained also when **acidifying pig slurry** to mitigate nitrogen losses through **ammonia volatilization** (Figure 1).

Figure 1. Measuring ammonia and methane emissions from manure treated with different acid levels.