Re-Livestock
RESILIENT FARMING SYSTEMS

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PRACTICE ABSTRACT 7
Can multispecies grassland help fight climate change?

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WP2:
Re-Feeding livestock for resilience

Benefits of Diverse Plant Species in Grasslands

Grassland can contain a wide range of plant species in addition to grass, which may bring a number of benefits. Some, such as **clover, can fix atmospheric nitrogen and reduce the need for expensive inorganic fertilisers derived from fossil fuels**. Many have **deeper roots than grass, making them more drought resistant and also better at storing carbon in the soil**. Diversity of plant species increases the diversity of other forms of life.

Investigating Methane Reduction in Multispecies Grasslands

Could **multispecies grasslands also reduce the amount of methane produced by grazing cattle, thereby helping the fight against climate change**? This question will be addressed in three experiments planned for summer 2024. In Switzerland, methane emissions will be measured in cattle grazing natural pastures with different plant species composition. Meanwhile, in Northern Ireland and Scotland, we will measure methane production from dairy cows grazing grass, grass/clover or multispecies pastures (Figure 1).

Figure 1. Pasture approximately 6 weeks after sowing. Left: pure perennial ryegrass. Right: multispecies mixture showing the emergence of white and red clover, chicory and plantain. (SRUC, Barony Campus, Scotland).

Across the three experiments, we will also check for effects on **pasture growth and quality, milk yield and composition, cattle growth**, aspects of **animal behaviour, and markers of biodiversity**, to give a rounded picture of the value of diverse, multispecies grassland.