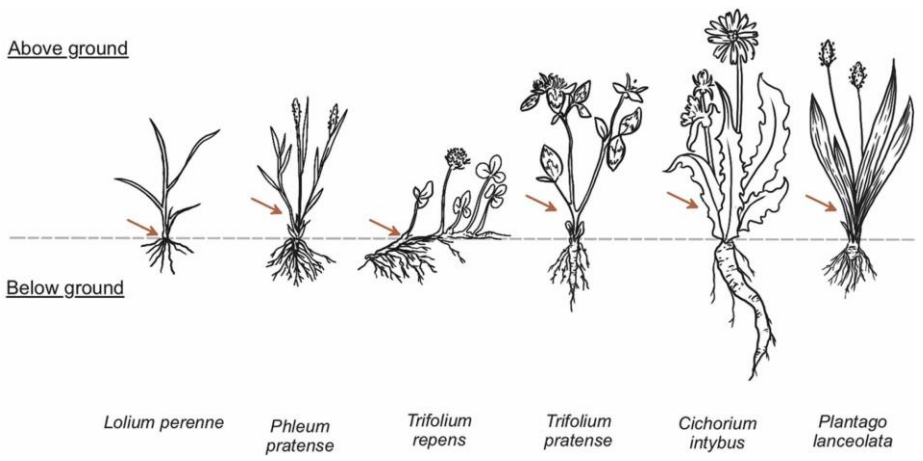
Topic	Topic
Technical efficiency	Environment

Multispecies Swards (MSS) - using forage herbs for enhanced forage yield, nutrient uptake and biodiversity

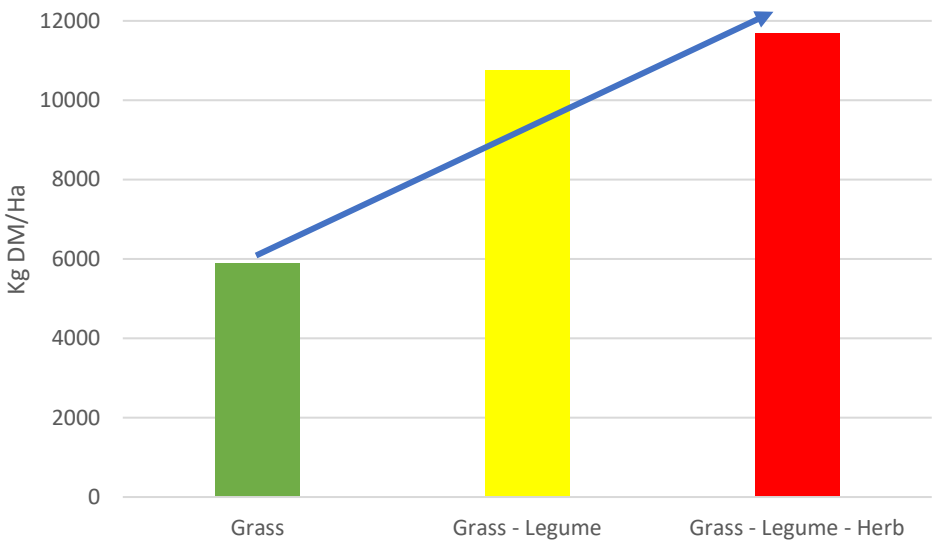
Multispecies swards are swards that have a variety of plants including grasses, legumes, brassicas and herbs. When combined in a pasture, the species root at varying depths allowing them to access more nutrients and moisture in the soil, promoting better soil health and increasing pasture biomass. The deep rooting depth of herb species, such as chicory and plantain, increases carbon sequestration and improve the drought tolerance of multispecies swards. In addition, diverse pastures help improve biodiversity, particularly pollinators, and can help to reduce nitrate loss from pasture via a lower nitrogen fertiliser requirement.

How does the strategy work?

Combining plants from each of the three primary functional groups; **grass, legume, and herb**, is the foundation of a multispecies sward. Examples include;



Establishing a mix of plant species helps encourage biodiversity and increase pasture biomass yield via the **'over-yielding' effect,** where the mixture biomass is greater than that of the monoculture, reducing the requirement for N fertiliser!



Moloney et al., 2021

Positive features

- Drought resistant
- High protein and digestible energy
- Improved biodiversity
- Carbon sequestration
- Improve soil health
- Lower fertiliser requirement

Be careful, especially on these points

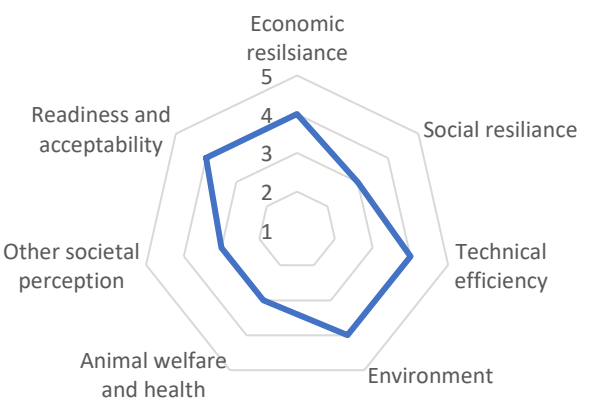
- For farmers, choosing the right mix is important. **Choose plants suitable to the local climate, soil type, and farming system**.
- Herbicide options are limited for multispecies swards. Choose a suitable site, somewhere with little/no weeds when establishing.
- Legume and herb seeds are small, don't sow them deep in the soil. **Broadcast seeding** is best, followed by **rolling** to ensure good soil – seed contact and germination.

Specific advises

Grazing – Rotationally graze established crops every 4 – 6 weeks to allow for recovery and regrowth. Avoid over-grazing, as this will damage chicory and red clover crowns.

Silage – Surplus production can be made into silage. Cut dry and early, as chicory stems can become woody from July onwards.

Assessment of method



Quote of the farmer:

" Multispecies swards enable us to reduce our reliance on bought-in fertilisers, by naturally boosting soil fertility "

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 101000770.