



Grassland production systems: traditional plant teams reinvented

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Many forage production systems are traditionally species-rich and make use of plant teams. However, as with all agricultural systems, they are facing new challenges to achieve sustainable production with fewer inputs and minimised environmental damage. Loss of diversity in grassland systems has also been observed, as is the case across much of industrialised agriculture.

Research is looking to develop optimal plant team combinations for grassland forage systems. From field comparison of biodiverse annual forage mixtures (4-6 different plant species, comprising legumes and grasses) with their component monocrops, significant differences in yield and nutritive value were detected among mixtures and components, indicating that forage mixtures can still be optimised considering management (single vs multiple cuts) and species composition. Significant differences were also detected among mixtures and individual components in root dry weight and photosynthetic performance or efficiency (such as gas exchange) when the comparative studies were performed under controlled conditions.

Due to the increased frequency of extreme weather events, such as drought, under climate change, optimisation of forage mixture composition should look for legume and grass species and varieties with complementarities in traits such as root architecture/biomass as well as photosynthetic related parameters under limited water conditions, to increase resilience without reducing yield or quality.

> Find out more, including references, at: plant-teams.org