

Title: Moorepark multispecies swards for intensive grazing systems

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Abstract:

Irish dairy farmers have become increasingly interested in the use of multispecies (MS) swards for intensive grazing systems as they have been shown to maintain dry matter (DM) production at lower rates of nitrogen (N) fertiliser compared to grass only swards. A grazed plot experiment was established at Moorepark to investigate the DM production of MS swards containing three plant functional groups (grass, legume and herb) under three levels of N fertiliser application (N100, N150 & N200) compared to zero N (N0).

Ten sward types were established which included a perennial ryegrass (PRG) monoculture and sward mixtures of the following species: PRG, white clover (WC), red clover (RC), chicory (CH) and ribwort plantain (PL); with monoculture PRG N200 as the control. Plots were grazed by lactating dairy cows on eight and nine occasions in years one and two, respectively. Swards in the N200 treatment produced the highest level of DM with an average of 1337 kg DM/ha more than N0 swards ($P < 0.001$).

The sward mixture of PRG, WC & PL produced the highest level of DM; 2916 kg DM/ha more than the PRG monoculture sward on average across all levels of N fertiliser. Swards including 3 plant functional groups produced similar levels of DM in the N0 treatment to those produced by the PRG monoculture in the N200 treatment.

Over the two evaluation years the inclusion of forage herbs and clover with PRG in sward mixtures was associated with increased DM production; inclusion of PL and WC in particular appear to contribute to increased DM production. The trial is ongoing and further work will be required to assess sward species content changes and DM production persistency over time.

Figure 1. Mean dry matter production for each sward across all N treatments over two production years of 2020 & 2021

