

Farm Net Zero: Ruminant trial at Ennis Barton

Overview

Multi species swards, when compared to ryegrass and white clover, have recently been shown to provide benefits in terms of:

- Increasing worm numbers
- Increasing the rate of soil organic matter accumulation
- Reducing nitrate leaching
- Increasing the sward resilience to unseasonal and extreme weather
- Providing foraging resources for pollinators throughout the season



However, despite these benefits, there remains some uncertainty in terms of animal productivity, particularly in the dairy industry.

Andrew Brewer, who is one of the Farm Net Zero Demonstration Farmers at Ennis Barton, in association with Allflex™, is determining whether there is a significant difference in the performance of dairy cows on a multi-species sward compared to a perennial ryegrass and white clover sward.

On farm set-up

The herd was divided into two cohorts, and identified using the AllFlex™ system. One cohort grazed a multi-species sward and the other cohort grazed a perennial ryegrass sward. The cows remained within the same field over 3 successive days. Milk was collected in separate tanks.

Sward composition was assessed by cutting at 0.25m² quadrat and separating out species and gaining the fresh weight and dried weight. Species presence was assessed by

placing a quadrat randomly in the sward and recording species presence or absence.

August 2021 Results

Sward type	Perennial ryegrass*	Multi species sward**
Butterfat (%)	4.64	4.24
Protein (%)	3.60	3.39
SCC (x1000/ml)	164	155
BactoScan (x1000/ml)	21	16
FPD (m°C)	523	517
Urea (mg/l)	277	190

Figure 1: Milk tank assessment from cows grazed on the perennial ryegrass and the multispecies swards from the 24th to the 27th August.

*Burrow Field. Fresh weight: 35% ryegrass, 63% white clover, 2% weeds

** Lower Work Park. Fresh weight: 13% white clover, 77% ryegrass, 3% cocksfoot, 4% plantain, and <1% each of alsike clover, birdsfoot trefoil, chicory = 80% grass, 13.5% legumes, 5% herbs, 1.5% weeds

This will be repeated throughout the year in order to capture the effects of seasonal variation in sward composition and quality. To ensure that natural genetic variation in the herd is taken into account, each cohort will graze a different sward type at successive time points

