

Grassland Science Department

Title

Improving productivity of perennial ryegrass pastures in dairy systems in New Zealand and Ireland: Rate of genetic gain, pasture persistency, and genotype x environment interactions

Abstract

Grass variety evaluation trials are generally conducted under simulated grazing with no exposure to animal grazing. Under such trials, the plants are not exposed to stresses such as pulling or treading, as occur under a grazing situation. It is widely accepted that grass production will be lower under animal grazing than in cut plots. Evidence indicates that grass breeding has increased grass DM production by 0.5% per annum, again this has been measured under cutting plots. To-date there has been no attempt to predict the impact which grass breeding has had on DM production under animal grazing. In addition, there is increased usage of cultivars bred in the Southern Hemisphere within grass production systems in Ireland, with much of the information derived on these coming from New Zealand based studies. This study proposes to examine the impact of grass breeding on DM yield improvement under a grazing scenario, while also examine the genotype × environment and management × environment effect on perennial ryegrass cultivars, through evaluating similar cultivars at 2 sites – one in Ireland and the 2nd in New Zealand.

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