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Paddock to paddock pasture yield variation on dairy farms in the Waikato region of New Zealand

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Key words : paddock annual yield ,variability ,ryegrass pasture growth

Introduction In New Zealand there is a strong relationship between pasture utilized on dairy farms and profitability . Characterising among paddock growth variability and understanding the underlying causes ,will be key to increasing the pasture utilized and subsequent profitability of pasture-based systems in the future .This study aimed to characterise such variation on seven farms in the Waikato region .

Material and methods Data for individual paddock pasture yield over 4 years from different farmlets on Dexcel research farms No .2 Dairy and treatments A ,B ,C and D on the RED trial on Scott farm (Jensen et al . 2005) were collated along with 2 years of data from two Waikato commercial dairy farms .

Grazing regime varied little between farms with perennial ryegrass (*Lolium perenne* L.) dominant swards grazed at approximately 3 ,000 ,2 ,500 ,4 ,000 and 3000 kg dry matter (DM) / (hectare) ha in winter ,spring ,summer and autumn , respectively (between 2 and 3 leaves on the majority of ryegrass tillers) ; all DM measurements were to ground level .Post-grazing pasture mass was approximately 1000 ,1700 ,2400 and 1900 kg DM/ha in winter ,spring ,summer and autumn , respectively .

Results and discussion The variability and frequency distribution of mean annual individual paddock pasture yield was similar for all farms .The best paddocks produced 100% more DM (kgDM / ha) than the worst .Mean individual paddock pasture yield on No .2 Dairy is shown in Figure 1 .

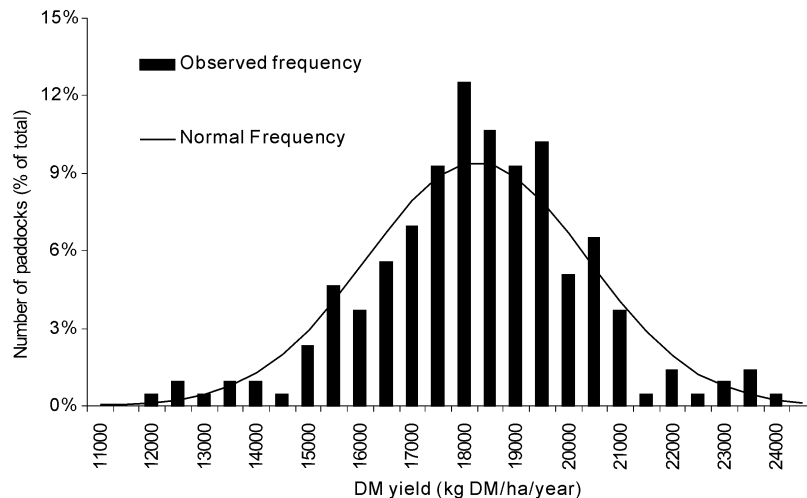


Figure 1 No .2 Dairy frequency distribution of average annual production in individual paddocks .

Conclusion Despite similar paddock management ,there was large variability in pasture yield between paddocks .

Further work is required to determine the predominant cause(s) of this variability and subsequently how to improve the yield of the poorer performing paddocks .Preliminary work on No .2 dairy suggests that the level of compaction ,drainage and organic matter may explain some of the variation in pasture yield .

Reference

Jensen ,R .N . ,Clark ,D .A . ,Macdonald ,K .A . 2005 . Resource Efficient Dairying trial : measurement criteria for farm systems over a range of resource use .*Proceedings of the New Zealand Grassland Association* 67 : 47-52 .