

## LIFETIME WOOL 12. ESTIMATING PASTURE HEIGHT FOR USING GRAZFEED TO PREDICT EWE PERFORMANCE

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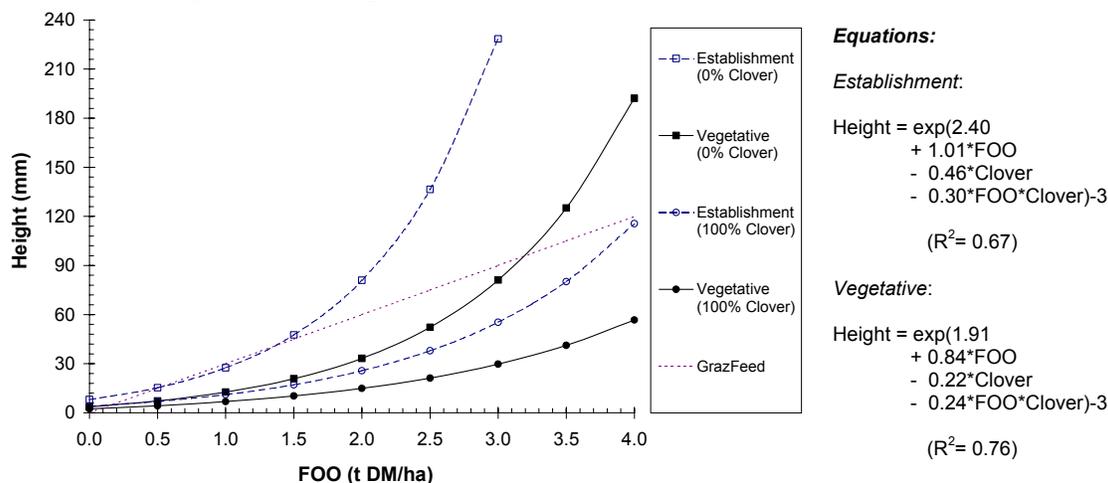
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While functions relating pasture mass and height to feed intake have been reported (Hodgson 1990), these usually apply to relatively uniform, grass-dominant pastures with a significant perennial component. However, most pastures in south-western Australia contain a high proportion of subterranean clover which is likely to increase as grazing systems intensify to improve pasture utilization and increase profitability. Because of the prostrate nature of the clover, especially under grazing, it is probable that the relationship between mass and height will differ from that for grasses. In addition, the different morphology of pastures early in the establishment phase, compared with the later vegetative phase (abbreviated to 'vegetative'), may also have an effect on these relationships. Given the effect of pasture height on feed intake in the GrazFeed<sup>®</sup> feed budgeting program, there is a need to investigate the relationship between pasture mass, height and clover dominance.

Pasture mass was maintained at target amounts of feed on offer (FOO; t DM/ha), as described in Hyder *et al.* (2004; *these proceedings*). On three occasions in 2002 (1 July – establishment; 19 August and 1 October - vegetative) and two occasions in 2003 (3 June and 30 June - establishment), estimates of FOO and composition (% clover, % grass, % broadleaf) were made in quadrats at 30-45 positions along transects in each of 20 plots. The mean sward surface height (mm) was measured in each quadrat using a ruler.

Regression analysis shows a curvilinear relationship (Figure 1) between pasture height and FOO that varies significantly ( $P < 0.001$ ) with clover composition and stage of development. Of particular interest, lower heights would be predicted for vegetative pasture up to about 3 t DM/ha, even with zero clover, than from the linear relationship (viz. 30 mm per t DM/ha) that is used in GrazFeed<sup>®</sup> to estimate the default height. Pasture heights above about 90 mm are unlikely to affect herbage intake but the data indicate that, in this environment, this height is not reached in vegetative pastures until FOO lies between 3 and 5 t DM/ha, depending on the clover percentage. The more erect plants in the establishment stage reach this height between 2 and 3.5 t DM/ha.



**Figure 1. Relationship between feed on offer (FOO) and height for pastures comprising 0% or 100% clover during establishment or vegetative stages.**

HODGSON, J (1990). In "Grazing Management: Science into Practice" pp.81-7 (Longman: New York)

HYDER, M.W., GORDON, D.J., and TANAKA, K (2004). *Proc. Aust. Soc. Anim. Prod.* 25, (*these proceedings*)

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