

## A farmer friendly feed budget calculator for grazing management decisions in winter and spring

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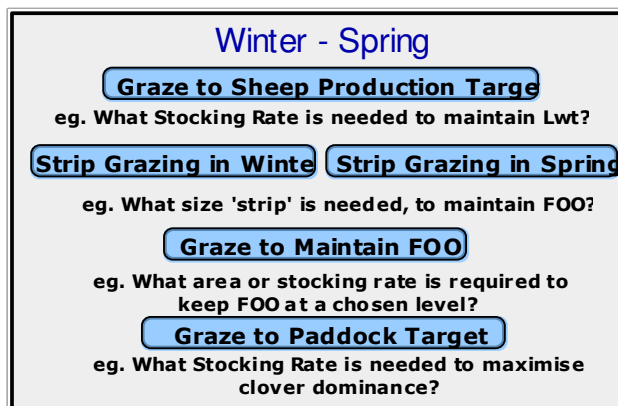
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**Introduction** The Western Australian (WA) environment is Mediterranean with annual legume/grass pastures and a 6 month growing season. In autumn where over grazing can impact pasture establishment and in spring, prior to senescence, when under grazing can mean significant losses of efficiency are crucial times for grazing management. Pasture utilisation is typically low (25-35%) due to conservative stocking regimes; key to increasing productivity is increasing pasture utilisation (Grimm, 1998). Increased level of productivity require farmer sophistication in the way they feed budget. To this end, satellite technology is being used to provide farmers in southern Australia with weekly estimates of pasture growth rate (PGR; kg DM/ha/d) and monthly estimates of Feed on Offer (FOO; kg DM/ha) (Kelly *et al.* 2003). In addition the Green Feed Budget Paddock Calculator (GFBC) was developed to provide a simple and accessible electronic calculator which utilises this new information to assist farmers to feed budget and to make more accurate and timely stocking rate decisions.

**Materials and Methods** The GFBC is a computer-based tool that reflects the key tactical decisions that graziers have to make throughout the growing season. It uses feed intake data generated from Grazfeed® where the inputs have been modified to fit clover-dominant annual pastures. It has six scenarios, outlined in the main menu (Figure 1). The scenarios are divided into two phases - establishment (autumn- winter) and vegetative (late winter-spring) - to take account of the differences in pasture morphology (e.g. height, % dry matter). Each scenario provides a single point calculation and has an archive that allows paddock level recording. With the aim of developing a tool specifically for WA legume/grass pastures it was 'product tested' by farmer groups participating in the 'Pastures from Space' project (Kelly *et al.* 2003), who are keenly involved in improving pasture assessment accuracy and lifting pasture utilisation. Feed back on the design was incorporated and the original calculation screens expanded to include feed mix calculators and other improvements.

Accessibility is a key design factor and due to slow rural internet line speeds the calculator is available as a runtime CD. The calculator is also free on the Department's website where additional information can also be sourced. Further research into feed intake, energy requirements and production targets of the sheep are being regularly incorporated into the calculator via new versions or updated screens on the web site.



**Figure 1** Choice of Winter-Spring scenarios in the calculator

**Discussion** The challenge was to build a simple, yet accurate product that allows the best tactical decisions to be made, according to the grazing system. Frequently simple decision tools suffer from not adequately reflecting the complexity of the biological system and therefore suffer inaccuracy. However, this potential source of error is small in comparison with the error inherent in pasture assessment. The benefits of this product are that it encourages frequent use, can be used in the paddock, and the skill and confidence gained by regular feed budgeting encourage farmers to explore whole farm budgeting (which is the ultimate end point). Other products available on the market tend to be complex and ask the grazier to enter a lot of data prior to calculation, which often contributes little to the output, leaving many farmers with a time consuming and intimidating product.

### References

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