

## THE USE OF TECHNOGRAZING™ TO INCREASE BEEF PRODUCTION ON DRY LAND PASTURES IN SOUTH-EASTERN AUSTRALIA

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Beef producers in southern Australia can increase profitability by improving the level of pasture utilisation and growth, and increasing the numbers of animals presented for sale (Black and Scott 2002). A means for achieving both of these profit drivers is to strictly control short-term grazing of cattle on pastures, which requires either a large number of fenced paddocks or alternative methods of dividing existing paddocks.

An intensive cell grazing system known as TechnoGrazing™ has been established at SARDI's Struan Research Centre, near Naracoorte in the south-east of South Australia (550 mm rainfall). An area of 192 hectares has been divided into 6 'paddocks' or systems of 32 ha. These systems are further divided into 8 lanes, each of 4 ha. Lanes can then be further subdivided into 60 'cells'. Sixteen Friesian bulls of approximately 250-300 kg liveweight were grazed in each lane of 4 TechnoGrazing™ systems, giving a total of 128 bulls per system (4 bulls/ha), with the objective of producing 1000 kg of liveweight gain per ha on dryland pasture. An additional system was grazed with steers, also at a stocking rate of 4/ha. Pasture improvement was not undertaken prior to implementation of the TechnoGrazing™ system as the emphasis was on maximising utilisation of the available pasture. Animals grazed an old phalaris-dominant pasture with some strawberry clover and ryegrass. Blended fertiliser (N-30, P-20, S-10) was applied at 145 kg/ha in May and August 2003.

Stocking with bulls and beef steers commenced in early April 2003 through to the end of May, when individual systems reached a pasture level of 1500-1800 kg DM/ha. Through late autumn and winter, a rotation interval of 60 days enabled the slow growing pasture to regenerate before the next grazing period. This restricted feed intake to approximately 2% of body weight. As pasture growth increased in late winter and spring, the rotation interval was gradually decreased (stock were given more area) to 20 days. At this time, cattle effectively had *ad libitum* access to pasture. All cattle were shifted every 2 days. Pasture growth was measured regularly to allow for feed budgeting and calculation of rotation intervals. Cattle from each system were periodically weighed to determine growth rates. Animals were turned off from mid-October to November as they reached marketable weights.

Anticipated maximum pasture growth in a normal season at Struan is 80-90 kg DM/ha/day. Spring pasture growth in 2003 was poor (maximum daily recorded level was 45 kg DM/ha). The required average daily gain (1.2 kg) to reach 1000 kg of liveweight gain per ha was, therefore, not achieved. However, liveweight gain greater than 800 kg/ha was reached in 1 system of bulls, with average daily rate gain ranging from 0.82-1.03 kg in the 4 systems. By comparison, for much of the beef producing areas of south-eastern South Australia, average liveweight gain over spring is only 100-350 kg (PIRSA Rural Solutions 2002). Despite being generally lighter on introduction to the system, steers had growth rates (0.82 kg/day) similar to those of bulls.

Implementation of TechnoGrazing™ at the Struan Research Centre has demonstrated how changes in management decisions and use of new technologies within a beef enterprise can result in large increases in production.

BLACK, B.L. and SCOTT, L. (2002). 'More Beef from Pastures.' (MLA Report) pp. 7-14.

PIRSA RURAL SOLUTIONS. (2002). 'Feedbase Productivity Potential for the Livestock Industries of the Lower South East.' p. 34.

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