Resource Management - Managing what we have

Graham Houston

"Burrowye Station" Wodonga, Vic.

'Burrowye Station' fronts the Murray River in the upper Murray region of Victoria, 90km east of Wodonga. Topography ranges from river and creek flats through to steep shale hills. 'Burrowye Station' is run in conjunction with 'Malvernia', which is 10km away and consists of undulating to steep granite country. Together the two properties make up 2100 ha (5250 acres) which receive 750mm (30 inch) annual rainfall.

Graham and Hillis Houston run the two properties 'Burrowye Station' (1300ha) and 'Malvernia' (800ha) in partnership. A total of 1800ha is productive grazing country with the balance being covered with timber and steep shallow soils. Soil pH without lime is 4.3 ($CaCl_2$).

Improved temperate pastures are grown, including phalaris, tall fescue, cocksfoot, white clover, sub clover and red clover. Native grass species make up a large proportion of 'Malvernia' with Microlaena and Danthonia the dominant grasses. 750ha of Burrowye have been sown to Australian phalaris since the 1950s. The bulk of pasture growth occurs through autumn, winter and spring, with extreme cold throughout winter being a major limitation to pasture production. Prior to 1994 total carrying capacity was 16000 DSE over 2100 ha, averaging 7.6 DSE/ha.

History pre-1994

'Burrowye' was purchased in 1918 and was run in conjunction with a property at Hay with 350mm (14') average rainfall and green feed for 3 months of the year. From this we inherited a drought mentality. The Hay property was sold in 1985 and 'Malvernia' purchased at Mt Alfred, which at the time was carrying 5000 DSE and suffering winter drought.

At 'Burrowye' and 'Malvernia' autumn calving cows were producing weaner calves from poor quality pastures dominated by phalaris residues and limited clover. Fertiliser applications were ad hoc depending on cash flow and expansion restricted by high interest rates. A huge spring flush of feed was produced each year but went largely un-utilised, wasting the dollars spent on fertiliser and other pasture inputs. Other enterprises involved buying in steers to manage the spring flush along with contract silage and hay operations, which generated no profit.

The business today

We aim to keep all things simple. Labour is kept to a minimum with contractors used for calf marking and weed spraying. Electric fencing is in place across a majority of both properties allowing low cost paddock subdivision and improved stock control. Computerised book keeping is used to maintain control of finances and improve access to records.

The main enterprise is a 900-cow spring calving herd producing 450kg steers for feedlot industry. Steers are also backgrounded for the feedlots plus dairy heifers are run on agistment. 1500 fine wool wethers are run for wool production and weed control. Wild dogs are a problem therefore ewes and lambs are not viable. Current total carrying capacity is now 26000 DSE which is 10000 DSE greater than pre 1994 (60% increase). Overall stocking rates have been lifted to 12.4 DSE/ha following some major management changes.

So what has happened? – no rocket science!

There was a need for increased cash flow with another household coming into the business when a son returned from Ag College. A pasture consultant was employed and 100% spring calving introduced, coupled with grain feeding of weaners in autumn. We got out of the comfort zone and realised the last drought at

'Burrowye' was 1967 and stocking rates had been based on anticipation of drought years. We aim for 60% utilisation of pasture dry matter produced, which allows low cost conversion of the spring flush into beef.

A fertiliser program was established based on soil tests and paddock history. The objective was to get away from limited amounts spread over the whole property. Strategic applications are now based on individual paddock stocking rates and nutrient removal. We use a simple rule of thumb for fertiliser: 1kg P per DSE. For example if a paddock runs an average of 15 DSE/ha for the year then 15 kg P/ha (170 kg/ha single super) is applied.

Pasture management

Annual pasture production is 3500kg DM/ha on hill country and 8000 kg DM/ha being produced on river flats and lower slopes. In hill country the strategy is to annually apply 180 kg/ha single super and introduce clovers such as sub, white and balansa. Super is applied by air in June following heavy stocking to reduce any carryover of dry grass and promote germination of clovers and annual ryegrass.

Deferred payment systems for fertiliser from the supplier has eased the change to higher super applications with accounts settled after steers are turned off in January. Where possible we manage existing pastures rather than resowing new pasture. This is achieved by ensuring the bulk of dry matter is removed by autumn to allow clover germination.

The native grass Microlaena makes up large proportion of pastures in steeper country. The addition of fertiliser and sub to Microlaena produces a highly productive pasture adapted to shallow soils and cool weather. Microlaena is green all year round and needs to be kept short to maintain high digestibility, this is a driving force behind productivity improvements at 'Malvernia'.

Where pasture resowing occurs, lime is applied at 2.5 tonne/ha. At sowing, 130 kg/ha of pasture starter fertiliser is used with 15 kg/ha of seed (Stamina Wet mix). The mix includes two phalaris varieties, one tall fescue as well as red, white and sub clover. In drier paddocks cocksfoot is substituted for the tall fescue.

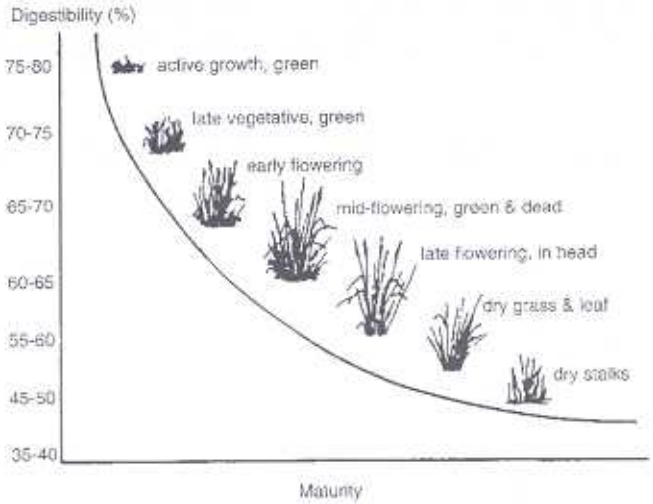
Grazing management is achieved through rotating stock in spring and extensive paddock subdivision with electric fencing. St John's Wort in hill country is being controlled by competition from improved pasture and heavy stocking through late spring once the phalaris has flowered. Old established phalaris paddocks at 'Burrowye' are now being limed to reduce acidity and improve pasture quality with greater clover content and less vulpia.

Backgrounding steers have been introduced to help utilise the spring flush, especially on improved pastures. No cows or calves are run on the river flats, these areas are high production paddocks maintained for steers. Mobs of 350 steers are rotated through 14ha (35 acre) paddocks, keeping pastures actively growing and retaining highly digestible green leaf for an extra three weeks in spring (Figure 1).

We are now running 1000 steers during spring, which has no negative impacts on the productivity of the base herd. Steers have been successful in improving pasture quality through high density grazing during spring. During this period these steers are regularly weighed to check growth rates and then categorised into groups.

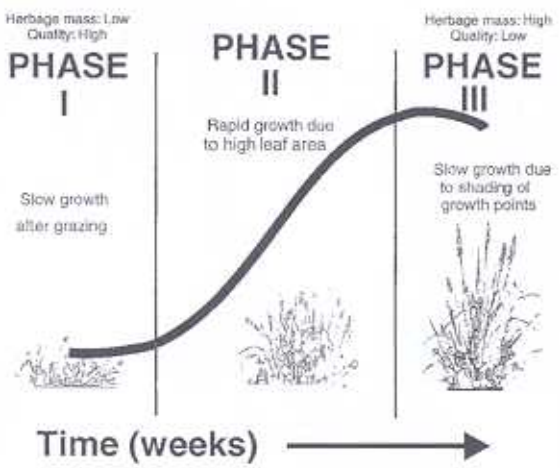
Pastures are kept in phase 2 of the growth curve (Figure 2) by moving steers at 1500 kg DM/ha or 5cm in height and reintroducing them at 3000 kg DM/ha (13cm tall).

Figure 1. A guide to digestibility decline as temperate pastures mature.



Source: Prograze Manual

Figure 2. Simplified growth curve of pastures



Source: Prograze Manual

Control of spring growth becomes difficult when mob size is too small and the benefits of short actively growing pasture is lost and weight gain slows. It takes too long to get pasture down to the ideal dry matter and height to run the risk of losing potential weight gain.

We aim to strike a balance between kg of beef per ha versus weight gain per head. The operation is constantly aware that the steers must be off by 1st January when pasture digestibility (Figure 2) begins to decline. This is aided by removal of steers followed with cows and calves, which have lower pasture quality requirements.

Other resources

Other sources of income add to our lifestyle and financial strength. Graham's wife works off-farm and investments are held in shares, forestry and real estate. Strong equity in the farm is the result of an efficient production system making use of resources such as pasture, soils and rainfall to generate profit. We also make full use of any Landcare grants that may be available to conduct revegetation or soil works.

Aims

A realistic objective is 60% utilisation of pasture grown. This will help us to achieve a target of $1 million worth of gross production. We believe this is possible by running 30000 DSE and targeting 500 tonne beef at $2 kg liveweight.

This works out at 275 kg beef produced from an effective area of 1800ha. This should sustain more time for fishing and golf.

Take home messages

- Spring calving
- Fertiliser and grazing management
- Utilisation of feed grown
- Financial control
- Prepared to adopt new technology and information
- Quality control (Cattlecare)
- Keep it simple