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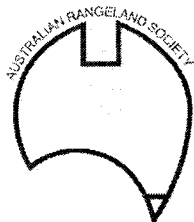
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MEASURES TO AVOID THE 'SET AND FORGET' APPROACH TO GRAZING MANAGEMENT IN WA SEMIARID RANGELANDS

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ABSTRACT

Historically, in the WA southern rangelands the traditional approach of many pastoral stations to grazing management was to set stocking rates based on previous year's tallies and to make minimal observation of both pasture condition and livestock performance until next year's muster. Long-term benchmarking studies and regional monitoring systems in the WA southern rangelands have highlighted that this 'set and forget' approach has contributed to poor animal productivity and land condition decline. There is growing adoption of an approach which seeks to objectively assess food-on-offer and make stocking rate decisions to ensure that it is adjusted to seasonal variation. The value in this approach has more to do with the 'process' than the 'product', as it fosters increased observation of pasture condition and livestock performance. Based on examples from other regions, this approach has the potential to facilitate significant improvement of sustainability of pastoral stations in the WA southern rangelands.

TO SET AND FORGET

The most common grazing system in the WA southern rangelands is continuous, set-stocking. This grazing system remains the preferred option by the majority of pastoral stations for the following reasons: a perception that conservative, constant stocking rates will create a buffer in dry seasons; a perception that livestock perform better on their own home range; the threat of kangaroo and unmanaged goat pressure in rested paddocks; the requirement that watering point be able to manage large stock numbers; the direct costs of mustering livestock on a regular basis; time limitations and the need to source off-farm income. It has been our observation that a continuous, set-stocking grazing system tends to foster a complacent mindset in which stocking rate decisions are made at shearing time or at the once a year muster and no ongoing objective monitoring of livestock performance and pasture condition is carried out. It is recognized that there are some pastoralists who manage a continuous, set-stocking system and are vigilant at monitoring livestock productivity, pasture condition and economic performance throughout the year. However, we consider they tend to be the exception rather than the rule.

Historically, this approach to set the stocking rate based on the previous year's numbers and to virtually 'forget' about the livestock till the next year's muster, was obviously profitable, yet not sustainable. Despite pastoralists being more receptive to sustainable land management, now tending to set their stocking rates more conservatively, livestock productivity in the southern rangelands generally remains low and regeneration of perennial shrubs and grasses appears to be static, even in good seasons. Although there is an array of other socio-economic and biophysical factors which contribute to this dilemma, it is considered that one of the major drivers is the failure to set realistic business and land management objectives and to implement a monitoring system which provides objective feedback to assist in the decision-making process.

THE NUMBERS

Anyone who has spent any length of time in WA's southern rangelands will know that there is a distinct differentiation between the quality of management and final profitability of the pastoral businesses in the region. However, comprehensive benchmarking studies in the region have highlighted that even the most innovative and astute managers have significant scope for improvement. Results from a benchmarking study by Resource Consulting Services (RCS) using financial performance data from 46 stations in the region revealed that there is an immediate need for improvement (Figure 1).

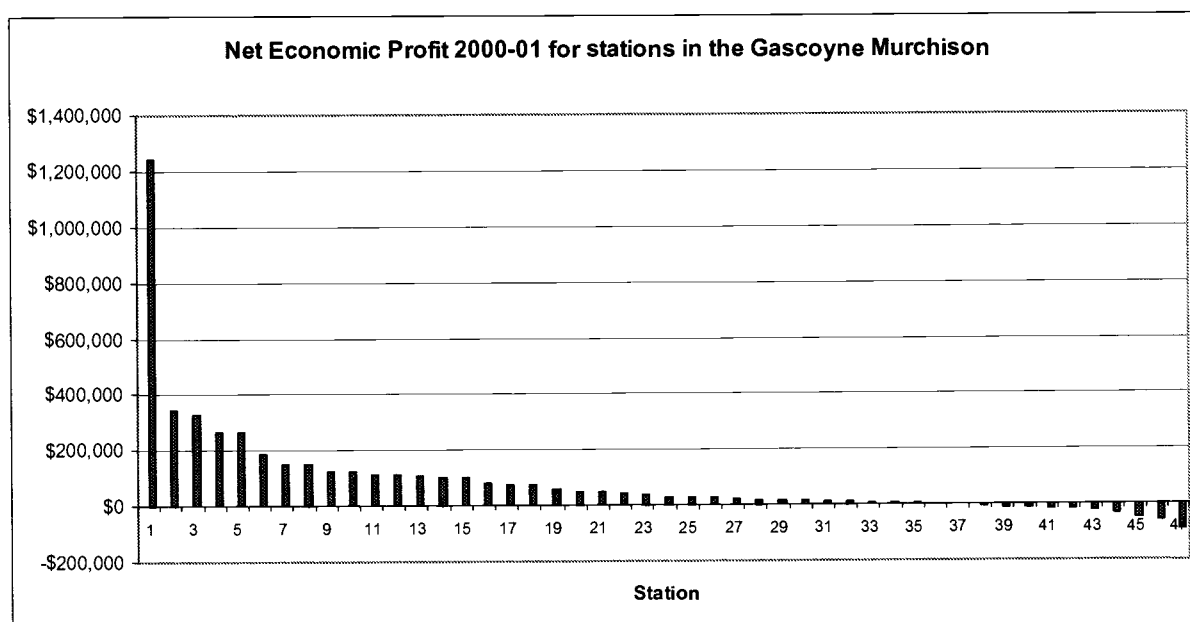


Figure 1: Net economic profit of 46 stations in the Gascoyne Murchison region

Although the results in Figure 1 are sobering, Table 1 is used as an example to highlight the potential that exists for WA pastoral businesses to improve their position by improving their calving rates through being more attentive to matching stocking rate to carrying capacity. If a station running 2000 breeders increased its branding percentage by 30%, it would increase its return on assets more than three times (Table 1). It is considered that this 30% improvement is indeed possible simply through executing difficult decisions in poor seasons and maximising opportunity in the good seasons by matching stocking rate to carrying capacity.

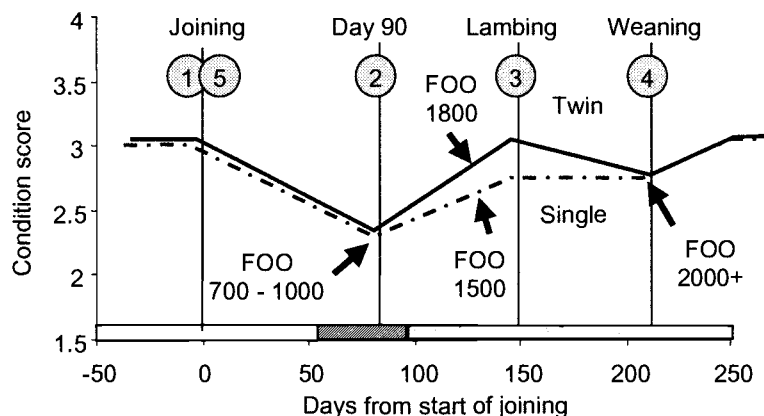
Table 1: Sensitivity analysis of branding percentage and profitability of a pastoral cattle enterprise

Branding Percentage	Sensitivity Analysis		
	Gross margin/LSU	Return on Assets	CASH
63%	\$56.30	4.4%	\$53,138
68%	\$61.80	7.2%	\$111,092
73%	\$72.86	10.6%	\$127,758
78%	\$73.32	11.7%	\$164,544
83%	\$76.08	13.2%	\$195,630
88%	\$78.75	14.7%	\$227,499
93%	\$80.88	16.1%	\$257,771

NB: Figures based on actual station in the region running 2000 breeders; calculations made using 'Enterprise Comparison Calculator' developed by Rosemary Bartle, Rural Business Solutions

MATCHING STOCKING RATE TO CARRYING CAPACITY

A large research project across southern Australia funded by AWI developed guidelines for Body Condition Scores (BCS) and feed on offer (FOO) requirements to achieve 90% of the key profit drivers of a Merino enterprise (Oldham *et al.* 2005). The project's findings have substantial application to the pastoral region. A key outcome was the annual BCS profile required to achieve a performance by ewes and their progeny that will deliver 90% of the maximum production for each of the key profit drivers (i.e. lambing %, mortality %, wool cut) (Figure 2). It is anticipated that the BCS profile for cattle, exotic sheep and goats is similar. One of the issues in achieving this BCS profile in the WA pastoralists is the assessment of FOO in large heterogeneous paddocks in different seasons.



A schematic of the draft *Lifetime Wool* guidelines defined in terms of the condition score targets from joining ① to the next joining ⑤ for single (---) and twin (—) bearing ewes with a winter/spring lambing. The periods of dry (□), break-of-season (▨) and spring feed (▩) are shown on the x axis.

Figure 2: Body condition score profile to achieve 90% production of key profit drivers in southern Australia (Oldham *et al.* 2005, *Lifetime Wool – The ‘best bet’ optimum condition score profile for Merino ewes lambing in winter, Sheep Updates 2005*)

ASSESSING FOO IN A HIGHLY VARIABLE ENVIRONMENT

A part from during the winter growing season when there is an abundance of ephemeral forbs providing in-fill between the shrubs, the assessment of FOO is increasingly complex in the summertime when most of the production losses occur, particularly with weaners. To overcome this issue pastoralists in the region have been using a method which is used widely in a variety of different pasture systems. The method simply involves making an objective assessment of the available feed supply based on calculating the daily requirements of one DSE. The method draws heavily on pastoralists' observations and experiences and simply distils much of this subjective information into an objective framework. It is emphasised that the 'process' is more important than the 'product' and that the accuracy of the 'answer' at the end of the calculations will only improve over time as pastoralists continue to recalibrate themselves with feedback relating to livestock BCS and FOO in the paddock. This method was first introduced in the region and continues to be taught by Resource Consulting Services at their Grazing For Profit™ schools.

The area assessed that will feed one DSE for one day is determined in square metres and is referred to as a DSE Day. This means that one DSE could graze that area for one day and maintain its body weight. This is then converted to DSE Days per Ha (the third column in Table 2) by dividing the size of the estimated area to feed a DSE for a day into 10 000 square metres (1 hectare). The DSE Days per Ha are then converted into DSE Days by multiplying by the number of hectares in the land-type; the last column in Table 2.

Table 2: Example of estimates of feed available in a paddock

Land-type	Hectares	Average DSE Days per Ha estimated	DSE days of feed available
Carnegie (saline plains)	6 505	35.0	227 675
Mileura (Calcrete platforms with alluvial plains)	2 572	17.0	43 724
Challenge (undulating plains)	789	7.0	5 523
Total	9 866		276 922

These FOO assessments are then used as a basis for stocking rate decisions and are re-evaluated on a continual basis throughout the production cycle. Figure 3 illustrates the complete approach pastoralists in the region are using to match stocking rate to carrying capacity.

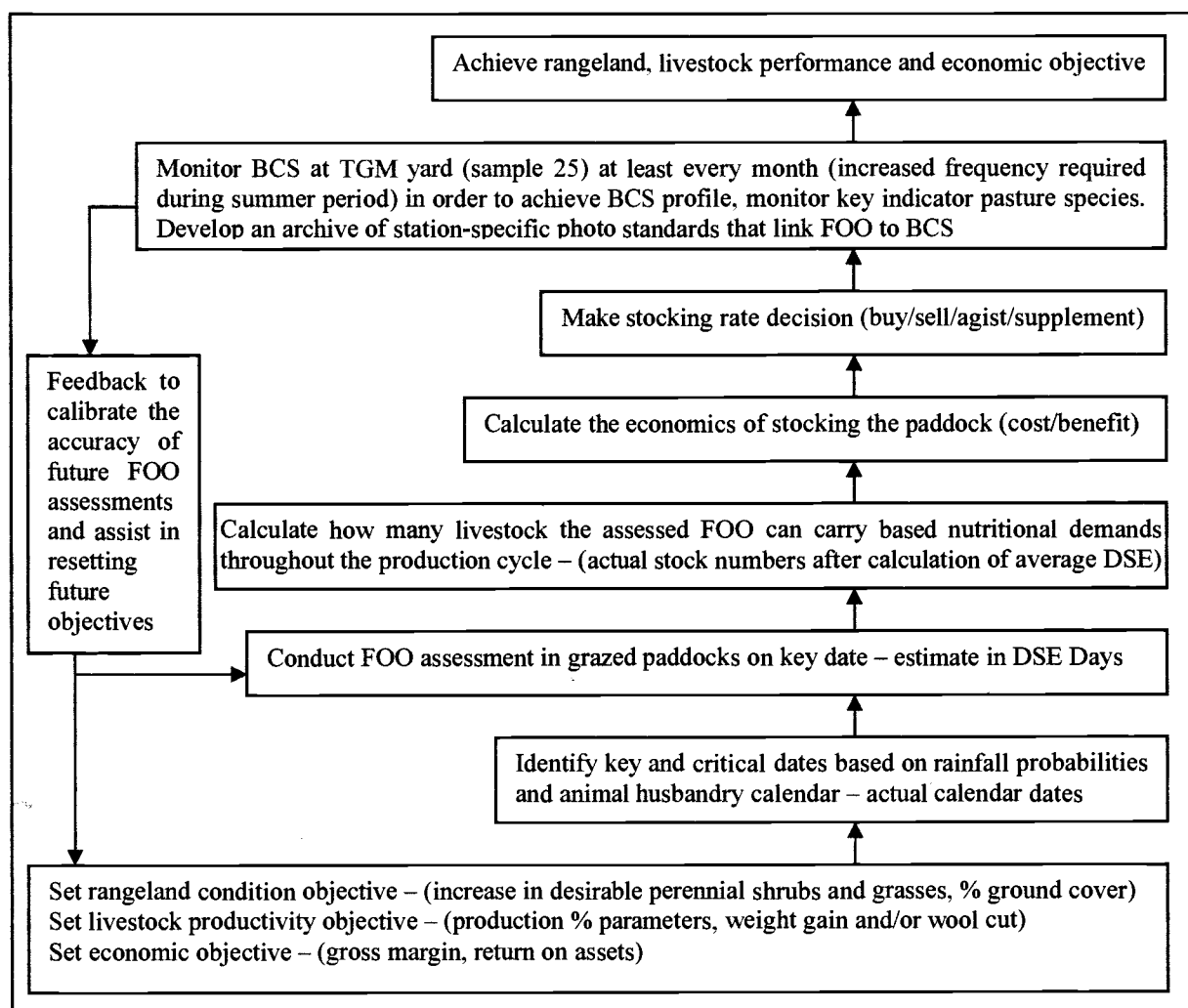


Figure 3: Basic approach to matching stocking rate to carrying capacity

CONCLUSION

The objective assessment of FOO with pastoralists has indeed been a rapid learning curve and it is undoubtedly one that is only going to be refined through practice through time. Given the success of this method in other pastures systems throughout Australia it is envisaged that further development and specific application of this approach will achieve similar results in the WA southern rangelands.