

Financial implications of confinement feeding pregnant ewes during early winter to improve pasture and sheep management, a case study using myFARMSMART

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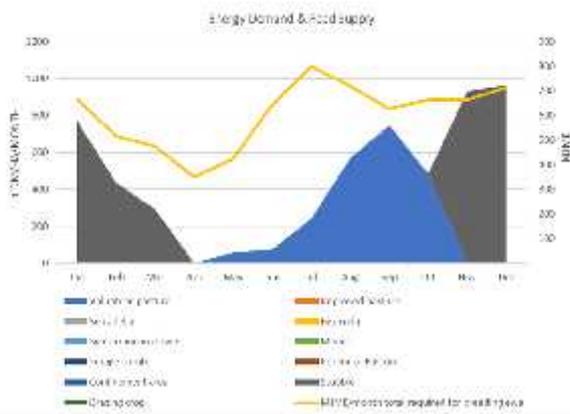
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Farmers in Australia work in a challenging and constantly changing environment. The increase in variability of seasonal conditions and the expectation that the climate will continue to get warmer and drier, and more variable, coupled with increased exposure to global supply and demand of commodities creates a challenging work environment. Building resilience by having the capacity to adapt to changing circumstances in a timely manner is essential for the modern-day farmer (Malcolm B, 2011, Kingwell et al., 2013; Anderton et al., 2017).

This desk-top case-study uses myFARMSMART¹ to investigate confinement feeding as an effective management strategy for the low rainfall environment in Western Australia (WA). A typical and representative farm in the Merredin district with 4,200 hectares cropping 68% of its area and running 1800 mated ewes was simulated with and without confinement feeding 1000 ewes for a four-week period in May.

Confining pregnant ewes to a small grazing area or a feedlot whilst allowing pastures to grow, often referred to as ‘deferred grazing’ is a management strategy used by some producers in the high rainfall regions in WA. This strategy is used less in the low rainfall environment. myFARMSMART calculates the energy required for a mated ewe using equations for energy requirements (MAFF, 1975) and Life-Time Ewe™ management practices. Feed demand is calculated from historical pasture growth rate data, Figure 1.



	Cost of supplements per mated ewe \$/hd	
Confinement	Decile 5	Decile 3
Without	\$20	\$44
With	\$22	\$44

Table 1. Cost of supplements per mated ewe \$/hd

	Gross margin per hectare (\$/ha)	
Confinement	Decile 5	Decile 3
Without	\$197	\$141
With	\$200	\$141

Table 2. Gross margin per ha (\$/ha)

Figure 1. Energy demand for 1800 ewes without confinement and feed supply for decile 5 year

The results (Table 1 and Table 2) show that there is no economic benefit to confinement feeding in a decile 5 rainfall season. However, there is a small economic benefit for using confinement feeding as a management strategy in a decile 3 season. This is an important finding. Dry seasons and delayed pasture growth are characteristic of late winter rainfall events occurring more frequently with changing climates. This has potential to be an effective tactical management strategy for farmers in the low rainfall area of WA to improve their productivity in their sheep enterprise, and with potential environmental benefits.

References

- Anderton L, Dowling E and Kilminster T (2017) *Building more resilient farm business with the capacity to adapt: A Literature review*. Project report for Investigating Flexible Farming systems in the Eastern Wheatbelt W.A.
 MAFF (1975) *Energy Allowances and Feeding Systems for Ruminants - Technical Bulletin 33*.
 Malcolm B (2011) *Changing business environment; Implications for farming: Australian Farm Management Journal*. **8**, 73-78.
 Kingwell R, Anderton L, Islam N, Xayavong V, Wardell-Johnson A, Feldman D and Speijers J (2013) *Broadacre farmers adapting to a changing climate*. Final report to National Climate Change Adaptation Research Facility, Gold Coast.

¹ myFARMSMART is a user-friendly decision support tool specifically designed for farmers and agribusiness. Underpinned by science it simulates the broad acre farming system generating three years profit and loss statements, balance sheets, common financial ratios and comparisons within and between enterprises.