Testing Tropical Pastures

Producer case study: Hills Park, Yerong Creek

Andrew Hunter operates a prime lamb production enterprise near Yerong Creek in southern New South Wales. It's a maternal composite flock breeding up to 7,000 lambs per year. Ewes lamb in July and the lambs are sold from November to July, with supplementary feeding over late summer and autumn.

The farm is in a 575 mm rainfall area with soil types ranging from granites to red-brown loams.

Adding tropical pastures to the mix

Premier Digit grass and Kikuyu have been established on almost 20 per cent of the farm, predominately in secondary country. Secondary country is generally hilly with shallow soils that have a low water holding capacity.

Tropical pastures were sown in late spring, then over-sown the following autumn with temperate, winter-growing annual legume species such as sub-clover.

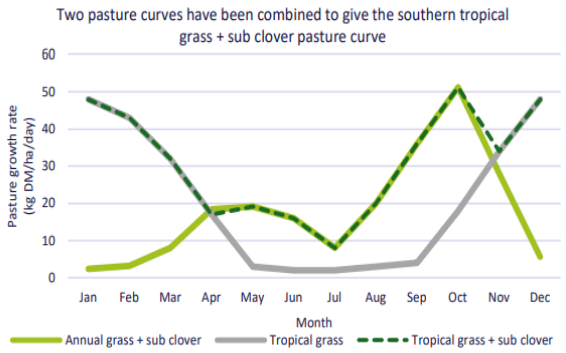

Figure1. Estimated growth rates of pasture mixes. (Francis, 2024)

This mix ensures that feed for livestock is still available in mid-winter while also capitalising on the benefits of fast-growing tropical pastures in summer.

Image 1 Premier Digit pasture at 'Hills Park', Henty. (Holbrook Landcare Network, 2021)

Key points

- Better utilisation of summer rainfall for pasture production.
- The growing season of the tropicals, compared to temperate pastures, creates an option for summer rain to be utilized for pasture production.
- Tropical pastures can establish and persist on secondary country, providing quality feed and maintaining ground cover during summer.
- Increased groundcover from Kikuyu.
- Summer active grasses provide competition for weeds.
- Summer weed control prior to sowing is essential for successful establishment of tropical grasses.
- Late spring, warm soil temperatures and sowing before rain, works best for tropicals.

"The big benefit is the out-of-season pasture production on flukey summer rainfall events, but it's also boosted feed availability in late spring and autumn." Andrew Hunter, Hills Park

Cutting the feed bill

A 2024 cost benefit analysis (CBA) by agricultural consultants, Agrista, on the Hills Park Producer Demonstration Site (PDS) examined the return on investment in tropical pastures. (1)

It focused on the impact of changing a proportion of the feed base (150 hectares or 14 per cent of the farm area) from temperate annual pasture of grass and sub-clover to tropical pasture over-sown with sub-clover.

Key findings of the CBA included:

- An estimated 709 tonnes of extra feed would be produced across the farm per year
- The amount of supplementary feeding required would be reduced, with 8,000 dry sheep equivalent (DSE) per month fed for 5 months without tropical pastures compared to 5,000 DSE per month for 4 months with tropical pastures
- Cost of supplementary feeding was $8 per DSE with tropical pastures compared to $15.30 per DSE without tropical pastures.

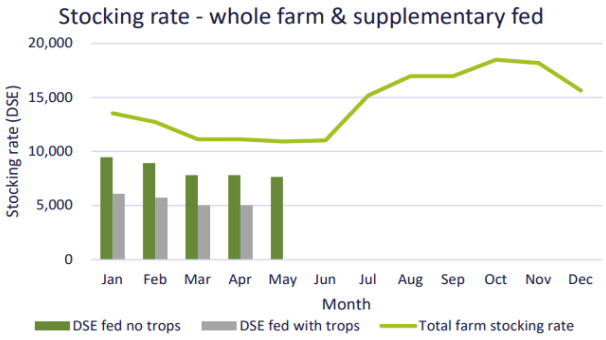

Figure 2 The whole farm stocking rate is 14,300 dry sheep equivalent (DSE) (Francis, 2024)

Return on investment

The cost of establishing 150 hectares of sub-tropical grasses and over-sowing with legumes was $100,500.

The cost benefit analysis found investment in tropical pastures, over-sown with temperate legume pastures can deliver good returns on investment.

Cost of establishment of sub-tropical grass plus oversowing legumes

Line item	$/unit	Units/ha	Applicn nº	$/ha
Herbicide	$13	1.5	4	$78
Spray application	$15	1	4	$60
Digit	$25	9	1	$225
Kikuyu	$75	1	1	$75
MAP (starter fertiliser)	$0.80	50	2	$80
Urea (not applied)			0	$0
Arrowleaf	$5.50	4	1	$22
Sub	$10	4	1	$40
Cavalier medic	$10	1	1	$10
Sowing application	$40	1	2	$80
Total establishment cost ($/ha)				**$670**
Sub tropicals area (ha)	150	Total investment		$100,500

Table 2 The cost of establishment of tropical grasses over-sown with temperate legumes (Francis, 2024).

It found an internal rate of return of 81%, net present value of $381,500 where the cashflows have been discounted at 15%. The investment analysis assumes that the pasture returns will continue for a period of ten years.

Project partners

This Producer Demonstration Site (PDS) was funded by Meat & Livestock Australia and Holbrook Landcare Network.

Holbrook Landcare Network (HLN) has over 500 members across farming families, businesses and individual membership.

This PDS was delivered from 2022 to 2026.

Want to learn more about tropical pastures?

Visit the website for handy resources.

Reference: Graphs and tables used in this case study are from: (1) Francis, J, 2024, 'What value do sub-tropical pastures offer in a southern farming system?' completed by Agrista for HLN.

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