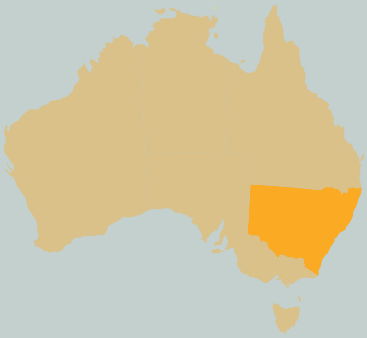
INNOVATION PROFILE



BUSINESS SNAPSHOT

OWNERS
Brian, Leonie, Shannan and Bess Thomas

PROPERTY NAME
Baden Park and Burragan Stations

PROPERTY LOCATION
100km north of Ivanhoe, western NSW

SIZE OF PROPERTY
47,000 hectares
The Thomas family also manages and run stock on another station of 27,000 hectares.

BRIEF ENTERPRISE DESCRIPTION
Merino sheep with some meat sheep plus beef cattle.

NUMBER OF PEOPLE WORKING IN THE BUSINESS
2 full time equivalents
plus casuals at peak periods

AVERAGE ANNUAL RAINFALL
290mm

WHY THIS IS A PASTORAL ZONE INNOVATION
On pastoral properties, feed available for livestock is reduced by the grazing of non-domestic animals such as goats and kangaroos. Exclusion fencing conserves feed for livestock and improves pasture diversity.

Managing Total Grazing Pressure with Exclusion Fencing

Brian is a third generation pastoralist at Baden Park. He runs the property with his wife Leonie and their son Shannan and daughter in-law Bess. The Thomas's are mainly merino wool growers. They also breed a few cross-bred lambs for meat and run some cattle.

This innovation profile outlines how exclusion fencing has helped manage total grazing pressure at Baden Park and Burragan Stations.

Exclusion fencing is a fence specifically designed to exclude unwanted animals from an area. The aim is to prevent unwanted animals passing through, jumping over or going under the exclusion fence. Exclusion fencing is used to exclude kangaroos, feral goats, feral pigs and wild dogs on pastoral properties. It is a useful method to manage total grazing pressure and/or predation, for pastoral livestock enterprises.

Figure 1: Exclusion fence made of steel strainers and 8 line hinge joint pre-fabricated fencing with top and bottom barbed wire.

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WHAT WAS THE MOTIVATION TO CHANGE?

There are high numbers of wild animals such as goats and kangaroos near Baden Park and Burragan Stations which has led to overgrazed paddocks. This results in damage to the landscape as it reduces ground cover, increases erosion and accelerates water run-off. The grazing pressure from feral animals also reduces feed availability for livestock and makes it difficult to completely rest paddocks from grazing.

HOW DOES THE INNOVATION WORK?

The Thomas family's first step to manage total grazing pressure was to control the supply of water at watering points. They installed taps on the pipelines so they could control water supply to troughs. They also needed to control water access in ground tanks or dams, so they enclosed them with steel posts and either 7 or 8 line hinge joint pre-fabricated fencing. They then installed barbed wire on the top and bottom of the fence (see figure 2), or they ran plain wire through every hole in the steel posts (see figure 3).

Turning off or fencing off the water supply at certain locations deterred feral animals from grazing there and improved the rest period for paddocks containing no livestock. Controlling the water supply also lured feral goats to full troughs or dams, where they could be humanely captured in trap yards.

The existing steel fences across the property were constructed using 5 plain wires and a barbed wire run between steel posts; a maximum of 10 metres apart. As most of the existing fences were in good condition, the Thomas's then ran either 6 or 7 line hinge joint pre-fabricated fencing over them to increase the strength (see figure 4). More steel posts were also installed to create 5 or 7.5 metre panels rather than 10 metres. All fences on the property were then held in place with solid steel end assemblies.

KEY FEATURES

Key features of the exclusion fence are:

- Water supply to troughs is controlled via taps.
- Access to ground tanks/dams is restricted with 7 or 8 line hinge joint pre-fabricated fencing.
- 6 or 7 line hinge joint pre-fabricated fencing was run over existing fences to increase strength.

Figure 2: A water point enclosed with 8 line hinge joint pre-fabricated fencing with top and bottom barbed wire.

Figure 3: Plain wire run through every hole in the steel posts with top and bottom barbed wire.

Figure 4: 6 line hinge joint pre-fabricated fencing over the existing 5 plain and 1 barbed wire fence.

Figure 5: The existing fences were strengthened with 6 line hinge joint pre-fabricated fencing.

WHAT ARE THE KEY BENEFITS?

The Thomas's have been able to improve the management of ground cover and feed supply since fencing their paddocks. They can now add their livestock to paddocks when feed supply is high and lower the stock numbers or rest the paddocks during dry periods.

> "The benefits are enormous as we can now control the grazing pressure" said Brian.

With a big feral goat population in the area, the Thomas's can now reduce the numbers by using the fencing to trap or muster them for sale. This significantly reduces grazing pressure and ensures the pasture lasts longer for their domestic stock.

They have also noticed the annual and perennial grasses are healthier. Plants are not being eaten down to ground level and species diversity has improved. Pastures can respond better when it rains and there is less water run-off because ground cover has improved.

KEY RESOURCES REQUIRED FOR THE INNOVATION

The Thomas's used the following materials and resources for constructing exclusion fencing on their properties.

- Steel strainers
- Hinge joint pre-fabricated fencing
- 165cm steel posts
- Barbed wire
- Plain fencing wire

The Thomas's have done all of the fencing themselves. To make it easier, they used an electric jack hammer for driving the steel posts.

A contractor was used to clear and grade the fence lines before constructing the fences.

POTENTIAL CAUTION AND RISK

Brian suggests having all areas cleared and graded prior to erecting an exclusion fence. This allows the bottom wire to be fixed at the correct distance from the ground. The bottom wire should be fixed so that it is not in the soil but also doesn't allow feral animals to go underneath the fence.

Brian acknowledges that kangaroos are still a big problem on his property and the exclusion fence has not reduced grazing pressure from all feral animals.

WHAT COULD BE DONE DIFFERENTLY NEXT TIME?

Brian is happy how the fence has been constructed but has noticed the goats and kangaroos put extra pressure on the corners. He suggests a 6 metre length of mesh in all corners may help reduce the pressure on the infrastructure.

LOOKING FORWARD

The Thomas family intends to keep implementing this fencing until all of their property has exclusion fencing. They are now purchasing 500 metre rolls of hinge joint fencing to reduce the amount of time joining fencing rolls together.

COST BENEFIT ANALYSIS

The business has invested capital into the new exclusion fencing and adaptations to the watering points. The following costs were incurred for the fencing at the time of implementation.

- 7 line hinge joint pre-fabricated fencing plus a top line of barbed wire at 10 metre panels cost approximately $1790/km (excluding strainers).
- An additional belly and top plain wire run over the hinge joint fencing added approximately $252/km.
- A bottom barbed wire also added approximately $184/km, plus $24/km for clips.

The benefits observed from managing the total grazing pressure include increased feed availability and supply for livestock enterprises, increased ground cover, and less erosion. This enables stocking rates to be maintained or increased sustainably, which leverages more income from the Thomas's properties.

THE FINAL WORD

"Our sheep and cattle will have pasture for longer and we can help maintain the future for these preferred grasses" said Brian.

Bestprac acknowledges the contribution of Brian Thomas and his family in the development of this innovation profile.

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Figure 6: 8 line hinge joint pre-fabricated fence with top and bottom barbed wire.

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