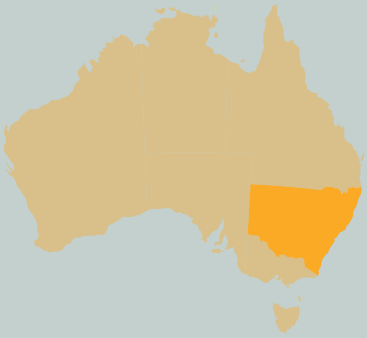
INNOVATION PROFILE



BUSINESS SNAPSHOT

OWNERS
Kevin, Robyn and Bryan Ingram

PROPERTY NAME
Aston Station

PROPERTY LOCATION
33km North West of Pooncarie, NSW

SIZE OF PROPERTY
25,000 hectares

BRIEF ENTERPRISE DESCRIPTION
Merino breeders with occasional agistment or sheep and cattle trading when the season permits.

NUMBER OF PEOPLE WORKING IN THE BUSINESS
3 people working in the business (1.5 full time equivalents)

AVERAGE ANNUAL RAINFALL
240mm

WHY THIS IS A PASTORAL ZONE INNOVATION
Reducing erosion around water troughs with concrete aprons is expensive and time consuming to implement. Using cheaper, recycled rubber saves time and money whist reducing erosion.

Mitigating Erosion Around Troughs

15 years ago, Aston Station moved to a rotational grazing system. This required decreasing the size of existing paddocks, as well as installing more watering points. With the high traffic around these watering points, Kevin, Robyn and Bryan Ingram found erosion was becoming prevalent.

For livestock producers, soil erosion and compaction around water troughs due to high levels of livestock traffic can be an issue. Soils can erode away, particularly during rainfall events, and cause a number of issues.

This innovation profile outlines how old car tyres or conveyor belts have been placed around the base of troughs, to effectively reduce erosion at watering points and areas of high livestock traffic.

WHAT WAS THE MOTIVATION TO CHANGE?

Previously, Kevin, Robyn and Bryan Ingram used either a front end-loader to place more soil, or laid old fence posts around water troughs to mitigate erosion.

They found that these were 'band-aid' approaches, rather than long-term solutions for the issue of erosion around water troughs.

The increased number of watering points also increased the labour required to maintain these areas.

Figure 1: A trough on Aston Station with conveyor belt used to reduce erosion.

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HOW DOES THE INNOVATION WORK?

The Ingrams have buried old car tyres around their cup and saucer troughs to reduce the level of erosion by stabilising the soil surface. Maintenance is still required when the soil around the tyres is depleted, and needs to be replaced (see figure 2).

Through opportunity, the farm also acquired a significant length of rubber conveyor belt, approximately 1.4m wide by 150 to 200mm thick from a nearby mine. This was cut into two strips, longer than the trough, and laid beneath some of the straight concrete troughs, which hold the strip in place (see figure 1).

KEY FEATURES

The key feature of this innovation is utilising the durable properties of old tyres and rubber belt to reduce soil erosion.

WHAT ARE THE KEY BENEFITS?

This innovation has successfully reduced erosion around water troughs and high traffic areas at Aston Station. Bryan has noticed that since the erosion has been reduced, native bluebush is growing closer to the troughs.

A key benefit of this innovation is that it is almost a no-cost solution, utilising free recycled rubber. Often other solutions, such as concreting aprons around water troughs, only shifts the erosion area and this does not occur in the Ingram's approach. They have also reduced ongoing maintenance of the troughs, with little erosion noticed at the edge of the conveyor belt.

KEY MATERIAL REQUIRED FOR THE INNOVATION

The key materials that are required for the innovation are:

- Old tyres from a tyre shop; at no cost.
- Second-hand rubber conveyor belt from a local mine.
- Gravel for reinforcement underneath the rubber.

POTENTIAL CAUTION AND RISK

Caution and risks of the innovation are, that although the level of erosion has been reduced at Aston Station, it is still an issue that needs to be constantly managed.

The Ingrams concur that the process takes a lot of trial and error, and is continually improving. The Ingrams encourage producers to investigate the best erosion control measures for their own soils, livestock and uses.

WHAT COULD BE DONE DIFFERENTLY NEXT TIME?

The lessons learnt implementing this innovation are:

- Conveyor belt is the preferred method, as tyres require maintenance and refilling with dirt and gravel to avoid sheep getting stuck in them.
- Old rubber conveyor belt or matting could be sourced from recycling or second-hand material yards.
- If using tyres again, they would sort out similar sized (height when laid horizontally) tyres and place them together around the trough, instead of trying to fit dirt around a random assortment of tyres.

LOOKING FORWARD

The Ingrams have placed rubber tyres around 60 to 70% of their water troughs and have used the rubber conveyor belt for one trough. Moving forward, they plan to use the conveyor belt as the preferred method of erosion control at all watering points on the property.

RESOURCES

Time is the main resource required to implement this innovation. Kevin and Bryan estimate the time taken to install the tyres or rubber belt, would be half the time taken to concrete around the trough.

The rubber tyres and conveyor belt protect the soil approximately 1.2 to 1.3 metres around the outside of the troughs.

COST BENEFIT ANALYSIS

- Costs are saved on concreting around the troughs.
- Tyres and conveyor belt are a minimal cost.
- Initial set-up labour is approximately half of concreting and ongoing maintenance is reduced with these control factors in place.

Figure 2: A water trough without rubber tyres or conveyor belt around the base.

Figure 3: Cup and saucer trough with tyres at the base to mitigate erosion.

THE FINAL WORD

The Ingrams have found that the conveyor belt method has been more successful at controlling erosion than the car tyres to date.

Bestprac acknowledges the contribution of Kevin, Robyn and Bryan Ingram in the development of this innovation profile.

To view more innovation profiles, business cases and videos of innovations in the pastoral zone, visit the Bestprac website www.bestprac.info

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