

War on WEEDS

CASE STUDY:

Inkerman

One of six Producer
Demonstration Sites in the BBB



NQ Dry Tropics partnered with Meat and Livestock Australia to develop a Producer Demonstration Site to accelerate the adoption of cooperative, integrated weed management in the BBB catchment.

Cooperative, integrated weed management in the BBB

Project timeframe: May 2020 — February 2023

This Producer Demonstration Site aimed to showcase a cooperative and integrated approach to identify best-practice management of the highest economic priority weeds in the Bowen, Broken and Bogie River catchments (BBB).

The integrated priority weed management group, centred around Collinsville and Bowen, conducted weed management trials on six grazing properties.

The group implemented a suite of options, including best-practice application of biological, mechanical, and chemical controls.

Priority weeds included lantana (*Lantana camara*), rubbervine (*Cryptostegia grandiflora*), prickly acacia (*Vachellia nilotica*), belly ache bush (*Jatropha gossypifolia*), and chinee apple (*Ziziphus mauritiana*).

The properties measured and compared relative costs of previous control and maintenance measures with the new practices; the areas of weeds treated and the comparative success rates for the new practices; and the number of new cooperative actions with neighbours and other land managers.



Ploughing and seeding was carried out to establish forage sorghum in the treated paddocks.

A series of field events and extension activities were held throughout the three-year project to showcase results.

The events attracted participants from grazing properties, local government, National Resource Management (NRM) groups, industry and the general community.



Inkerman graziers Tracey and Jim Rollinson and one of the two paddocks that were the initial focus of their weed control efforts.

Inkerman graziers,

JIM and TRACEY ROLLINSON:

It was good to have the opportunity to test techniques to improve land condition and production outcomes.

Rather than trying to tackle weeds across the property all at once, which is costly, we focused on two paddocks.

They were stick-raked and cutter-barraged and then planted with forage sorghum.

Starting from scratch meant we could restore paddock health and production, resulting in improved cattle weight gain.

Over time, with regular treatment, weed control should get easier. We will now move on to improving the next paddocks.

PROJECT TRIALS

A number of techniques and pieces of equipment were trialed. These included:

- mechanical control including stick raking, cutter barring, ploughing and re-seeding of chinee apple, rubbervine and prickly acacia across 740ha;
- basal bark treatment of scattered prickly acacia and chinee apple using Starane and Diesel across 250ha; and
- aerial foliar spraying of Grazon to treat prickly acacia and Starane to treat chinee apple.

MECHANICAL TREATMENT

In 2021, a D8T was used to stick rake and cutter bar, and a John Deere 9560RT for ploughing, with offsets and re-seeding, for regrowth chinee apple, rubber vine and prickly acacia, initially in the most productive (and cleared) paddocks.



Trials, results, knowledge gained

Forage sorghum was successfully established, with cattle grazing the main paddock for two months in early 2022. The forage sorghum re-shot following winter rain, with cattle again grazing the treated areas in September 2022.

A 90 per cent reduction of chinee apple, rubber vine and prickly acacia was achieved across the trial paddocks. Some weed re-establishment occurred mainly around damp areas such as a large dam and in a gully area.

BASAL BARK

Basal barking is commonly used for woody weeds and again proved a successful treatment. Scattered chinee apple and prickly acacia was treated with Starane and diesel using quad bikes, across 250ha. A very high kill rate was observed across all five treated paddocks.

AERIAL FOLIAR SPRAYING – A CONTAINMENT AND REDUCTION STRATEGY

Dense regrowth was treated aurally with Grazon across a 265ha paddock to suppress and knock back plants prior to mechanical control. A 50 per cent kill of smaller plants was observed.

Dense regrowth was treated aurally with Starane across a 220ha paddock, achieving a 75 per cent

kill rate. A review will be undertaken in 2024 to determine an ongoing control method.

KEY LEARNINGS

- Always check legislative obligations to see if the planned technique is authorised.
- When planning aerial treatments, neighbouring properties, and surrounding land use needs to be taken into consideration to mitigate spray drift risk.
- Cutter barring works better under drier conditions so that soil flows across the cutter bar.
- Planting forage sorghum provided good competition for any germinating weeds and excellent livestock production.
- Ongoing management is still required to get on top of the weed issue. On the better soils, there is the potential to re-plough to tackle weed regrowth and, concurrently, establish pasture grasses.
- Basal bark treatment for scattered chinee apple and prickly acacia worked well, and a splatter gun will also be used to reduce chemical costs.
- Only chemically treat plants when they are showing no signs of stress.



LDC helps communities to tackle landscape problems

Empowering communities in the Bowen and Collinsville region to manage healthy and productive landscapes has been a cornerstone of the Landholders Driving Change (LDC) project.

A grassroots design developed by locals, for local needs, provides the overarching framework and has been supported by a community-led co-governance model.

From the outset, landholders identified weed management as a barrier and challenge to improving land condition on their properties.

In the LDC landholder baseline survey, 47 per cent of landholders identified weeds as a barrier to improving land condition. One year later in June 2019, this increased to 67 per cent.

LDC submitted an application to Meat and Livestock Australia (MLA) in November 2019 to form an integrated catchment priority weed management cluster group.

This was approved and the group started a three-year project through the LDC's BBB Grazier Support activity area.

LDC hosted nationally-accredited weed training workshops to:

- increase awareness of biosecurity and build capacity in the BBB catchment to effectively manage weeds;
- learn how to clean and inspect vehicles and machinery for plant materials;
- understand government legislation and requirements; and
- increase awareness of biosecurity threats and impacts on businesses.

Land managers, non-grazing land managers, local contractors and council representatives attended the workshops.

The Queensland Government funded the first phase of the LDC project, 2017-2021.



The vision of the Sustainable Agriculture Program is resilient landscapes and productive enterprises, agricultural producers maximising outputs while minimising environmental impacts.

The Sustainable Agriculture Program aims to support and empower producers in the use of best management practices for natural resource management within the agricultural industries of the Burdekin Dry Tropics NRM Region.



FOR MORE INFORMATION

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