

Leucaena – A Game Changer for the NT

Logan Reid – Blackbull Station

Douglas Daly Northern Territory



‘Blackbull Station’ is one of the pick of properties in Douglas Daly region of the Northern Territory however manager Logan Reid is continually looking for ways to improve Blackbull’s grazing potential.

When the opportunity arose to be a part of The Leucaena Network’s MLA funded Producer Demonstration Site to determine the best leucaena variety and row spacing for the Douglas Daly region, he was keen to involve Blackbull and find out this information, specifically for Blackbull Station.

The demonstration site involved a comparison of germination, establishment and longer-term productivity of the Cunningham, Wondergraze and Redlands leucaena varieties as well as trialing different row spacings at 6m, 12m and 18m across a 47ha trial site.

Logan recognised the need to ensure that Blackbull’s soil was suitable for leucaena as the first step.

“Soil tests identified that Phosphorous, Sulphur and Calcium were satisfactory for leucaena with Potassium in the high range but still suitable” he said.

“Once we were assured that we could grow leucaena without the need for a huge amount of external inputs, we were eager to see what the potential of leucaena on Blackbull could be.”

Due to erosion concerns, no cultivation was undertaken with herbicides used for site preparation. Planting was undertaken on the 12th and 13th January 2020 with a Lightning Mechanical two row planter with a picker finger seed drill and fertiliser hopper. Fertilizer Legume Extra (Agfert) was applied at planting.

Details of the ground preparation and plant were:

SITE PREPARATION	
Date:	16 December 2019
Herbicide Application:	<p><u>2,4-D Amine 625 Herbicide (ADAMA)</u></p> <p>Active Ingredient: 700 g/L 2,4-D present as dimethylamine and monomethylamine salts</p> <p>Product Rate: 1.5 L/ha</p> <p>Application: Blanket spray over entire paddock</p>

Implement Used:	Hardy 30m boom spray. Lilac hardy mini drift nozzles
Date:	17 December 2019
Herbicide Application:	<u>Wipe-Out Bio Herbicide (ADAMA)</u> Active Ingredient: <u>Isopropylamine salt of glyphosate</u> Product Rate: 540g/L 2L/ha Application: Banded spray over rows
Implement:	700lt 3-point linkage 2.2m boom with yellow t jet
Date:	4 th January 2020
Herbicide Application:	<u>Wipe Out Bio-Herbicide ADAMA)</u> Active Ingredient: <u>Isopropylamine salt of glyphosate</u> Product Rate: 540g/L 2L/ha Application: Banded spray over rows
Implement:	700lt 3-point linkage 2.2m boom with yellow t jet
PLANTING:	
Date:	12 – 13 January 2020
Implement (for all plantings):	Lightning Mechanical two row Planter (2BFY-2C) with a picker finger seed drill and fertiliser hopper.
Variety:	Cunningham
Total Plantings	10ha plus an additional 17ha outside of trial (to fill paddock)
Row Spacing:	Twin rows with 60cm centres 10ha (trial site) at 6 m row spacing 17ha (additional) at 7m row spacing to finish the paddock
Rate:	2.9 kg/ha Seed at 5cm intervals
Depth:	25mm
Variety:	Redlands
Row Spacing:	Twin rows with 60cm centres 10 ha at 12m row spacing
Rate:	2.9/ha Seed at 5cm intervals
Depth:	25mm
Variety:	Wondergraze
Row Spacing:	Twin rows with 60cm centres 10 ha at 18m row spacing
Rate:	2.9/ha Seed at 5 cm intervals
Depth:	25mm
Fertiliser	
Date:	12 January 2020 Applied at planting

Fertiliser Used:	<u>Legume Xtra AgFert</u> Composition: 7% N, 14 % P, 12% K + 1% zinc Implement Used: Fertiliser hopper on Lightning Mechanical 2 row planter. Product Rate: 220g/m Placement: Placed slightly beside and at depth of seed at planting – 2 – 5 cm.
Herbicide	
Date:	13 January 2020 (day after planting)
Herbicide Application:	<u>Wipe Out Bio-Herbicide ADAMA</u> Active Ingredient: <u>Isopropylamine salt of glyphosate</u> Product Rate: 540g/L 2L/ha Application: Banded spray over rows <u>Spinnaker 700 WDG Application (BASF)</u> Active Ingredient: 700 g/kg Imazethapyr Product Rate: 140 g/ha
Implement:	1 m shielded sprayer on buggy
Pesticide	
Date:	13 January 2020 (day after planting)
Pesticide Application:	<u>Regent 200SC (BASF)</u> Active Ingredient: 200g/L Fipronil Product Rate: 10m/ha Application: targeted shield spray over rows
Implement:	1m shielded sprayer on buggy
Germination	
% Emergence:	80%
Resilience:	70%
Comments:	Due to heavy rains, 1% of newly established leucaena is showing signs of waterlogging – slightly off colour. A review on 29 January 2020, indicated that Wondergraze had the highest emergence at 14 spm. Other varieties were around 12 spm.

Logan believes that good site preparation and aiming to get the weed seed bank down prior to planting is essential for good germination and successful early establishment.

“Our wet season provides the ideal time for establishment of leucaena here in the Territory however it brings with it the potential for a prolific amount of weed pressure on the emerging and young seedlings,” he said.



Early Establishment Field Day
Blackbull Station November 2020

“It is constant work to stay on top of the weed pressure in those first few weeks, even with the herbicides used on the mature plants prior to planting so to plant without trying to reduce the weed pressure before you start would mean so much extra work in the long run.

“Unless you are doing all the preparation required, don’t think about planting.”

An unplanned fire ravaged the paddock three months prior to planting the demonstration site which Logan believes may have assisted with the weed control.

“I am certainly not advocating for fire to be used in pre-plant weed eradication but to look on the bright side, it may have contributed to the easier establishment by the removal of much of the trash which gave a better spray coverage,” he said.

“It’s not a planting strategy we will aim for in our future plantings!”

To combat that early weed pressure, Wipe-Out Bio-Herbicide was applied using a shielded sprayer over the top of the rows about a month after planting. An additional application of Legume Extra was broadcast over the entire paddock a week after this to provide a boost to the young seedlings and pasture between the rows.

Blackbull Station has since undertaken additional leucaena plantings with a total of 67 hectares planted and more planned within the next few years.

The initial trial site has been included into Blackbull’s grazing rotation with a live weight gain trial planned.

“We know that leucaena produces additional live weight gain but it will be good to formalise this with the documentation of actual weights and the assessment of what feed is actually available to the cattle and what they are consuming,” Logan said.

“I believe if leucaena is planted in suitable grazing areas and is managed well, it provides the Territory’s grazing industry with amazing potential.”



*Early established leucaena on
Blackbull Station November 2020*



*Leucaena and pasture on
Blackbull Station March 2021*