

North-West Update

Growing red meat productivity through the selection and establishment of perennial legumes

Authors: Rowan Smith

November 2022



Project Overview

Currently the prevalence of perennial legumes in dryland pastures in Tasmania is low and is limiting profitability and productivity. This project aims to increase the legume component in pastures from 12-15% currently to 20-25%.

In the high rainfall North-West of Tasmania the aim is to improve autumn and winter feed supply for grass-fed beef systems by identifying and demonstrating legume species that can successfully fill feed gaps during the late summer/autumn and improve resilience to waterlogging and pugging. The project will evaluate the productivity and waterlogging tolerance of a number of commercial cultivars and selections of strawberry clover and Lotus sp., which are known to be waterlogging tolerant with commonly sown white clover.

In the low to mid rainfall Midlands region of Tasmania, this research aims to extend the growing season of dryland pastures through improved establishment and persistence of perennial legumes. The research is trialling various perennial legumes and sowing practices that advantage legumes during establishment as well as demonstrating how to establish legumes in existing grass dominant pastures.

The project runs from 2020-2025 with research continuing until 2023 and involve and partner activities on farm between 2023 and 2025.



Above: Strawberry clover forms adventitious roots under waterlogging

Current project activities in north-west

- Re-establishment of legumes in ryegrass dominated pastures (Freer Farm, Burnie)
- Evaluation of legume waterlogging tolerance (Edith Creek)
- Involve and Partner sowings (Arthur River and Marrawah)
- Pasture mixes demonstration (Alcomie – see over page)
- Strawberry clover accession (40+) screening for enhanced waterlogging tolerance (Launceston)



Above: Re-establishing legumes in ryegrass dominant swards (Freer Farm)

Alcomie pasture mixes trial



Above: Paddock walk held in July with guest Dr Richard Hayes from NSW DPI.

KEY POINTS

4 Pasture grass treatments

- Cocksfoot (5 kg/ha)
- Coloured brome (20 kg/ha)
- Perennial ryegrass High (25 kg/ha)
- Perennial ryegrass Low (15 kg/ha)

Combined with

- Red clover (5 kg/ha)
- White clover (2 kg/ha)
- Strawberry clover (1 kg/ha)

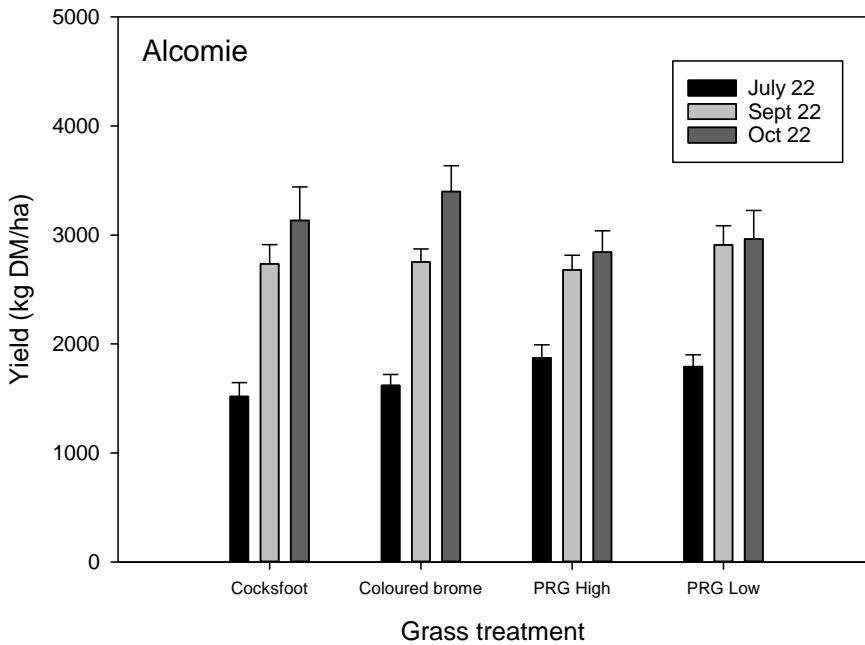


Figure 1: Dry matter yield (kg DM/ha) of 4 pasture mixes based on cocksfoot, coloured brome, perennial ryegrass high rate, and perennial ryegrass low rate with clovers at three harvest times (27/7/22, 14/9/22, and 20/10/22)



Above: Left: Perennial ryegrass (high), Right: Cocksfoot. November 22
Below: Left: Perennial ryegrass (low), Right: Coloured brome



Involve & Partner

Importantly the learnings from phase 1 (which focuses on experimental work) will then be extended to producer led sites on-farm to trial alternative sowing techniques and species at a commercial scale that have shown promise during the first phase of the project. In 2023, TIA will be looking for more producers interested in participating in this second phase of the project. Anyone interested in discussing this further should contact: Rowan.Smith@utas.edu.au

For more information please contact: Rowan.Smith@utas.edu.au or visit our project page <https://www.utas.edu.au/tia/research/research-projects/projects/growing-red-meat-productivity-through-the-selection-and-establishment-of-perennial-legumes>

DISCLAIMER: While the Tasmanian Institute of Agriculture (TIA) takes reasonable steps to ensure that the information on its fact sheets is correct, it provides no warranty or guarantee that information is accurate, complete or up-to-date. TIA will not be liable for any loss, damage, cost or expense incurred or arising by reason of any person using or relying on the information contained in this publication. No person should act on the basis of the contents of this publication without first obtaining specific, independent, professional advice. TIA and contributors to this Fact Sheet may identify products by proprietary or trade names to help readers identify particular types of products. We do not endorse or recommend the products of any manufacturer referred to. Other products may perform as well or better than the products of the manufacturer referred to.