How do I successfully establish a new pasture?

The issue:	Optimum feedbase production is essential to retaining and expanding a profitable global and domestic Australian red meat industry.
The impact:	Red meat production potential is not being achieved and opportunities to improve climate, environmental and financial resilience are being missed.
The opportunity:	Through investment in the feedbase and improved pasture management, producers can achieve sustainable and resilient production of red meat.

The feedbase – perennial, annual and native pastures and forage and dual-purpose crops – is the powerhouse of Australia's red meat, dairy and wool industries. MLA's Feedbase Investment Plan identified a potential gain of $25 million annually in on-farm returns from improvements in the southern feedbase. This gain would result from investment in new and existing pastures, better management and utilisation of the feedbase and the delivery of new, high-performing varieties.

A well-managed feedbase:

- underpins livestock productivity
- provides ground cover for soil protection and moisture retention
- improves long-term soil health
- increases resilience to climatic events
- enhances the ability of other factors in a livestock enterprise to reach optimum levels, such as genetics, animal health, market compliance and reproductive efficiency
- reduces livestock carbon emissions via efficient digestion and faster weight gain and turn-off
- reduces the impact of weed infestation.

Investment in new pastures is driven by the need to improve livestock productivity, lift environmental outcomes, increase climate resilience and, in mixed farming operations, manage long-term paddock rotations.

There are three approaches to deliver an improved feedbase: sowing a pasture in a bare landscape after a cropping phase; removal and replacement of original pasture; or renovating existing pastures.

During the decision-making process on how pastures are to be improved, these factors need to be considered:

- why new pastures are needed and what their purpose will be
- whether the required inputs (financial, agronomic, human and machinery) are available
- which pasture types best suit the environment, soil type and livestock production system
- the capacity to utilise and manage pastures once established.

Check out the Pasture Trial Network (PTN) variety selection tool. This MLA-funded and supported online tool allows you to assess and compare the performance of different pasture varieties by region and species, helping to ensure the greatest chance of success with your selection decision for your enterprise mix. Go to tools.mla.com.au/ptn/.

Don't forget to seek advice and support on pasture varieties from local agronomists, agriculture department staff, resellers, seed companies, livestock and animal health advisors and neighbours.

Optimising establishment

Growing new pastures or improving existing pastures requires significant investment of time and money. Maximise the return on that investment by considering:

- the condition and constraints of the soil in the selected paddocks, using soil tests to establish nutrient deficiencies
- correct rates and application methods for fertiliser and nutrients prior to, during and post-sowing
- paddock preparation including fallow management, weed and pest control and moisture retention
- seeding techniques according to machinery availability and rate, depth, row spacings and seed and fertiliser placement
- short and long-term seasonal climatic forecasts which support key dates for activities
- pre and post-emergent weed and pest control
- initial and subsequent grazing management.

How do I know if my pastures are not performing?

Start by monitoring and assessing dry matter (DM) production of existing pastures. Pasture mass and feed on offer (FOO) are both terms used to describe how much pasture is present in a paddock. Pasture mass typically assumes 300kg DM (0.5cm) is unavailable to livestock, while FOO includes all above-ground plant material. Thus, estimates of pasture mass are lower than the same estimate of FOO.

Planning

Investment in pastures is usually considered as part of a cropping rotation to increase the amount of area dedicated to pasture, or to replace existing long-standing pastures. To help establish pasture investment priorities, producers should fully assess existing pastures and opportunities for increasing their production.

How do I measure DM?

Here are some tools:

Pasture rulers or 'sticks' that measure green pasture height are simple, cheap and easy to use. Heights are easily converted to an estimate of kilograms of green dry matter/ha via guides and tables. Download the MLA Tips & Tools: *Improving pasture use with the MLA Pasture Ruler* at publications.mla.com.au

Rising plate meters measure total pasture mass, green and dry standing feed and are based on a plate that rises up a probe depending on the amount of compressed pasture material between the plate and ground.

Electronic pasture probes measure dry matter of green material only. They are quick, easy to use and usually fully automated, including possessing the capacity to directly download readings into computers or apps.

Photo standards for pastures are available and give a good guide to the amount of FOO in a paddock. Photo standards are available through the Lifetime Ewe online manual.

Satellite imaging of pasture growth by annual pastures can be found at pasturesfromspace.csiro.au at either the shire level (free) or paddock scale (by subscription).

More information

MLA's Pasture Tools including: *Feedbase Planning and Budgetting tool,* and *Phosphorus Tool* etools.mla.com.au/hub/

MLA's Tips & Tools at mla.com.au/publications including:

Making the most of phosphorus fertiliser applied to soils

EverGraze: *On-farm Options: Selecting Pastures for Place and Purpose* fact sheet evergraze.com.au

NSW Department of Primary Industries:
Eight steps to successful perennial pasture establishment

Fertilisers for Pastures manual

The *EverGraze Pasture Improvement Calculator*: evergraze.com.au

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