

Grazing Cereals



Filling feed gaps

Grain & Graze research aims to improve the financial and environmental performance of mixed farming systems across Australia and to fill feed gaps through better management of grazing wheats and selection of high quality short term pastures. Research already shows that if cereals are grazed at the right time there is no yield impact.

The focus, through a number of trials, is on managing the enterprise mix to make the most of the whole farm's feed supply while protecting the natural resource base, particularly water use, ground cover and biodiversity.

Research on grazing cereals is underway in six regions across Australia: Corangamite/Glenelg-Hopkins, VIC; Avon and Northern Agricultural Regions, WA; Mallee, NSW, VIC and SA; Eyre Peninsula, SA and Murrumbidgee, NSW.

Ways to graze cereals

Cereal grain crops are grazed in many different farming systems. The most common ways of using cereal grain crops are to either graze the stubbles or graze during the vegetative phase with little effect on grain yield. There are at least six ways in which cereal crops can be utilised by livestock:

- Grazing dual-purpose crops during the late vegetative and early reproductive phases with the intention of preserving most of the grain yield.
- Sacrificial grazing during mid to late reproductive phases where there is little prospect of a commercial grain harvest, such as in times of drought.
- Conserving crop biomass prior to harvest where crops may be cut for hay (usually early in reproductive growth) or for whole-crop silage (later in reproductive growth). This option can be attractive when fodder scarcity is occurring in other regions.
- Grazing standing crops after maturity where livestock utilise both the grain and the remaining stem and leaf matter. This is often done to carry other fodder into the summer when it may be in short supply.
- Grazing dry crop stubbles after harvest - traditionally done in many cropping systems.
- Grazing stubble regrowth after harvest. This often occurs with weak perennials such as grain sorghum. If the crop is not killed at harvest re-sprouting of shoots can occur, producing new vegetative biomass able to be grazed.

The above options can depend on crop to livestock balance, climate, timing, and feed gap magnitude. Some, such as dual-purpose and stubble grazing, can be combined.

It's also important to consider the grazing cereal feed's marginal value. In warmer, winter-dominant rainfall regions, dual-purpose grazing of winter cereals will provide feed at a time of the year when feed may be in plentiful supply elsewhere on the farm from pastures and fodder crops. Alternatively, sacrificial grazing later in crop growth in a drought year may provide highly valued feed.

Results to date

Testing local varieties across six regions with long term pasture trials suggests there is a substantial and untapped store of early winter grazing in paddocks of wheat, barley and triticale sown for grain.

The Grain & Graze trial in south western Victoria showed grazing Yerong barley at the vegetative growth stages (up to stem elongation) did not have an adverse effect on eventual grain yield and even slightly improved yield. It reduced stubble levels slightly, promising easier sowing in the following season and reduced the need to graze new or re-germinating legume pastures in early winter.

Grazing at, or after the start of stem elongation provided more dry matter for livestock and dramatically decreased stubble loads but came at significant loss of grain yield.



How does the nutritional value of cereal biomass for livestock influence production expectations?

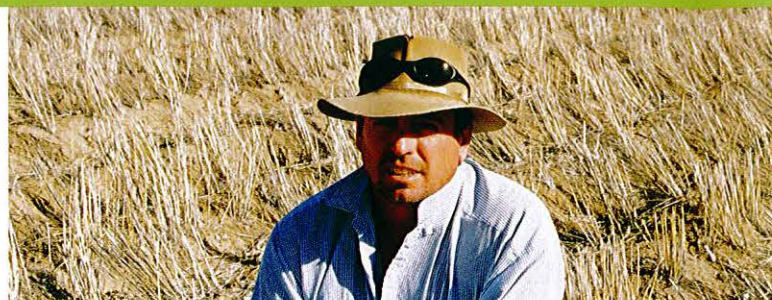
During winter and early spring when dual-purpose grazing is practised, cereal forage quality is extremely high. The timing of grazing will generally be determined by the trade-off between maximising herbage mass and avoiding grain yield losses. As wheat forage at this time is commonly deficient in sodium and often, magnesium, supplementation with these elements is an inexpensive and effective insurance policy.

Key messages for grazing cereals from across the regions:

- Cereals can be grown as forage or bonus grain (seasonal).
- Grazing is possible to a certain growth stage (GS30) without yield penalty.
- Grazing cereals are a good supplementary feed source.
- A strategic plan is needed within the season to adapt to conditions.
- Grazing cereals can be used to best fill the feed gaps.

Understanding the feedbase

In order to spread risk and graze cereals successfully to fill the feed gaps there is a need to develop an understanding of the feedbase and to be flexible. (More information on managing the feedbase is available in the Grain & Graze Feedbase Management fact sheet - for your copy visit www.grainandgraze.com.au). Grazing cereals (for grain recovery) can increase income per hectare in medium to high rainfall areas. A broad range of cereals can be utilised by livestock without a negative effect on profits or the crop.



Management demands

Depending on the crop-pasture balance, there may be insufficient livestock to graze the area of cereal crop, especially for stubble or sacrificial grazing. Restrictions on livestock movement (for good biosecurity practices) between properties exacerbate this problem. Conservation may be a viable alternative to sacrificial grazing.

High stocking densities are preferable when dual-purpose grazing. When livestock numbers are limiting, temporary fencing and frequent shifts of livestock will be needed to maximise utilisation of crop biomass and minimise trampling damage. It is also necessary to monitor crop development stage and feed on offer to ensure grazing does not impinge on reproductive development.

Other ways to help livestock managers improve production and profitability:

- In paddocks with high weed burdens, sacrificial grazing can provide an ideal opportunity to control weeds late in growth without having to switch to a pasture phase.
- In dual purpose systems, the reduction in vegetative material through early season grazing may reduce stubble burdens following harvest. High stubble burdens can hamper the establishment of the following crop and can be difficult to reduce after harvest if livestock numbers are limited or there are restrictions to traditional methods of disposal (tillage, burning).
- In lower yielding areas a reduction in stubble biomass may have consequences for stubble carry-over, ground cover and hence, erosion risk.

For more information contact:

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