

CEREALS FOR EARLY FEED

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Key messages

- Oats produced the most dry matter after repeated grazings.
- Manage timing of grazing to allow cereal recovery.
- Establish as much bulk as possible in a cereal pasture by increasing seeding rate and consider dry sowing.

Why do the trial?

Upper Eyre Peninsula farmers have been looking for an early feed option that not only fills the autumn–early winter feed gap, but is also low risk and easy to manage. Cereals are a reliable feed source until pastures are able to get away. Traditionally there was widespread ‘trashing-in’ of oats which had the flexibility of providing either early feed and/or grain harvest or hay, but the practice has decreased over the last 20 years due to more intensive cropping rotations. This trial evaluated which cereal species and variety will produce the most early feed.

How was it done?

The trial was sown at Minnipa on 10 May at the following seeding rates — Frame wheat (63 kg/ha), Brusher and Wallaroo oats (57 kg/ha), Maritime barley (71 kg/ha), Speedee triticale (66 kg/ha), Rufus triticale (53 kg/ha), Frame wheat high seeding rate (76 kg/ha) and Maritime barley high seeding rate (85 kg/ha). Plant counts were taken on 28 June. Dry matter (DM) cuts were taken on 25 July, 8 August and 22 August at the same place within each plot, approximately 30 mm above the ground. On 22 August an additional cut was taken from each plot from a different area to compare accumulated DM production against total production after three simulated grazings (cut with hand shears).

What happened?

Observations nine days after seeding indicated that emergence for Maritime barley and Frame wheat at high seeding rates was more advanced, and that Wallaroo oats was establishing poorly. However, plant counts at 2–3 leaf stage showed no differences between crops. DM cuts on 25 July and 8 August also showed similar DM production between varieties.

For the final DM cut on 22 August, oats and wheat were at late tillering, and barley and triticale were starting to run up to head. At this time, there were differences in DM production between crops and those that produced the most DM early also tended to recover the best after three simulated grazings. The oat varieties and higher seeding rates of Frame and Maritime produced the most DM (see Table 1 for DM at the final sampling).

Table 1. Dry matter production from cereals at Minnipa after two previous grazings*, 2006.

Treatment	DM (kg/ha)
Speedee triticale	77.0a
Frame wheat	98.8ab
Rufus triticale	103.2ab
Maritime barley	123.6ab
Brusher oats	133.4bc
Frame wheat high seed	133.8bc
Maritime barley high seed	149.5bc
Wallaroo oats	184.5c

Treatments followed by the same letter are not statistically different (P=0.05)

* Grazing simulated by hand cutting plots

Cereal DM production (averaged across all crops) declined after repeated grazings — 25 July (189 kg DM/ha), 8 August (185 kg DM/ha) and 22 August (126 kg DM/ha).

The cut measuring accumulated growth (for each ungrazed crop) to 22 August produced a total of 933 kg DM/ha. Total production from three cuts (simulating several grazings) produced an average of only 500 kg DM/ha.

What does this mean?

The decline in production after repeat cuts is likely to reflect the poor growing conditions in 2006 (competition from marshmallow, and lower than average growing season rainfall) but more importantly it signifies the penalty for removal of the plant growing point, thus limiting recovery between grazings. This shows the importance of being clear about the purpose the cereal crop, i.e. early feed with the possibility of grain harvest, hay cut, standing crop, or to strategically supply feed and provide a grazing break to other paddocks without expecting a grain yield. Each purpose may require a different management package to get the most from the crop (and the livestock that make use of it).

The higher total DM production at 22 August from the ungrazed treatments also demonstrates the limited ability of cereals to recover after the removal of the growing point.

DM production, and hence feed value, is influenced by plant density. In low rainfall environments DM production will peak at a certain seeding rate, beyond which there will be no further DM production increases. The relationship between plant density and DM production needs to be investigated further.

DM production was well below ideal for grazing. The trial was sown on 10 May when soil temperatures had started to decline. A seeding time 2–3 weeks earlier would have benefited early plant growth.

Oats was the most resilient cereal after repeated grazings and performed as well as barley and wheat at higher seeding rates. Early sowing combined with a higher seeding rate and careful grazing management is the best way to get the most value from cereal pastures.

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Category: Searching for answers

Location

MAC

Rainfall

Av. annual: 325 mm

Av. GSR: 242 mm

2006 total: 235 mm

2006 GSR: 111 mm

Paddock history

2005: Maritime barley

Soil type

Calcareous sandy loam

Research

