Canola mowing demonstration at Telford

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Key points

- Simulated grazing (mowing) reduced canola grain yield by 17%.
- The acceptability of yield loss in return for additional feed in the form of dry matter (DM) will depend on grain and livestock prices.
- The trial results highlight the importance of timely grazing management.

Location: Telford, Victoria

Rainfall:
Annual: 649mm (avg 508mm)
GSR: 209mm (avg 328mm)

Soil:
Type: Red loam over medium clay

Sowing information:
Variety: Roundup ready hybrid canola
Sowing date: 16 April 2011
Sowing rate: 2.2kg/ha
Treatments: Simulated grazing (mown once to 6cm)

Row spacing: 25cm

Paddock history:
2010 — wheat

Plot size: 6m x 6m

Replicates: 3

Aim

To determine the impact on final grain yield from grazing canola grown for grain and fodder.

Method

A dryland demonstration site was established at Telford to determine the effect of grazing canola on final grain yield. Hyola 601RR Roundup Ready Hybrid canola was sown on 16 April 2011 at 2.2kg/ha at a 25cm row spacing.

Plant counts were taken at establishment to determine plant densities. The plants were mown on 1 July 2011 to within 6cm of the ground to simulate a grazing event and dry matter (DM) cuts taken to determine the amount of biomass removed. The crop was then grown to maturity and the paddock was windrowed on 1 November 2011.

Plots were harvested on 14 November 2011 and the grain yields of mown (grazed) and ungrazed (control) areas were compared.

Results

Average plant density across the plots at establishment was 15 plants/m^2. On 1 July 2011 the plants were 20cm high, 35cm in diameter and at about 90% ground cover. The plants were just starting to bud and run up. Mowing (simulating grazing) removed 700kg/ha DM, including some developing buds (see Table 1). The grazing simulation reduced the canola grain yield by 17% (see Table 1, P = 0.007) compared with the control plot.

The oil content of the grazed crop was 2.3% higher than the control.

Observations and comments

Grazing significantly reduced grain yield, possibly due to the removal of buds leading to a reduced pod number and a diminished potential yield.

Although yield reduction was significant, the percentage reduction is still surprisingly low considering how late the plants were mown.

TABLE 1 Dry matter and grain yields of grazed and ungrazed canola

Treatment	DM (kg/ha)	Oil (%)	Yield (t/ha)
Grazed	700	49.6	2.21
Ungrazed	–	47.3	2.65
LSD			0.17
CV%			2.0
P			0.007

Canola crop at Telford. Mown plants (foreground) and ungrazed plants (background).

The acceptability of a 17% yield loss in exchange for 700kg DM/ha for grazing livestock will depend on the prices of grain, supplementary feed and livestock. This amount of DM could be converted into 88kg of lamb growth (@ feed conversion efficiency of 8:1) and be worth $220/ha (@ $2.50 kg liveweight, 55% dressing percentage). For the canola crop, 440kg of canola worth $550/t would equate to a loss of $242/ha. As the paddock was mown, rather than grazed by animals, the results do not take into account the selective grazing habits of livestock. In addition, animals return some nutrients to the paddock and this was not accounted for. Spring 2011 was cool with sufficient moisture stored in the soil profile, which probably aided the recovery of the mown crop. The early sowing date meant the mown crop still flowered in a favourable window, possibly assisting grain fill.

SPONSORS

This project is supported by the Northern Victoria *Grain and Graze 2* project, (BWB00018) funded by the Grains Research and Development Corporation and Caring for our Country. Thanks also go to farmer cooperators, the Inchbold family.

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