What effect does pre-graze mowing really have?

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Earlier research indicated little or no benefit in milk production to pre-graze mowing; however, there were claims within the industry, that this management strategy had not been tested in a system utilizing moderate pre-graze covers.

In recent years, there has been an increased focus on grazing at the three-leaf stage to capture extra pasture growth and this resulted in higher than recommended pre-graze covers on many farms. Some believed that mowing was required to harvest this extra pasture and maintain high intakes while still meeting target grazing residuals.

Thus, our objective was to investigate whether mowing or grazing cows at different pre-graze covers affected pasture or cow performance.

The experiment

The experiment was undertaken at the Lincoln University Research Dairy Farm (LURDF) between October 2016 and February 2017. Four treatments were designed to investigate the effect of pre-graze cover and the impact of mowing or grazing these different covers on cow and pasture performance. The four treatments were:

1. Low pre-graze cover (2900 kg DM/ha) and grazing
2. Low pre-graze cover (2900 kg DM/ha) and mowing
3. High pre-graze cover (3500 kg DM/ha) and grazing
4. High pre-graze cover (3500 kg DM/ha) and mowing

The results

Data are still being analysed, but preliminary results indicate that:

Mowing vs Grazing

- Estimated pasture harvested was greater in the mown vs grazing treatments (+ 2 kg DM/cow/day) BUT mowing reduced pasture utilised by 2 kg DM/cow/day and thus, there was no difference in estimated DMI.
- Mowing pasture reduced cow eating time by 23 min (597 vs 620 mins); BUT, there was no effect on estimated intake or time spent ruminating.
- Pre-graze mowing did not affect BCS or milksolids production (Figure 1). BUT, mowing reduced pasture production, and less silage was harvested (4.4 T DM/farmlet; Figure 2).

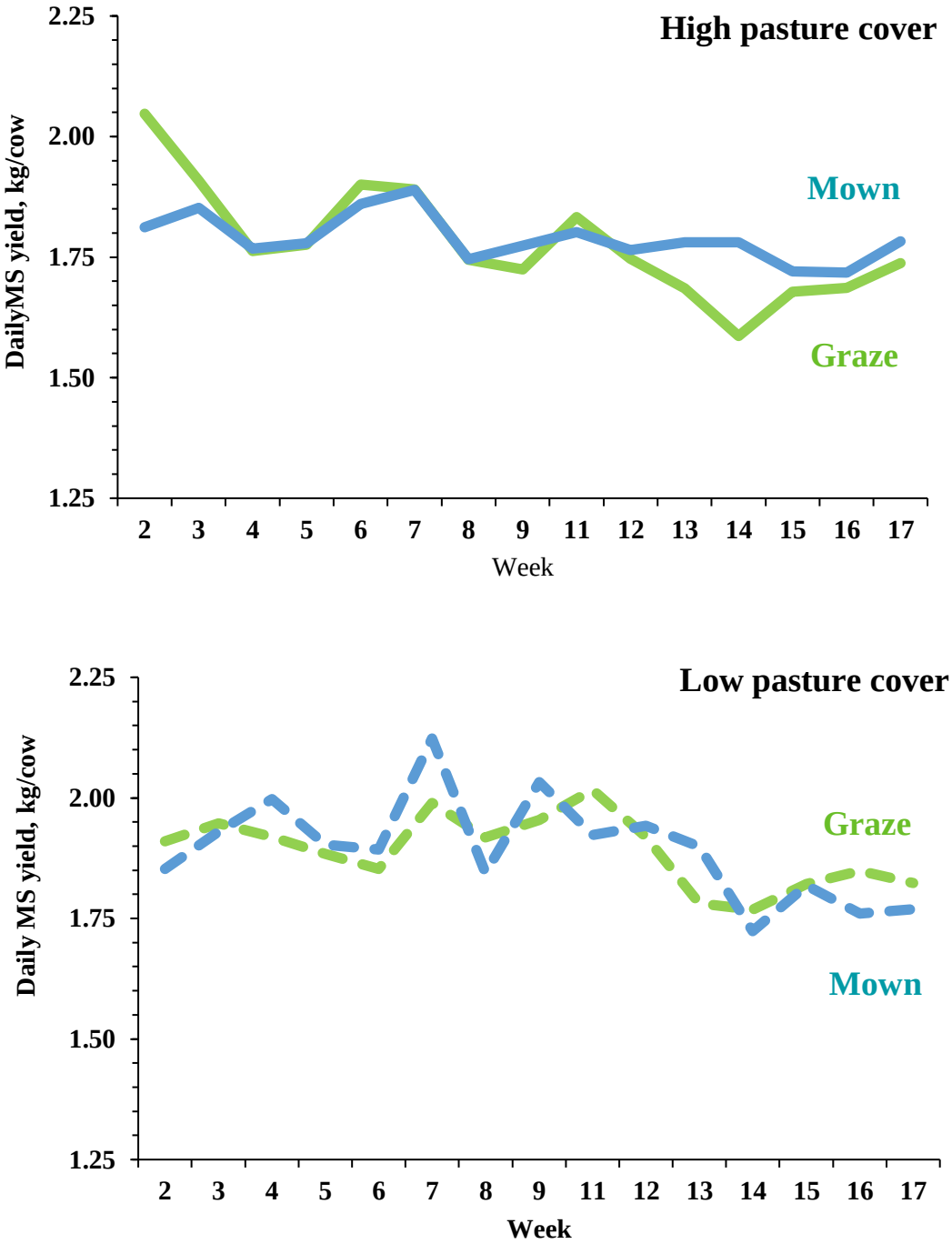

Figure 1. Milksolids production (kg MS/cow/d) from cows eating High (Top Graph) or Low (bottom Graph) pasture covers that were either grazed (Green) or mown before eating (Red).

High vs Low pre-grazing cover

- Average rotation length was 8 days longer (29 vs 21 days) for the high pre-graze cover farmlets.

- Cows offered higher pasture mass (3500 vs 2900 kg DM/ha) produced less MS/cow throughout the experiment (Average of 1.8 vs 1.9 kg MS/cow/day; Figure 1); BUT, the high pasture mass farmlets grew more pasture, and more silage was harvested (0.8 T/farmlet; Figure 2).
- Cows grazing high covers spent more time eating than cows grazing low covers (635 vs 582 mins).
- There were 0.2 more leaves (2.7 vs 2.5 leaves) on the ryegrass tillers when higher pasture cover treatments were grazed.
- Pasture growth rates were greater in the grazing treatments and in the high pre-graze covers.

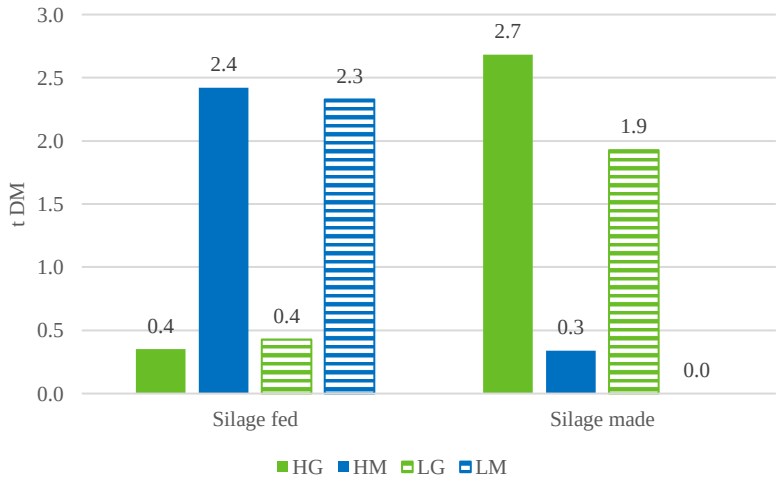

Figure 2. Silage made and fed in farmlets with high covers and grazing (HG), high covers and mowing (HM), low covers and grazing (LG), and low covers and mowing (LM).

The summary

Neither milksolids production nor BCS was affected by pre-graze mowing at either low (2900 kg DM/ha) or high (3500 kg DM/ha) pre-grazing covers. However, mowing reduced pasture growth rates, reduced the yield of silage harvested, and increased the need for silage feeding. Pasture wastage was high (150 – 200 kg DM/ha) in the mowing farmlets, discrediting the theory that pre-graze mowing limits wastage.

Therefore, pre or post-graze mowing can be used as an operational tool to achieve residuals, if on occasion, they are not met. However, these results indicate there is no benefit, and, in fact, profitability was reduced, by repetitive pre-graze mowing.