

Effects of autumn grazing management on spring grass availability

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Summary

- Closing date in autumn does not have an effect on late lactation milk production.
- Closing date has a significant impact on grass availability in the subsequent spring.
- Spring grass availability is a driver of animal performance in early lactation.

Introduction

Autumn closing date is one of the most important factors affecting spring grass supply. With little grass growth over the winter months, there is a necessity for careful planning in autumn to ensure adequate grass will be available to meet the herd demand in spring. The current recommendation for Irish dairy farmers in autumn is to close off 60% of the grazing area between early October and November 7th. The remaining 40% of available area should be grazed by late November and animals housed until turnout in early February.

To ensure adequate quantities of grass are available at the start of calving on highly stocked (> 2.9 LU/ha) farms, farmers must ensure that an average farm cover (AFC) is above 750 kg DM/ha at closing cover on December 1st. However, PastureBase Ireland data suggests that most farms are not achieving sufficient levels of grass on farm at closing and therefore will require increased levels of supplementation to support the demand of the herd in early lactation.

Autumn grazing management research in Moorepark

In September 2016, a grazing experiment was established at Teagasc Moorepark examining autumn and spring grazing management practices. The objectives of the experiment were to evaluate the potential of alternative grazing management practices in autumn to increase grass supply in the subsequent spring. To determine this; the current recommendations outlined above were evaluated across a 10.2 ha farm-let in comparison to an early closing farmlet (15 days earlier) and a late closing farm-let (15 days later; Table 1). All three treatments were stocked at 2.9 cows/ha, and all swards received the same Nitrogen fertiliser application. The animals are turned out post-calving from February 6th and allocated an equal grazing area/day in line with the spring rotation planner guidelines.

Table 1. Three autumn closing managements: early (Sept 25th–Nov 9th), normal (10th Oct–24th Nov) and late closing (25th Oct–9th Dec)

Autumn closing	Start closing	60% closed	Housed	Rotation length	Turnout date
Early	25-Sept	17-Oct	9-Nov	46	6-Feb
Normal	10-Oct	1-Nov	24-Nov	46	6-Feb
Late	25-Oct	17-Nov	9-Dec	46	6-Feb

There was no effect of closing date on milk production over a 13-week period from peak AFC (mid-Sept) to the housing of the late closed treatment (13.7 kg milk/cow and 1.26 kg MS/cow). However, the late closed treatment had higher milk protein (+ 0.13%/day) compared to the early closed treatment. As the early treatment was housed first, they consumed a higher level of silage than the normal and lates (450, 310 and 140 kg DM/cow, respectively). As a result of the earlier closing of swards, additional herbage was available in spring compared to the normal and late treatment, respectively (Table 2).

Table 2. Opening farm cover (kg DM/ha) on February 1st on the three farmlets in 2017, 2018 and 2019, daily winter growth (kg DM/ha) and soil temperature from November to March

	Opening farm cover (kg DM/ha)			Growth (kg DM/ha)	Soil temp.
	Early	Normal	Late		
Year 1 (2017)	1,010	815	650	6.8	6.5°C
Year 2 (2018)	1,060	675	440	4.1	5.7°C
Year 3 (2019)	1,400	1,080	800	7.4	7.6°C

The greater opening farm cover (OFC) in spring resulted in a greater herbage allowance (kg DM/cow) (+4.1 kg DM/cow). Each 1 kg increase in herbage allowance increased milk production by 0.35 kg milk/cow/day. Similarly, with the lower OFC, there was a greater requirement for silage supplementation on the normal and late treatment (+40 & +75 kg DM/cow/day, respectively) to offset the reduction in grass availability up until the end of April.

Conclusions

To consistently meet the requirements of a highly stocked dairy farm (> 2.9 LU/ha), an earlier closing date is required to achieve sufficient grass supply on farm at turnout. Housing cows earlier in autumn did require a greater level of supplementation; however, the benefit of a greater OFC in spring outweighed the necessity for additional supplementation in autumn.

