Effect of Farm Grass Cover at Turnout on the Grazing Management of Spring Calving Dairy Cows

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Introduction Early spring grazing is an objective for most Irish dairy farmers. If more grass is included in the diet of the cow in early lactation, the profitability of the farm system can be increased. Post turnout, dairy cow feeding management varies with the amount of farm grass cover (FC) available. Experiments on the consequences of different FC at turnout require large resources and all scenarios cannot be accounted for. Consequently, a decision support system, Pâtur'IN (Delaby *et al*., this volume), was used to describe the effects of various FC at turnout on grazing management in spring.

Materials and methods The model herd was composed of 50 dairy cows (mean calving date 15 February: peak milk yield 35 kg). Cows were allowed access to grass according to the pattern of calving. Concentrate supplementation was pre-planned to decrease from 7 kg/cow per day in February to 0 kg on 10 April. Twenty one-ha paddocks of perennial ryegrass were available for grazing (2.5 cows/ha: 60 kg N/ha per rotation). The grass growth data used with the model corresponded to grass growth measured at Moorepark between 1982-2004. Mean sward density was 250 kg DM/cm per ha. Three different farm grass covers (A - 550, B - 800 and C - 1100 kg DM/ha) were tested at turnout on 15 February. The objectives of all treatments were to finish the first rotation by 10 April, to graze the entire farm in the first rotation and to close 9 ha for silage in the 2nd rotation (4.5 cows/ha). During the first rotation, grass silage was used to fill the grass deficit (Treatment A), while concentrate feeding was reduced when grass supply was in excess.

Results Pre grazing herbage mass and sward height were higher throughout the first rotation for treatment C. With turnout on 15 February, treatment A had a low FC; therefore the herd was supplemented with grass silage (65 kg DM/cow). There was no silage supplemented to treatments B and C. In spite of the reduced level of concentrate fed (115 kg DM/cow), the FC at turnout for treatment C was too high to finish the first rotation on 10 April. Only 16 to 17 ha were required to feed the herd during the 56-day simulation. At the end of the 2nd rotation (2 May), treatment C tended to have the highest FC. A farm cover of 800 kg DM/ha at turnout is in agreement with the level recommended by O'Donovan *et al.* (2000). This scenario makes efficient use of spring grass, avoids silage feeding post calving and does not impose very early pasture closing in autumn.

Table 1 Main characteristics of early grazing with different farm grass covers (15 February to 2 May)

Farm cover at turnout (15 February - kg DM/ha)		A – 550	B – 800	C - 1100
From 15 February to 10 April (56 days)		On average, 35 cows at grazing		
Pre grazing herbage mass (kg DM/ha)		1400	1600	2000
Pre / Post grazing height (cm)		9.6 / 5.0	10.4 / 5.2	12.0 / 5.1
Herbage intake (kg DM/cow)		660	750	820
Concentrate intake (kg DM/cow)		240	240	115
Silage intake (kg DM/cow)		65	0	0
Farm cover (kg DM/ha)	1 March on 20 ha	670	830	1135
	10 April on 11 ha	1085	1060	1195
	2 May on 11 ha	925	975	1065

Conclusions Turnout date in spring should be based on the amount of FC available. On most farms early grazing is a realistic objective, with this simulation showing that medium FC in spring will allow grass silage to be removed completely from the diet of the lactating dairy cow. This can further improve milk production efficiency. However, having too high a FC in spring without a high grass demand, will increase the silage harvesting area and may create grazing management problems in subsequent rotations.

References

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