

No fond farewells until October

Meeting heifer rearing targets during summer grazing is a challenge but one worth aspiring to

A heifer rearing project run in Northern Ireland shows up some useful pointers to achieve during the summer grazing. Steven Morrison from AFBI Hillsborough and Richard Moore from feed company Thompsons share their thoughts with CowManagement on how feeding and management during the rearing period have a major impact on animal performance.

Calving heifers at two years old as opposed to the two year five month average can reduce replacement costs by more than 1ppl on all milk produced on the farm. However this cannot be achieved unless heifers are growing steadily throughout their life and this applies as much during summer grazing as the winter housing period.

Feeding and management during the rearing period both have a major impact on animal performance and therefore ability to achieve this 24 month calved heifer, as well as influencing reproduction, health and welfare.

Research carried out by the Agri-Food and Biosciences Institute (AFBI), Hillsborough indicates that the target live weight for high genetic merit Holstein-Friesian heifers calving at two years of age should be around 570kg, at a body condition score of 2.75 to 3.0. To both achieve these important targets and minimise rearing costs, capitalising on the potential of grazed grass is essential.

Grassland management to ensure both optimum animal performance and sward productivity can be difficult, particularly with changing weather and ground conditions. Plenty of good quality grass is very important along with the control of parasites.

Sward targets

Target sward heights provide vital guidelines in ensuring plenty of quality grass is available for dairy heifers. Table 1 shows the target sward heights for autumn- and spring-born Holstein heifers receiving no concentrate feeding.

Monitoring heifer growth is key in determining concentrate feeding strategy. The most cost effective way of achieving target growth rate is through good



grazing management. But if grass supplies are limited or sward quality is lower than expected then supplementation may be necessary. Responses to concentrate feeding at grass are shown in Table 2.

Table 2 shows that in one season 1.5 kg of concentrate was required to achieve a target daily liveweight gain of 0.75kg whereas in another year, with similar aged calves, no concentrate was required. This concept of 'no two seasons are the same' is key in managing heifers to achieve overall targets. Large heifers with good grassland management generally should achieve target live weight gains without supplementation in their second year at grass.

Currently, heifers at AFBI Hillsborough are being managed at grass using a leader follower system

whereby young calves rotational graze three days ahead of heifers that are one year older. Research has shown that calves on this system can outperform calves that are rotationally grazed as separate groups. This is mainly because of the selective grazing of young calves.

Leader-follower gains

Under the leader/follower system these calves have regular access to higher protein, lower fibre herbage. The follower group of heifers in the system graze the remainder of the sward and under good management do not suffer any drop in performance.

Performance of spring born calves at Hillsborough turned out to a leader follower system in early

April, at an average age of 12 weeks, has been good with the group as a whole achieving an average daily growth rate of 0.7kg.

This grazing system is a useful pasture management tool to control gut worms, where young calves move on to relatively parasite-safe pasture and older, parasite resistant cattle follow behind. However strategic use of anthelmintics, in conjunction with grazing management, is invariably required to control endoparasites in young calves. Results from the AFBI Heifer Rearing Project, run in conjunction with the College of Agriculture Food and Rural Enterprise (CAFRE) and involving results from selected farms during the past two years, has also highlighted the importance of good management at grass.



Steven Morrison



Richard Moore

	age (months)	target live	rotational grazing	continuous grazing	
		weight gain (kg/day)	residual sward height (cm)	sward surface height (cm) early season	late season
first grazing season					
autumn-born	7.5-12.5	0.70	6	6	8-9
spring born	3-7	0.70	6	6	8-9
second grazing season					
autumn-born	17.5-23.5	0.75	5	5-6	7-8
spring-born	12-18	0.80	5-6	6	7-8

Table 1: Target residual sward heights throughout the grazing season in rotational and continuous grazing systems (assessed using plate meter)

Heifers involved were fed according to a feed blueprint incorporating a new HGM heifer rearing ration designed by Thompsons. The 570kg target at calving at 24 months old has been generally achieved across all birth dates. However, the project has highlighted the variability in heifer performance amongst project farms throughout the year because of variable factors, particularly winter forage quality and summer grass management.

Weight gain variability

Although the target daily growth rate is 0.75kg, the project showed that during the summer period alone growth rates varied from 0.55kg right up to almost 0.9kg. This reinforces the need to monitor heifer growth rates so below target performance can be identified early and any supplementation at grass can be provided.

This concept of 'no two seasons are the same' is key in managing heifers

	concentrate level (kg/day)		
	0	1.5	2.5
first summer at grass			
7-12.5 months of age	0.64	0.75	
7-12.5 months of age	0.77	0.90	
second summer at grass			
17.5-23.5 months of age	0.76		0.91

Table 2: Live weight gains of autumn-born Holstein heifer calves during the first and second summer at grass

Monitoring will also identify over supplementation of concentrate or excessive allocation of good grass – both of which can be a problem in terms of heifers becoming over-fat, particularly in their second grazing season.

The project has shown how important it is to get a handle on performance of heifers through the growing period – whether at grass or during housing. Pressures on farm margins mean that heifers can no longer be turned out and left during summer without assessment of their progress. The benefit to be gained through proper controlled management at all times of the year and driving towards 24 month calving is too great in the current climate to be ignored.

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