

Outwintering replacement dairy heifers for high input systems

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Introduction

- Heifer rearing is the second largest cost on dairy farms after feed and forage
- Outwintering may provide a lower cost option by reducing winter housing and conserved forage costs
- Deferred grazing, kale and fodder beet are the most common outwintering forages
- There is little information on animal performance on these forages in comparison with housed heifers.

Aims

- To evaluate heifer performance on fodder beet and deferred grazing systems
- To compare performance of housed and outwintered heifers
- To evaluate the suitability of outwintering systems for high output farms.

Methodology

- Forty-eight in-calf Holstein dairy heifers were assigned to either:
 1. Out-wintered on grass and grass silage (G)
 2. Out-wintered on fodder beet and grass silage (F)
 3. Housed and fed grass silage and concentrate (H)
- The outwintered heifers received 35% of their DM intake as big bale silage
- Heifers were outwintered for 13 weeks and housed six weeks prior to calving
- Animal performance during outwintering and in early lactation was measured.



Results

- Heifer body condition score (BCS) change was also lower at housing and parturition when fed G (Figure 1)

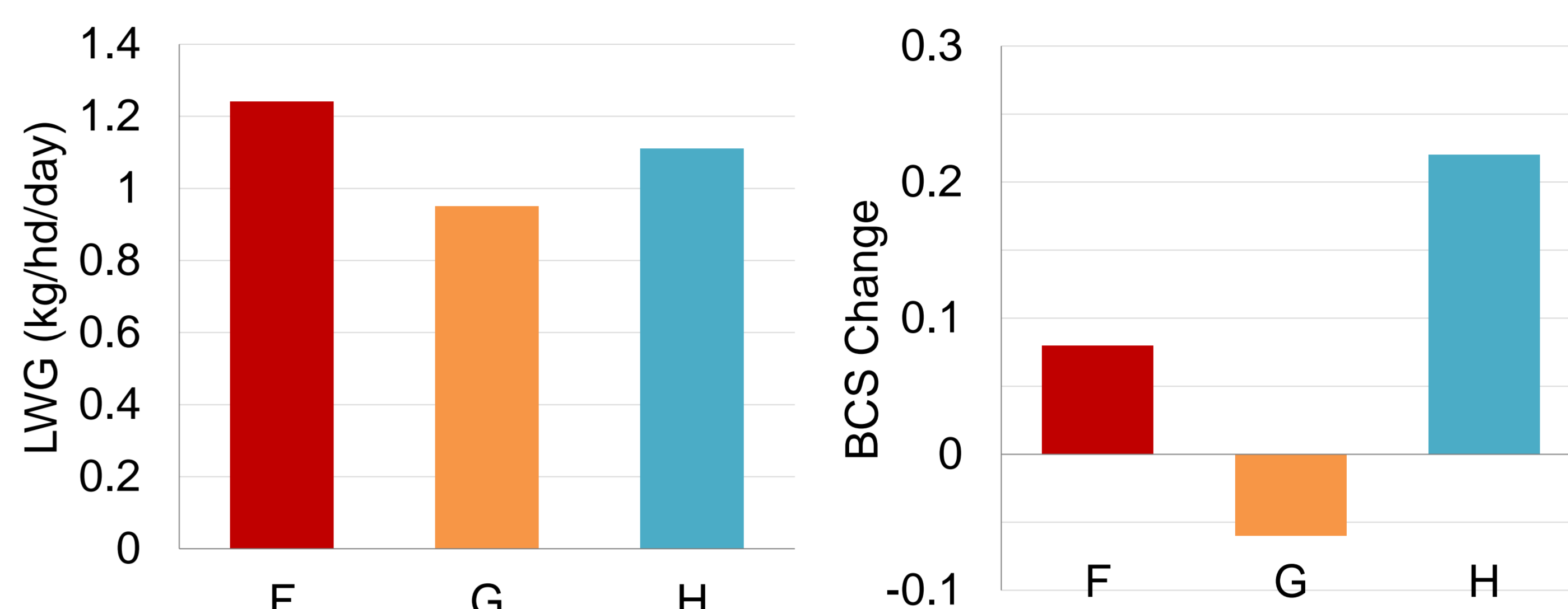


Figure 1. Average daily LWG and BCS change during the outwintering period across the three treatments

- Early lactation milk yield was not affected by outwintering treatment (Table 1)
- Milk fat (g/kg) was lowest ($P = 0.027$) and milk protein (g/kg) highest ($P = 0.026$) in F
- Milk somatic cell count (SCC) was low but was less in G than F ($P = 0.014$)

Table 1. The effect of outwintering in-calf heifers on milk yield and quality during early first lactation

	F	G	H
Milk, kg/day	30.1	31.3	30.7
Milksolids, kg/day	2.00 ^b	2.13 ^a	2.11 ^a
Fat, g/kg	35.4 ^b	37.1 ^{ab}	37.9 ^a
Fat, kg/day	1.05 ^b	1.16 ^a	1.16 ^a
Protein, g/kg	32.1 ^a	31.2 ^b	31.6 ^{ab}
Protein, kg/day	0.95	0.97	0.96
SCC ¹ , 10 ³ /mL	54 ^a	33 ^b	45 ^a

- There was no negative effect of outwintering on subsequent fertility of Holstein heifers.

Conclusions

- In-calf Holstein heifers can be outwintered successfully on high output dairy farms with careful planning and management
- Heifers grazing fodder beet with 35% of dry matter intake as grass silage, can obtain target LWG in winter conditions, provided allocation of feed is accurate and animal performance is monitored regularly
- Heifers fed G may have difficulty maintaining LWG and BCS, particularly during January and February and if conditions are very wet. Supplementation with concentrates may be required.

This study forms part of AHDB Dairy's Research Partnership
For more information, visit: dairy.ahdb.org.uk or contact Dr Debbie McConnell, Email: debbie.mcconnell@ahdb.org.uk. Tel: 024 7647 8704