

# Out-wintering High Production Dairy Heifers



*Can dairy heifers of high genetic merit be out-wintered without compromising future milk yield, milk composition or fertility?*



## The Challenge

Any reduction in heifer rearing costs must be achieved without causing a greater cost to performance once in the milking herd.

The challenge was to determine the suitability of out-wintering dairy heifer replacements, from a high yielding dairy system, on (1) deferred grazed grass and grass silage or (2) forage kale and grass silage, compared with (3) housed heifers fed a total mixed ration (TMR). Feed requirements were calculated to achieve an average increase in live weight of 0.75 kg/hd/day for each group, with an additional 10% of maintenance for the outwintered groups.

## The Research

Research conducted at the SRUC Dairy Research and Innovation Centre used three groups of 16 heifers in first pregnancy during winter 2014/15.

Body condition and liveweight gain were monitored over the winter (December to April) along with subsequent milk production, milk composition and fertility post-calving.

The two out-wintered groups were compared with a housed group.

## The Results

There was no significant difference in liveweight gain between the out-wintered and housed heifers after 14 weeks in lactation. However there was a significant increased liveweight gain for the out-wintered kale fed group compared to the housed or grass grazing group during the first 14-weeks of lactation.

The grass grazed group produced significantly more milk (29.8 kg/day) than either the housed (27.3 kg/day) or out-wintered kale-fed (27.9 kg/day) groups.

There were no significant differences in milk composition between the three groups.

There were no significant differences in fertility with the kale, grass and TMR groups having 3, 2.7 and 2.9 services to conception, respectively. The group out-wintered on kale however did have a significantly longer calving interval (415.5 days) compared to the housed group (369.6 days).

## The Impact

In-calf Holstein heifers can be out-wintered successfully on high output dairy farms without a negative impact on subsequent performance or fertility, provided there is careful planning and management.

Out-wintering on (1) kale and grass silage or (2) deferred perennial ryegrass and grass silage for in-calf heifers, can be used as a viable alternative to the high capital cost requirement of investing in new winter housing and TMR based systems. These bring a reduced cost of approximately 64% or £178 per heifer when accounting for housing, feed and slurry storage.

Heifers may have difficulty maintaining body condition score and live weight gain, particularly during January and February, when weather conditions are very wet and windy, or snow is covering the ground. Supplementation with extra grass silage

bales maybe required during periods of low or difficult grazing.

In advance of the out-wintering period planning of the field, including positioning of silage bales and direction of grazing, is important to minimise soil compaction and erosion. Silage bales presented in-situ avoids excessive field traffic. Strip grazing is important to avoid damaging the crop prior to grazing.

## Project Detail

Project start date: [01/12/2014], finish date: [05/07/2015].

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Further information: <http://dairy.ahdb.org.uk/research-development/production-systems/current-projects/out-wintering-systems-for-replacement-heifers/>

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