

Dairy Heifer 2000 – Progress Report June 2001

Contents

First lactation heifers – management and results

Maiden heifers – management and results

Newborn calves – management and results

Summary

First lactation heifers

Managing first lactation heifers

Summer management

First lactation heifers in the Protein Improver and High Forage projects are currently at grass. Levels of production from grass in June for heifers have been set at M+18 - 20 l within the High Forage project and M+15 - 19 l for the Protein Improver project. Heifers in the CREAM project are grazing for 2 periods daily and are housed overnight where they are offered a partial TMR consisting of big bale silage, wholecrop wheat silage, concentrate blend (20 % CP as fed) and molasses. Levels of production from grazing and the TMR have been set at M + 28 l.

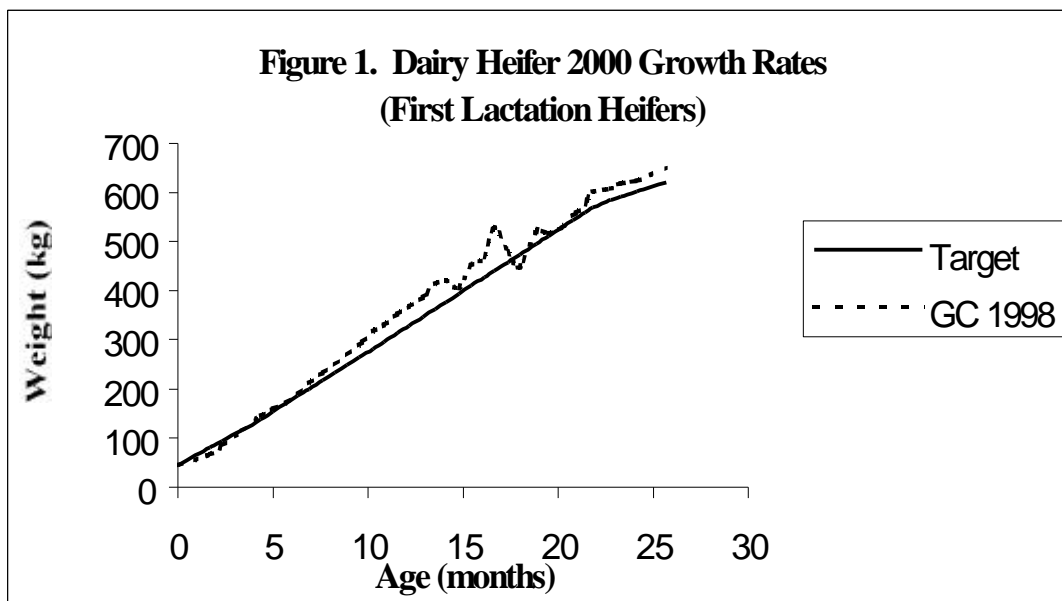
Results

First calved heifers

The second set of heifer replacements reared in the Dairy Heifer 2000 project calved down this winter. A total of 42 heifers calved down since last autumn (36 % High Forage, 43 % Protein Improver, 21 % CREAM). Average age at calving was just under 24 months. Sires which these animals have been bred from include Fatal, Tornado, Judge, Rudolph, Brock and Metro. The heifers were weighed at various stages of their development as part of the management programme. A summary of their performance during the rearing period is given in Table 1 and Figure 1. Data outlining the performance for animals at different stages are averages for a selected group of animals.

Table 1. SUMMARY OF ANIMAL PERFORMANCE (Dairy Heifer 2000 – First lactation heifers)

Age (months)	Target Weight (kg)	Recorded Weight (kg)	Liveweight gain (Birth – Age) (kg/day)	Band Weight (kg)	Wither height (cm)
0	46	45	--	49	76
4	130	137	0.76	150	100
10	275	309	0.83	328	123
12	325	366	0.88	365	125
15	400	428	0.83	424	127
22	575	613	0.85	625	136
24	600	624	0.78	636	138



To date the heifers have achieved the liveweight targets set at the start of the project. The performance of these animals is also being monitored through the course of their lactations in the High Forage, Protein Improver and CREAM herds through milk recordings. The average projected 305 day yield for first lactation heifers across the 3 herds is currently 7043 kg/cow

(range = 4347 – 10628 kg/cow). A more complete analysis of how the heifers performed will be carried out when they have completed their first lactation. The body condition score of all heifers within the College herds is monitored on a regular basis. Analysis of those records showed that the average condition score of first lactation heifers just after calving was 2.9.

An analysis of the fertility records for the first lactation heifers in the various herds has also been carried out. The results of this analysis are summarised in the following table:

Table 2. SUMMARY OF FERTILITY DATA (First lactation heifers – average over College herds)

Parameter	Average (range in brackets across herds)
Days to first service	86 (76 – 95)
Submission rate (%)	44 (36 – 63)
Conception rate to service (%) [?]	52 (25 – 67)

Sires which were used this winter included Jamboree, Journalist, Lucky, Melchoir, Manat, Emerson and Eddie.

Maiden heifers

Management of maiden heifers

Heifers which were born during the autumn and winter period of 1999/2000 have been artificially inseminated during the winter. Sires used included Lucky, Shoremar James and Bestow. Criteria which are used to select animals for insemination are that the heifers are approaching 15 months of age and weigh 360 – 400 kg. Heifers were artificially inseminated up to 2 times after which an Angus bull was used. The animals were fed a mixture of second and third cut silage during the winter and 1.0 – 1.5 kg/day of a Heifer Rearer supplement prepared by J. Bibby Agriculture. Concentrate inputs were reduced after the animals were diagnosed to be in-calf, while concentrates were withdrawn from the rest of the heifers approximately 2 weeks before turnout at the end of April. The in-calf heifers now make up a follower group as part of a leader follower grazing system for heifer replacements. Animals in the follower group do not receive any supplementation.

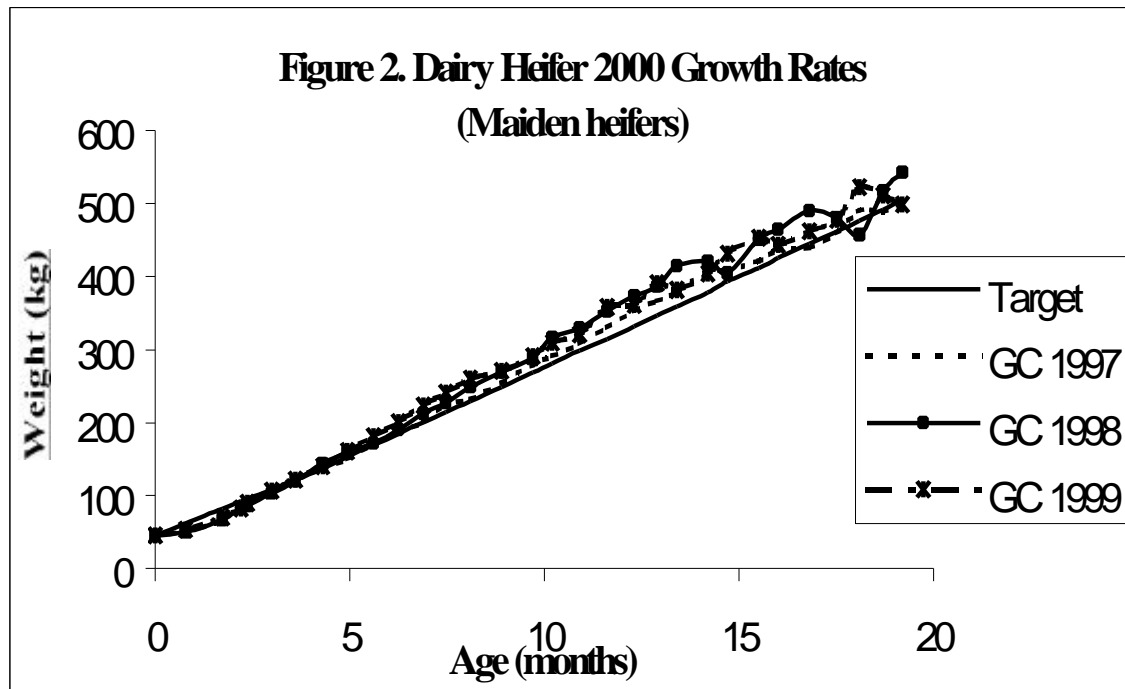
[?] based on non return rates

Results

There are a total of 59 maiden heifers at Greenmount College (47 % High Forage, 36 % Protein Improver, 17 % CREAM). A summary of the progress made by the heifer replacements during the rearing period to date is given in Table 3 and Figure 2. The corresponding performance of calves born in other years of the project is also given in Figure 2. Data outlining the performance for animals at different stages are averages for a selected group of animals.

Table 3. SUMMARY OF ANIMAL PERFORMANCE (Maiden heifers)

Age (months)	Target Weight (kg)	Recorded Weight (kg)	Liveweight gain (kg/day, Birth – Age)	Band Weight (kg)	Wither height (cm)
0	45	46	--	49	76
4.25	137	140	0.75	141	100
10	275	300	0.83	311	118
12	325	360	0.86	354	124
15	400	442	0.86	450	130
19	505	490	0.76	509	131



Analysis of the fertility records collected during the winter showed that the average age of heifers at first service was 14.5 months. The average conception rate to first service (based on non return rates) was 68 %.

The heifers were weighed recently and the average liveweight gain of animals in this group over the past 2 months was 0.5 kg/day, which is less than the target of 0.80 – 0.85 kg/day set within the project. However the average weight of animals in this group is around 480 kg which is in line with the weight target for heifers of 18.5 months of age.

New born calves

Management of new born calves

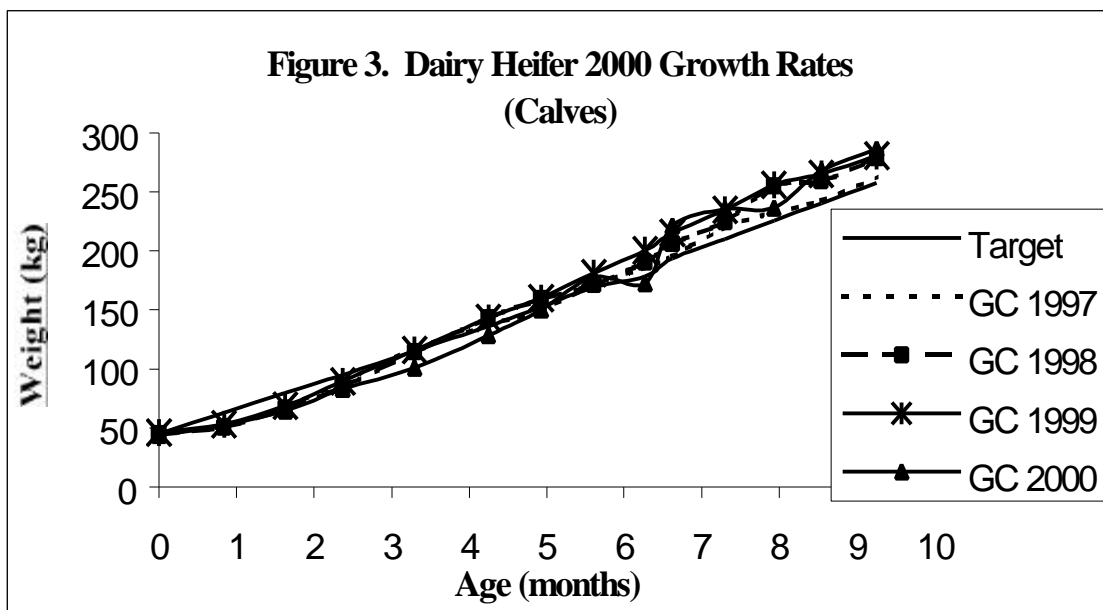
The autumn born calves were turned out to grass on 26 April and are grazing as part of the leader follower grazing system on the Bog paddocks. A number of the later born calves were turned out on 1 May. Autumn born calves receive 0.5 kg/calf/day of a 24 % CP compound formulated by J. Bibby Agriculture. The spring born calves are receiving 1- 2 kg/calf/day of an 18 % CP Heifer Rearer compound formulated by J. Bibby Agriculture. All calves that have been turned out to date have been given a bolus as part of the parasite control programme at Greenmount College. Calves that were born after 1 March will be kept in the rearing house over the summer.

Results

A total of 59 calves (56 % High Forage, 20 % Protein Improver and 24 % CREAM) were born this winter. The average age at weaning for this year's group of calves was 64 days. A summary of their performance to date is given in Table 4 and Figure 3. The corresponding performance of calves born during the previous three years of the project is also given in Figure 3. Data outlining the performance for animals at different stages are averages for a selected group of animals.

Table 4. SUMMARY OF ANIMAL PERFORMANCE (calves)

Age (months)	Target Weight (kg)	Recorded Weight (kg)	Band Weight (kg)	Wither height (cm)
0	46	44	50	76
1	67	54.5	63	81
3	110	109	111	92
4	131	116	115	94
5	155	151	150	99
7.5	217	241	239	110
9.5	264	259	N/A	N/A



Growth rates to date for the new born calves have been similar to calves at the corresponding stage over previous 3 winters. The calves were weighed recently and average liveweight gains over the last 2 months for the autumn born calves were 0.6 kg/day. The corresponding figure for the spring born calves was 0.7 kg/day.

Summary

Heifer replacements within the Dairy Heifer 2000 project have continued to meet liveweight targets during the rearing period and are achieving good levels of performance during their first lactation