

Blossom AFBI Trial

Objective

To generate calf performance data for heifer calves reared on Blossom Easymix calf milk replacer.



Trial Site	Agri-Food and Bioscience Institute (AFBI) (Hillsborough, N. Ireland)
Calf type	Holstein heifers
Number of Calves	12 (born Sept to Nov 24)
Milk Powder	Blossom Easymix (23% crude protein, 18% fat; based on concentrated whey protein [Imunopro®], contains Butyrate and Gardion)
Feeder Type	Teated buckets

Management and Feed

Colostrum:

- Calves remained with their dam for 6-12 hours and were fed 3-4L of dam colostrum via a teated bottle within 2 hours of birth.
- Calves were transferred to a straw bedded pen under a heat lamp and offered a second feed of colostrum (2L) via a nipple teated bucket within 12-16 hours of birth.
- Once completely dry, calves were moved to a straw bedded paired pen and offered colostrum twice daily (2.5L per feed) until 3 days of age.
- On day 4, calves were fed a mix of half colostrum and half milk replacer twice daily (2.5L per feed).

Milk Replacer:

- On day 5, calves were fed Blossom Easymix milk replacer twice daily via buckets (Table 1)
- Blossom was mixed at 150g/L (150g powder + 850ml water = 1 litre of mixed milk)

Water and Dry Feed:

- Fresh water, calf starter concentrate (Calf nuts, 18% CP) and chopped straw in buckets was available ad-libitum (from day 5)

**Table 1. Milk Feeding Plan**

Age period (days)	Days	CMR (g/litre)	CMR (litres/d)	CMR (g/d)
0-3	3	Colostrum (3-4L within 2h; 2L within 12-16h; 5L/d until 3d)		
4	1	150	5 (colostrum+CMR)	375
5-7	3	150	5	750
8-42	35	150	7	1050
43-56	14	150	5	750
57-63	7	150	2.5 (once daily)	375

Total milk powder, 49.9kg

Weaning:

- Milk was reduced gradually from 7 to 2.5 litres over 21 days and calves were weaned at 63 days of age

Management:

- Calves were fitted with a calf jacket until 28 days of age, dehorned at approximately 4 weeks and pair housed until day 70.

Results**Calf Intake**

- Calves consumed on average 50kg milk powder and 22kg starter before weaning on day 63. After weaning, calves consumed 13kg starter from days 64 to 69 (Table 2).

Calf Growth

- Calves weighed on average 38kg at birth and 85kg at weaning (Table 3 and Figure 1). Calves had a daily live weight gain (DLWG) of 0.74kg/d from birth to weaning and 0.76kg/d from day 7 to weaning (Table 4).
- After weaning, calves weighed on average 93kg on day 70 equating to a post weaning DLWG of 1.2kg/d (Table 3 and 4).

Table 2. Total intake of milk replacer and concentrate

	Total intake
Milk replacer (kg DM/calf)	49.9
Concentrate d5-63 (kg DM/pair)	44.2
Concentrate d64-69 (kg DM/pair)	26.4

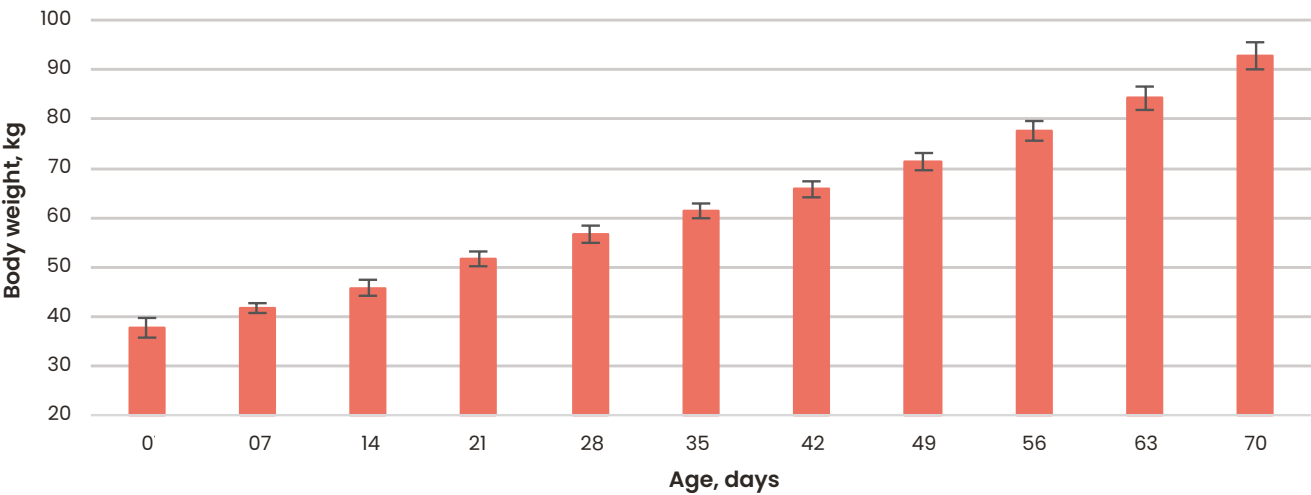
Table 3. Calf body weight up to 10 weeks of age

	Body weight, kg	
Age (days)	Mean ± SE	Range
Birth	37.8 ± 1.2	33-47
d7	41.9 ± 1.1	38-49
d14	46.0 ± 1.1	41-53
d21	51.9 ± 1.1	48-61
d28	56.8 ± 1.3	51-68
d35	61.6 ± 1.4	57-73
d42	66.0 ± 1.4	62-78
d49	71.5 ± 1.4	65-82
d56	77.8 ± 1.4	72-89
d63	84.5 ± 1.9	74-97
d70	93.0 ± 2.1	81-107

Table 4. Calf daily live weight gain (DLWG) pre and post weaning

Age (days)	Mean ± SE	Range
Birth-d7	0.60 ± 0.1	0.07-1.0
d7-63	0.76 ± 0.03	0.6-1.0
Birth-d63	0.74 ± 0.03	0.6-0.9
d63-70	1.23 ± 0.15	0.0-1.8

Figure 1. Calf body weight (±SE) up to 10 weeks of age





Calf Health

- Calf health was good throughout the trial with no respiratory issues recorded.
- Calves displaying early signs of ill-health were treated immediately. Five calves received treatment for a single episode of scour but calves recovered quickly.

Table 5. Calf faecal score up to 10 weeks of age

Period (days)	Faecal score
5-13	1.19
14-20	1.21
21-27	1.23
28-34	1.02
35-41	1.23
42-48	1.06
49-55	1.07
56-62	1.20

Daily faecal scoring was conducted using the scale: 1=normal consistency, 2=slightly liquid consistency, 3=moderately liquid, and 4=primarily liquid consistency. Scour was recorded when a value >2 was measured.

Cost per kg body weight gain:

Milk powder intake per calf	49.9 kg
Milk powder cost per 1000kg	£2250
Total milk powder cost per calf	£112
Mean body weight gain to weaning	46.7 kg
Milk powder cost per kg BW gain	£2.40

Based on March 2025 costings

Conclusions

- Calves fed a total of 50kg Blossom Easymix milk replacer over 63 days doubled their birth weight (38kg) by weaning, weighing on average 85kg at 63 days of age.
- Calves had good growth rates up to weaning of 0.76kg per day and continued to thrive post weaning with excellent growth rates of 1.2kg per day.
- Calf health was good throughout the trial.