Benefits to beef production of once-a-day milk replacer feeding

A recent trial at Harper Adams University College compared the progress of two groups of Holstein Friesian and Continental x calves on different milk feeding systems – one group fed once a day and the other twice a day.

The calves, aged between two and three weeks, were offered 600g of a skim milk, buttermilk-based milk replacer with adlib access to starter pellets, straw and water at all times.

The once-a-day fed (OAD) calves were weaned five days earlier and were 7.8kg heavier at 12 weeks compared to the calves fed twice-a-day (TAD).

Table 1 Calf performance 0-12 weeks

	OAD group	TAD group	Difference
Starting weight (kgs)	56.5	56.7	
Weaning age (days)	46	51	-5 days
12 week weight (kgs)	132.2	124.4	+7.8 kgs
DLWG 0-12 week weight (kgs)	0.9	0.81	+11%
Dry feed intake (kgs)	185.2	173.7	+11.5%
Rumen girth (cms)	140.6	136.5	+4.1cm
Incidences of scour	0	+	
Cost/kg gain (£)	0.94	0.98	-0.04p
FCR	2.66	2.88	+8%

There was also a saving of one hour`s labour per calf reared on the OAD system.

Thereafter the calves were treated similarly and reared as bulls, finished at 13-14 month of age on an intensive cereal beef system. (See Tables 2-4)

Table 2 Animal performance

	OAD	TAD	Significance
Initial weight (Kgs)	56.5	56.7	NS
Final weight (Kgs)	585	573	NS
Age at slaughter (months)	13.43	13.49	NS
DLWG from birth (Kgs)	1.29	1.25	NS

Table 3 Carcase characteristics (£/bull)

	OAD	TAD	Significance
Carcase weight (Kgs)	310	306	NS
Killing out %	52.9	53.3	NS
Daily carcase gain (Kgs)	0.70	0.69	NS
Conformation score (1-7)	2.5 (-O/O+)	2.6 (-O/O+)	NS

(The bulls were slaughtered at a target fat class of 3)

Once a day feeding promotes early rumen development whch is essential for animal lifetime performance

Table 4 Financial performance (£/bull)

	OAD	TAD	Significance
Carcase price (p/kg)	3.2	3.21	NS
Carcase value (£)	995	983	NS

(The carcase price was standardised a base price for an R grade carcase of £3.28/kg (Spring 2012)

The performance of both the Holstein and Continental x bulls on trial exceeded the UK's EBLEX targets for intensive cereal beef production. Numerically the calves reared on the OAD system had higher slaughter weights, daily liveweight gains, carcase weights and carcase values but the differences were not statistically significant (P=<0.05). There was no difference in carcase gain as the TAD calves had a higher killing out percentage.

Once-a-day is easy to implement as it requires no specific equipment. It is important to use a high quality skim based milk replacer however as using cows milk on its own or standard calf milk reduces performance for the first 5-6 weeks. Correct Once-a-day feeding tends to reduce scours in calves as the product is more slowly digested compared with standard calf milks.

The trial's main conclusion is that calves do not compensate later on for poorer performance in the first 8-12 weeks of life. Getting calves to eat dry feed early is vital as this is the engine for intakes and growth later in life. Feeding the right milk replacer once–a-day increases intakes and performance at no extra cost and less labour. As calves will convert 3 kgs of meal into 1kg of growth compared to 250-300g for an older animal it also makes economic sense as well.

It is worth noting that for calves to eat meal they need water regardless of how much milk they are fed. A calf eating 1 kg of meal will require 4L of fresh clean water.

For more information on feeding calves Once-a-day freephone Bonanza Calf Nutrition on 0808 1781017. You can also contact Stuart Fry on 07917 210 737 or Joe Murphy on 07500 944 581.