



Effect of a natural high intensity sweetener on calf performances

KEY FINDINGS

SUCRAM® 250 N (code 6860) showed:

- **Increased compound feed intake.**
- **Increased and body weight gain.**

- **Increased compound feed intake per body weight.**

INTRODUCTION AND OBJECTIVE

For a good and healthy growth of a calf to a ruminant, a quick rumen development is highly important. In order to reach this goal, solid feed intake (roughage, compound feed) has to be maximised rapidly. The quality and attractiveness of a compound feed is therefore of an important issue.

The aim of the following study was to compare the intake and growth rate of calves offered a compound feed with or without the inclusion of a natural high intensity sweetener.

MATERIALS AND METHOD

The study was conducted at the University of Leeds in the United Kingdom.

Experimental design:

Animals:

Twelve two weeks old crossbred Holstein-Friesian * Simmental, Limousin or Charolais male calves were paired according to body weight on arrival day. One of each pair was allocated at random to the control treatment.

Calves were housed individually outside in kennels bedded with straw.

Experimental diets:

Calves had ad libitum access to water, good quality hay and pelleted compound feed. 2.5 l of milkreplacer (125 g/l whey-based powder) were fed twice a day.

The commercial compound feed had following ingredients: Beetpulp, wheatfeed, wheat, linseed ext., palm kernel exp. Molasses, distiller dark grains, soya hulls, rape meal, limestone, salt, vit.+min. premix.

2 treatments were defined:

- CONTROL : negative control
- SUCRAM : addition of sweetener 6860 SUCRAM® 250 N at 200 g/t

Additional sweetening equals 5% sugar equivalent intensity.

Measurements:

All calves were weighed on the same day every week. Daily intake of the compound feed was measured over a four-day period each week.

Statistical analysis:

The results were analysed using paired t-tests.



RESULTS AND CONCLUSION

The mean compound feed intake and body weight for each treatment are listed in table 1.

From the 2nd week of the study, the intake of compound feed with addition of SUCRAM[®] 250 N was higher than the unsweetened compound feed. Significant differences were calculated from the 3rd week.

Body weights were significantly higher for calves given the sweetened compound feed from the end of the 1st week. In following graphic, performances are presented as a ratio between compound feed intake and body weight.

Table 1: Compound feed intake and body weights of calves.

Week	Feed intake [g/d]			Body weight [kg]		
	Control	SUCRAM 250N	Diff [%]	Control	SUCRAM 250N	Diff [%]
0				53.0	55.1	4.0
1	108	106	-1.9	52.9 ^b	55.8 ^a	5.5
2	269	313	16.4	54.0 ^b	57.3 ^a	6.1
3	322 ^B	529 ^A	64.3	56.0 ^b	60.1 ^a	7.3
4	530 ^B	800 ^A	50.9	59.1 ^B	64.3 ^A	8.8
5	805 ^B	1198 ^A	48.8	64.3 ^B	71.0 ^A	10.4
6	902 ^B	1638 ^A	81.6	67.6 ^B	76.6 ^A	13.3

Values in the same row with different lower case superscripts are significantly different (p<0.05).

Values in the same row with different higher case superscripts are significantly different (p<0.01).

At trial start, compound feed intake based on body weights were equal between treatments (graph 1). From 2nd week, differences appeared: with the use of SUCRAM[®] 250 N, compound feed intake increased quicker and more regularly than without its use.

After 6 weeks of trial, with an age of 8 weeks, calves receiving compound feed with SUCRAM[®] 250 N ate almost twice as much (+81.6%) and weighed 9kg more (+13.3%) than the ones receiving an unsweetened feed.

6860 SUCRAM[®] 250 N, improved calf performances during weaning significantly.

Graph 1: Compound feed intake relative to body weights of calves.

