



## The preference of sweetened starter feed by dairy calves

### KEY FINDINGS

**SUCRAM® 250 N (code 6860) showed:**  
 - An overall preference of +31% to the control feed.

- Highest preference (+97%) at a dosage of 200 g/t.

### INTRODUCTION AND OBJECTIVE

For a good and healthy growth from a calf to a ruminant, a quick rumen development is highly important. 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.

In a previous study conducted by prof. M. Forbes at the University of Leeds (Technical

Bulletin 121), calves fed a compound feed with the inclusion of a natural high intensity sweetener at 200 g/t of SUCRAM® 250 N performed significantly better than the control. The aim of the following study was to confirm this earlier data with a preference study when simultaneously offering a compound feed with or without SUCRAM® 250 N at different inclusion rates.

### MATERIALS AND METHOD

The preference study was conducted on the research facility of a major French feed compounder.

#### Experimental design:

Holstein female calves aging in average 33 days were housed in a closed room. All calves were kept in one group and had access to following feeds:

- Milkreplacer: individually restricted
- Water: ad-libitum
- Straw: ad-libitum
- Flaked compound feed: ad-libitum

For the preference study, SUCRAM® was included into the compound feed at three different levels. Three comparisons were conducted as described in table 1.

**Table 1:** Treatments

	Feeder A Control	Feeder B SUCRAM®
Comparison 1	0	200 g/t
Comparison 2	0	350 g/t
Comparison 3	0	500 g/t

For each comparison, the calves had free access to two identical feeders over two periods of 5 days each. Between each period, calves received during two days the control feed in both feeders for two days.

The feeders were switched place (left/right) every day.

#### Experimental diet:

The experimental diet was a flaked compound feed with following composition:

**Table 2:** Experimental diet

Components	
Cereals	30 %
Cereal millfeeds	31 %
Fibrous products	16 %
Soybeanmeal 48%	6 %
Rapeseed meal	5 %
Oil grains	5 %
Molasses	4 %
Premix (vitamins, minerals)	3 %
Contents	
Dry mater	88 %
Crude protein	16 %
Cellulose	9 %

#### Measurements:

- Daily feed intake (FI) in each feeder.
- Number of calves and age of each animal for each period.

#### Statistical analysis:

The analysis of variance was conducted for each comparison, as well as, the overall SUCRAM® effect (dose independently).

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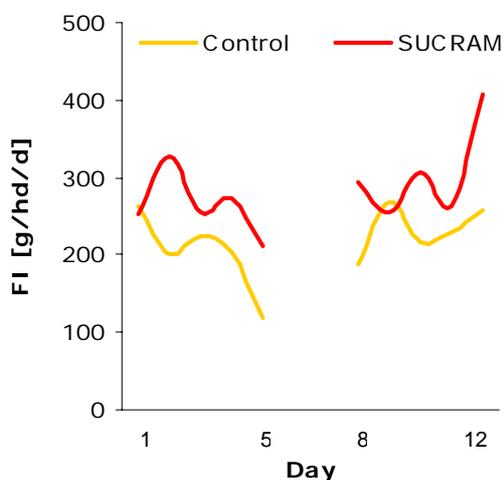
**RESULTS AND CONCLUSION**

The average daily intake of each compound feed is presented in table 1.

Calves consumed in average 502 g/hd/d of compound feed with an average age of 33 days.

Overall, the inclusion of SUCRAM® (pooled data from 200, 350 and 500 g/t treatments) led to a significant ( $p < 0.10$ ) intake increase (+31%). Since calves had simultaneously an ad-libitum access to both feeds only differentiating in the addition of SUCRAM®, these results indicate a clearly improved feed attractivity with the use of SUCRAM®. This higher attractivity was measured during most days of the study (8 out of 10) as presented in graph 1.

**Graph 1:** Calves intake of two offered feeds: Control versus SUCRAM (pooled).



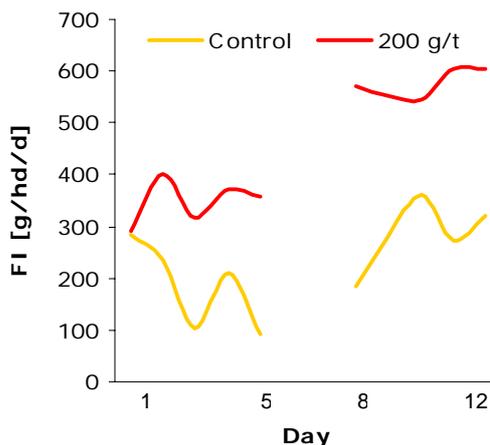
Looking at the three different inclusion rates separately, the lowest dosage (200 g/t) led to a compound feed intake, which was twice as high than the control ( $p < 0.01$ ). More precisely, 461 g/hd/d of the total 695 g/hd/d consumed was the feed with 200 g/t of SUCRAM®.

In a previous performance study conducted by prof. M. Forbes at the University of Leeds (Technical Bulletin 121), calves with similar age consumed in average 56% more (764 g/hd/d vs 489 g/hd/d) per day

when 200 g/t of SUCRAM® were included into the compound feed.

On the first day of the comparison between 0 and 200 g/t of SUCRAM®, calves consumed an equal quantity of both feeds (graph 2). But from then on, the sweetened compound feed was continuously preferred. The difference in intake was regularly increased with the ongoing of the study.

**Graph 2:** Calves intake of two offered feeds: Control versus 200 g/t SUCRAM.



The two higher dosages (350 and 500 g/t) did not lead to any clear preference. 350 g/t of SUCRAM® tended to limit the feed preference, but this data has to be taken with caution since an important place (left/right) effect was measured during the first 5 days. 500 g/t tended to increase the feeds attractivity. Total consumption was lower since calves were of a younger age.

The following data confirms the increased feed attractivity when SUCRAM® is included into the compound feed. The dosage of 200 g/t is optimal for compound feeds.

For increased feed attractivity, results from the following study strongly recommend the inclusion of Pancosma's natural high intensity sweetener SUCRAM® 250 N, in calf diets.

**Table 1:** Feed intake preference by dairy calves

Comparisons	Calves		Feed intake		
	number [hd]	average age [d]	Control [g/hd/day]	SUCRAM® [g/hd/day]	Difference [%]
0 vs 200, 350, 500 g/t	15	33	217 <sup>B</sup>	285 <sup>A</sup>	+ 31%
0 vs 200 g/t	6	39	234 <sup>b</sup>	461 <sup>a</sup>	+ 97%
0 vs 350 g/t	6	36	343	305	- 11%
0 vs 500 g/t	7	25	103	127	+ 23%

a,b:  $p < 0.01$ ; A,B:  $p < 0.10$

