TakTik X-IN

pancosma

Effects of TakTik X-IN compared to a traditional sweetener on piglet performance.

KEY FINDINGS

TakTik X-IN, compared to a traditional sweetener, showed:

- ***Increased feed intake by 2%***
- ***Improved body weight gain by 3.4%***
- ***Improved economical performance of the piglets by 8.1%***

INTRODUCTION AND OBJECTIVE

It is well accepted that high intensity sweeteners like Saccharine and Neohespheridine increase the feed intake of weaned piglets.

TakTik X-IN is more than a sweetener. It combines high intensity sweeteners with new forms of taste modifiers. This combination is formulated by a special process of spray granulation and encapsulation using fluidised bed technology. This formulation enables a two-phase release of the ingredients triggering a multimodal taste sensation in the piglets.

The aim of this study is to verify the superior effect of TakTik X-IN on the piglet's performance compared to a traditional sweetener.

MATERIALS AND METHOD

The trial was designed and carried out in the experimental farm of a major Swiss feed compounder from November 2008 until January 2009.

Experimental design

A total of 264 piglets were randomly allocated in 3 series with 6 pens of 14 or 15 piglets.

Piglets weaned at 28 days of age were left 6 days in the same pen without the sow. Up to 34 days of age, they were fed a starter feed that contained the same sweetener as the experimental feed of treatment A. At the age of 34 days they were allocated to the experimental groups into pens for a period of 28 days. Allocations criteria were: parentage, weaning weight and sex.

A few days before the beginning of the trial, the experimental feed and the starter feed were blended in order to avoid an abrupt change of feed. All animals were treated with 25g/Kg weight Colistin 500 at the start of the trial.

Treatments

- **A**: basal diet + traditional sweetener based on saccharine, NHDC and flavors at 1100ppm
- **B**: basal diet + TakTik X-IN at 150ppm

Experimental feed

the composition of the basal diet is described in table 1.

Measurements

- Individual body weight at day 1, 14, 28
- feed intake per pen from day 1 to 14, 15 to 28, 1 to 28
- individual body weight gain from day 1 to 14, 15 to 28, 1 to 28,
- diarrhoea twice a week

Table 1: experimental diet

Component	%
Wheat/Barley	49.3
Cereal by-products	11.9
Fibre products	9.1
Protein components	16.8
Milk products	1.9
Acids (lactic, formic, propionic,sorbic)	0.9
Amino acids	0.9
Mineral nutrients (partly organic)	2.4
Fat and molasses	5.7
Premix	1.1
Enzymes (Phytase, Carbohydrase)	0.02
Chemical analysis	
Crude protein (%)	18
Crude fat (%)	6.4
Crude fiber (%)	3.9
Ash (%)	5.5
DE (MJ/Kg)	14.0

Statistical analysis

Statgraphics 5 Plus. ANOVA single model with fixed factors of variant, series and sex. 7 piglets could not be considered because they were runts. Their estimated feed intake was deducted from their pens. No differences have been shown in the fecal score

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RESULTS AND CONCLUSION

There were no statistical differences, but a clear numerical advantage of TakTik X-IN (table 2). Feed intake with TakTik X-IN was increased by 2% compared to the traditional sweetener for the whole trial period and 3.8% during the first 14 days.
Final body weight was also increased by 2.1% with TakTik X-IN compared to the traditional sweetener.
Body weight gain was also improved with the use of TakTik X-IN by 5.3% during the first 2 weeks, then by 2.2% the last 2 weeks. This resulted in a global increase of body weight gain by 3.4% with TakTik X-IN.

The feed conversion ratio was also better in the TakTik X-IN variant.

Graph1: relative effect of TakTik X-IN compared to a traditional sweetener

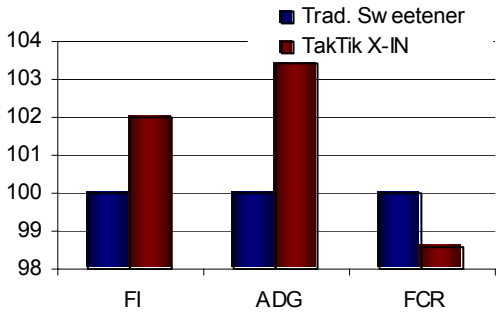

Table 2: performance data of the trial

Variant	Traditional Sweetener	TakTik X-IN	ANOVA P-Value			TakTik / Trad. Sweet.
Number of Pens	9	9				
Number of piglets	130	127	Treat.	Serie	Sex	**(%)**
Feed Intake (g/day)						
Day 1 to 14	418	436	*.074*	*.000*		***103.8%***
Day 15 to 28	807	817	*.549*	*.008*		***101.1%***
Day 1 to 28	613	626	*.220*	*.001*		***102.0%***
Daily weight gain(g/day)						
Day 1 to 14	281	298	*.107*	*.215*	*.744*	***105.3%***
Day 15 to 28	496	506	*.475*	*.005*	*.114*	***102.2%***
Day 1 to 28	389	402	*.230*	*.072*	*.257*	***103.4%***
Weight (kg/piglet)						
Day 1	8.39	8.41	*.910*	*.008*	*.474*	***99.5%***
Day 14	12.30	12.60	*.372*	*.023*	*.531*	***101.6%***
Day 28	19.30	19.70	*.373*	*.169*	*.274*	***102.1%***
FCR (Kg/kg)						
Day 1 to 14	1.486	1.462	*.168*	*.002*		***98.5%***
Day 15 to 28	1.628	1.614	*.377*	*.000*		***98.7%***
Day 1 to 28	1.576	1.557	*.159*	*.000*		***98.6%***

Based on the figures in table 2 the economic results can be calculated. The piglets fed TakTik X-IN demonstrated an increase in the margin contribution of approximately 0.8€ (table 3)

Table 3: economic calculation

Variant of feed		A Sweet	B TakTik	Avg
Weight gain	*Kg/piglet*	10.9	11.3	11.1
Feed consumption	*Kg/piglet*	17.2	17.5	17.4
Feed costs	*€/piglet*	10.05	10.25	10.2
Added value at 2.65/kg	*€/piglet*	29.05	30.00	29.55
General costs at 0.33/day	*€/piglet*	9.35	9.35	9.35
Contribution margin per piglet	*EUR*	9.65	10.43	10.00
	rel	***100***	***108.1***	

These results show impressively that a sophisticated combination of sweetener and taste modifier formulated with advanced technology perform equal or better than traditional sweeteners based on saccharine and NHDC. TakTik X-IN is the first example of such a combination and can conclusively replace a great part of single sweet taste by a sophisticated multimodial taste sensation.

By the traditional sweetener, 150g saccharine per ton of compound feed are applied, whereas with TakTik X-IN it is only 55g/t.

With a low content of saccharine TakTik X-IN depends far less on the volatile price and availability of saccharine. Further it is more flexible in terms of inclusion rates.