

Let's Talk About Enzymes...

Comparative study confirms: Hostazym® X gives best-value-for-money also in piglets!

Non-Starch Polysaccharides (NSP) are known to impact intestinal viscosity and nutrient utilization in weaned piglets.

A standard tool to minimize the negative impact of NSPs in piglet diets is the application of NSP-degrading enzymes. To compare the effect of different NSP-degrading enzymes, a weaned piglet trial was set up at Biotechnicum (Bocholt, Belgium - 2016).

The basic trial design was:

- Animals: 240 Pietrain x Topigs20 cross-bred pigs (\pm 6.9 kg initial body weight) mixed-sex balanced over pens
 - Treatments:
 - control group (wheat-barley-maize diet)
 - control group + Hostazym® X at 1500 EPU/kg
 - control group + AXTRA® XB at 1220 UX-152 UG/kg
 - control group + Rovabio® Excel at 1100 VU xyl. - 1500 VU β -gluc. /kg
- All enzymes were dosed according to the manufacturer's recommendation
- Animals were fed with 2 diets, from 7 - 12 kg BW and 12 - 20 kg BW.

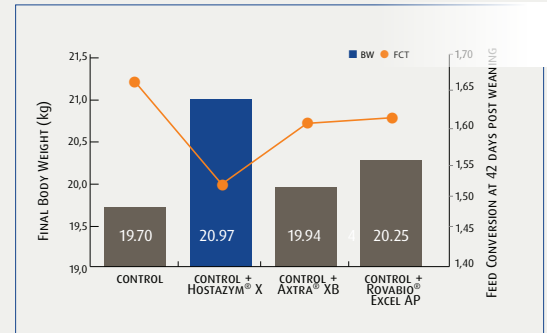


FIGURE 1

Body weight and Feed Conversion at trial end for each enzyme treatment

Based on the zootechnical results shown in Figure 1, an economic cost-benefit analysis was performed. (see Table 1)

Taking into account the feed consumption, the enzyme inclusion cost and an average piglet feed price of €300 /t weaner feed and €275 /t starter feed clear differences in financial gain between tested enzymes are shown.

Table 1 shows that supplementing the feed with Hostazym® X resulted in the lowest feed cost per kg growth.

TABLE 1

Feeding cost per kg of growth per each enzyme treatment

	Total growth (kg/pig)	Feed cost (€) per kg growth	Feed savings (€) per kg growth vs Control
Control	12.78	0.465	
Control + Hostazym® X	14.04	0.422	-0.043
Control + Axtra® XB	13.01	0.443	-0.022
Control + Rovabio® Excel	13.33	0.450	-0.015

key facts

Hostazym® X supplementation in piglet feeds:

- outperforms AXTRA® XB and Rovabio® Excel in growth and FCR (by more than 8 points in FCR and by 700 g of higher weight gain)
- generates the highest feed savings, up to 4 eurocents per kg of growth

Hostazym® X improves feed digestibility in lactating sows

The use of NSP degrading enzymes in diets for sows is a discussion topic amongst nutritionists. Nevertheless, it's accepted that improved feed digestibility and a healthier digestive process that supports fermentation processes and energy metabolism are of interest as it helps the sow to maintain a good physical condition. To evaluate the efficacy of Hostazym® X in sows, a trial was set up.

The trial was conducted at IMASDE – Spain using 32 lactating sows (Landrace x Large White) individually housed. Sows were (equally) distributed by parity and body condition to one of the two treatments (16 replicates of one sow per treatment). The trial compared a control group fed with a barley, wheat and corn based diet with a group fed with the same diet supplemented with 1500 EPU/kg feed of Hostazym® X, from day 110 of gestation until weaning (day 21 *post-partum*).

Technical performance (feed intake, back fat thickness and progeny parameters) and total apparent faecal digestibility were measured.

Results, summarized in Table 1 and Table 2, clearly show that:

- The number of piglets per sow in the Hostazym® X group was higher (+1 piglet) and the sow did not lose more body condition or required a higher feed intake
- The piglet performance was similar amongst groups but piglet mortality was lower in the Hostazym® X group
- Hostazym® X supplementation significantly increased total apparent faecal digestibility of dry matter, fat, gross energy, Ca, P, total NSP, total dietary fibre and insoluble fibre. Also ADF and cellulose digestibility were increased by adding Hostazym® X

TABLE 1
Effect of Hostazym® X in lactating sows

	Control	Hostazym® X
Loss of backfat thickness P2 (mm) during lactation	2.6	2.6
Average feed intake (kg/day)	4.91	4.85
Number of piglets born alive	10.7	11.7
Piglet weight at birth (kg)	1.55	1.52
Piglet weight at weaning (kg)	5.70	5.66
Total litter weight at weaning (kg)	55.1	62.8
Piglet mortality/culls (%)	9.7	5.2

TABLE 2
Effect of Hostazym® X on digestibility of nutrients in lactating sow feeds

	Control	Hostazym® X
Dry matter	68.8 ^a	70.9 ^b
Crude protein	71.7	72.2
Fat	59.0 ^a	65.9 ^b
Gross energy	73.7 ^a	75.8 ^b
Ca	60.3 ^a	65.0 ^b
P	63.0 ^a	66.7 ^b
Crude fibre	23.7	26.8
Neutral detergent fibre (NDF)	30.6	33.6
Acid detergent fibre (ADF)	24.5	28.5
Acid detergent lignin (ADL)	11.1	14.0
Cellulose	29.7	34.1
Hemicellulose	37.1	38.9
Total NSP	53.4 ^a	57.4 ^b
Dietary fibre (total)	40.1 ^a	44.5 ^b
Dietary fibre (insoluble)	36.8 ^a	42.2 ^b
Dietary fibre (soluble)	78.6	77.4

a,b: values in the same row with different superscript are sign. diff. $P < 0.05$

Hostazym® X

key facts

- Hostazym® X at 1500 EPU/kg significantly increases the digestibility of lactating sows feed
- Sows fed Hostazym® X nourish 1 piglet extra without losing body condition or increasing feed intake
- Hostazym® X reduces piglet mortality