Hostazym® X outperforms competitor enzymes in pig fattening

Trial description

1 Set-up

- **Location:** ZTC, KULeuven, Belgium
- **Trial period:** February to June 2016
- **Animals:** Topigs x Piétrain pigs : 240 crossbred pigs (± 18.0 kg initial body weight) mixed-sex balanced over pens.
- **Feed:** starter, grower and finisher diets (30-35 % wheat; 20-25 % barley; 10-12 % corn; wheat middlings; soybean meal, rapeseed meal and sunflower meal as protein sources)
  - Starter (d 1-31): 16.7 % CP, 0.92 % dig. Lys, 2300 kCal NEpig/kg (1.09 EW, NL)
  - Grower (d 32-63) 15.0 % CP, 0.77 % dig. Lys, 2270 kCal NEpig/kg (1.08 EW, NL)
  - Finisher (d 64-116): 14.2 % CP, 0.70 % dig. Lys, 2271 kCal NEpig/kg (1.08 EW, NL)

2 Treatments

- 5 treatments with 8 replicates each of 6 pigs/replicate
- Doses of Hostazym® X and competitors as per supplier recommendations and at a comparable claimed energy release
- Treatment feeds:
  - Positive control diet (PC) as indicated above in set-up
  - PC - 55 kcal NE/kg + Hostazym® X at 100 g/T (1500 EPU xylanase/kg feed)
  - PC - 55 kcal NE/kg + Axtra® XB 201 TPT at 100 g/T (1220 UX xylanase and 152 UG β-glucanase/kg feed)
  - PC - 55 kcal NE/kg + Rovabio® Excel AP at 50 g/T (1100 VU xylanase and 1500 VU β-glucanase/kg feed)
  - PC - 55 kcal NE/kg + Econase® XT 25P at 150 g/T (24000 BXU xylanase/kg feed)

3 Measured parameters

- Body weight, daily growth, feed intake and feed conversion
- Economic gain

Results

- Adding Hostazym® X to the energy-reduced feed led to a higher end body weight (+2.8 kg) and ADG (+ 25 g/d) vs. the PC (Fig. 1 & 2).
- Hostazym® X was the only enzyme having similar feed conversion as the PC group, indicating that it was the only enzyme able to fully compensate for the 55 kCal NE reduction.
- The pigs in the Hostazym® X group had the second largest average end weight (107.9 kg), but were able to achieve the best overall feed conversion (mort. adj.) amongst all the enzyme groups (- 6 points vs its competitors; Fig. 3).
- An economic evaluation with an average feed price of 265 €/T, 235 €/T and 205 €/T (starter, grower and finisher resp.), and a pig price of 0.9 € to 1.3 €/kg, gave an extra financial gain (= pig earnings minus feeding cost) for Hostazym® X between 2 and 3.2 €/pig (versus the PC). This demonstrated Hostazym® X to be the best economic performing enzyme (Table 1).

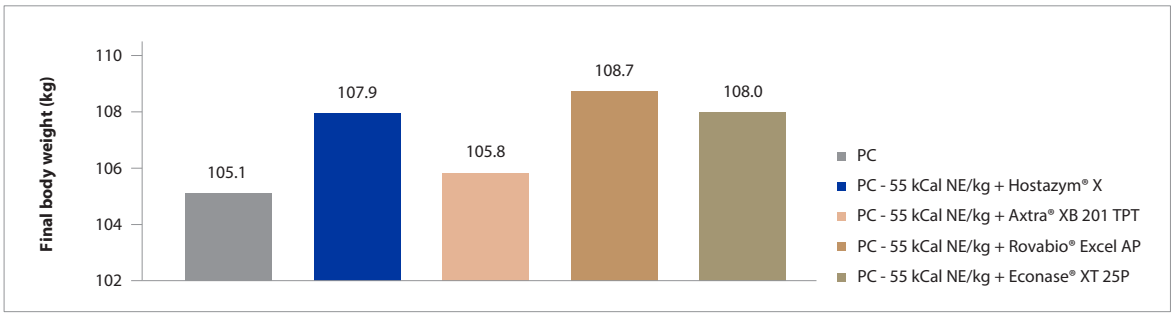

Fig. 1: Final body weight (kg)

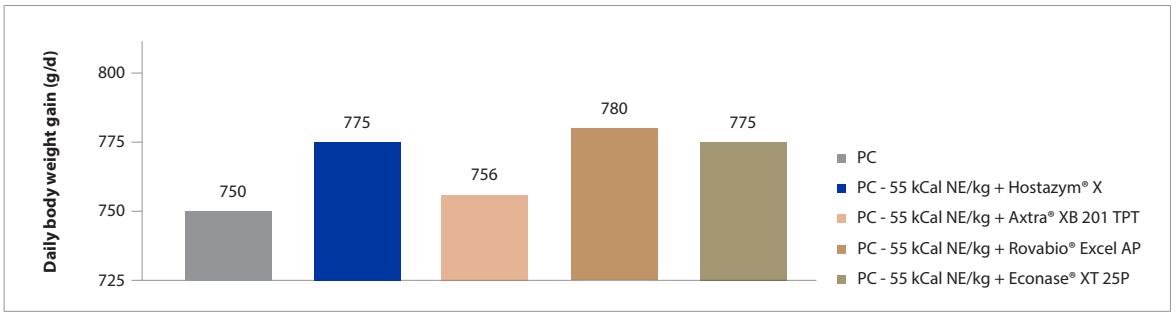

Fig. 2: Average daily gain (g/d)

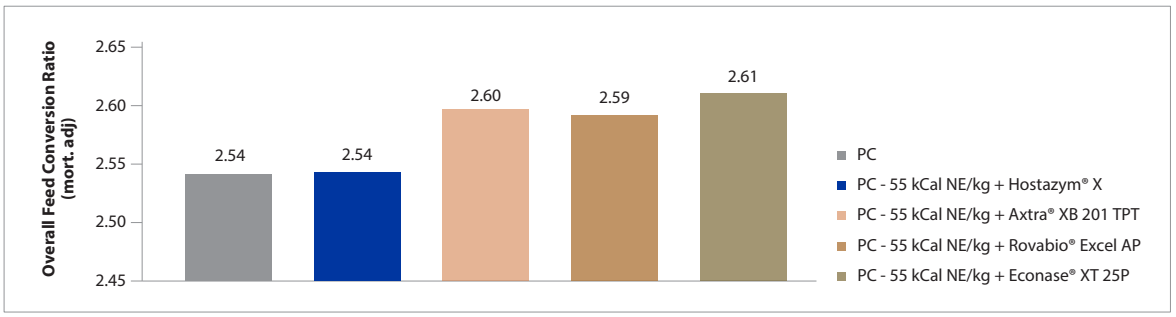

Fig. 3: Overall feed conversion ratio

Table 1. Extra financial gains (€/delivered pig) vs. the positive control at different pig prices

	Pig price (€ /kg)		
	0.9	1.1	1.3
PC - 55 kcal NE/kg + Hostazym® X 15000	2.02	2.60	3.17
PC - 55 kcal NE/kg + Axtra® XB 201 TPT	0.41	0.56	0.71
PC - 55 kcal NE/kg + Rovabio® Excel AP	1.38	2.11	2.83
PC - 55 kcal NE/kg + Econase® XT 25P	0.76	1.33	1.91

Conclusion

- Hostazym® X was the only enzyme fully compensating the reduction in net energy
- Hostazym® X has a total energy replacement potential of > 55 kcal NE pigs/kg feed (> 4 €/T saving on feed cost)
- Hostazym® X generated a 6 points better feed conversion than its competitor NSP enzymes
- Hostazym® X yielded an extra financial gain up to 3 € per delivered pig