Genotype x Feed interactions in the evaluation of Pietrain sires

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Problem definition and objective

Breeding value estimation (EBV) of Pietrain sires is based on standardized test station data from crossbred progeny (high dietary energy and amino acid level. H).

Are EBV's valid when pigs are fed conventional feed (C) or does re-ranking of sires occur?

Results

- Significant differences were detected between sires and between feeds for daily weight gain. feed conversion ratio and carcass conformation
- More variation between sires at H-feed
- A tendency of "sire x feeding level" was found for daily feed intake and feed conversion
- Significant "sire x feeding level" interactions for net energy and AID lysine per kg lean gain. Differences between sires at H-level

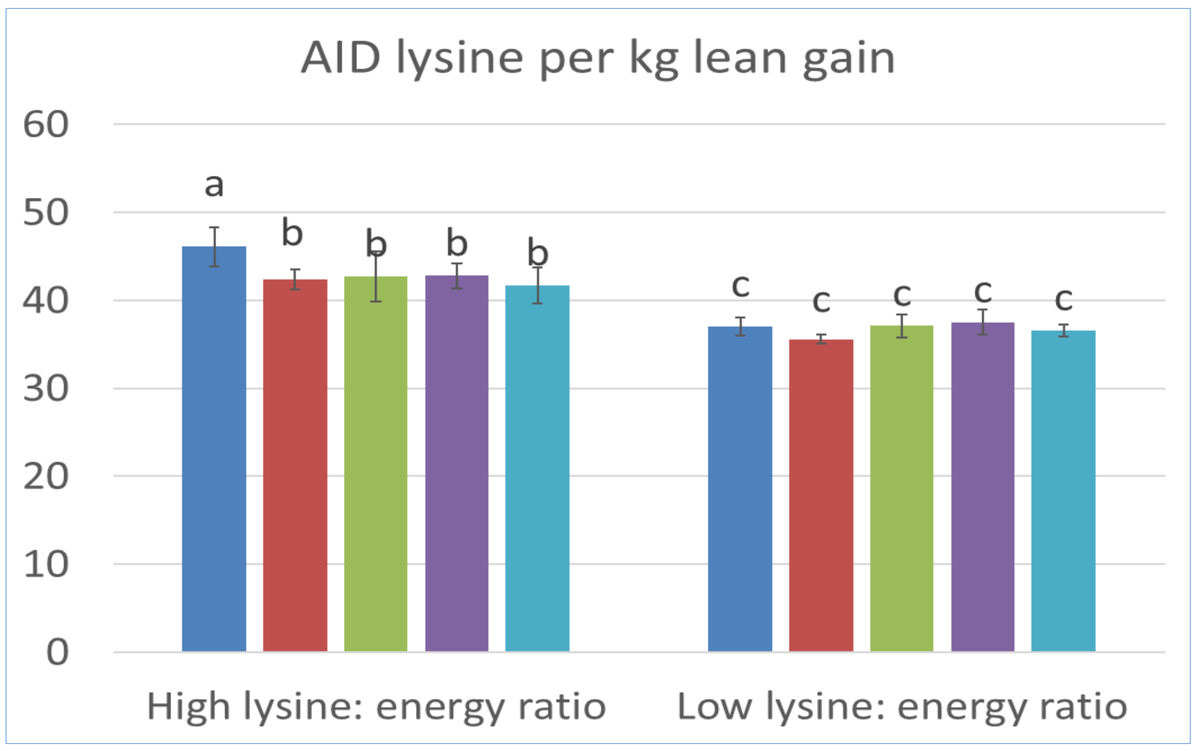
Methods

- Balanced factorial experiment using 360 slaughter pigs from 5 sires, at 2 levels of feed (H vs. C). Pens contained 3 gilts+3 boars and feeding was *Ad libitum* in 3 phases
- 23 to 113 kg live weight, slaughtered in commercial plant
- Analysis of variance using mixed model with feeding level, boar and the interactions as fixed and dam as random effect

Conclusions

- **EBV's estimated on pigs receiving concentrated feeding remain valid when using conventional feed**
- **More variation is observed when feeding concentrated feed**
- **Sire x Feed interactions were observed for "efficiency" traits**

P-values F-test	Feed	Sire	Sire x Feed
Daily Gain	0.001	0.001	0.202
Daily Feed Intake	<0.001	0.017	0.062
Feed Conversion	0.001	0.002	0.078
Carcass conformation	0.008	0.001	0.266



Feed composition	23 - 45 kg		45 - 72 kg		72 - 113 kg	
	H	C	H	C	H	C
NEv (MJ/kg)	9.85	9.60	9.85	9.40	9.85	9.20
AID LYS (g/kg)	10.37	8.59	10.37	7.92	8.78	6.56
Crude Prot (g/kg)	176	155	165	149	160	136

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ILVO Flanders research institute for agriculture, fisheries and food

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