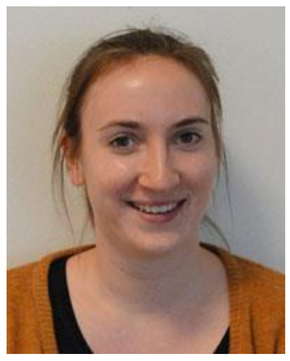

Effect of sow line and type of Belgian Piétrain sire line on performance, carcass and meat quality

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Introduction

Last decades, pig breeding in Flanders focuses strongly on high carcass quality and low feed conversion ratio. Selection for lean meat has unintendedly led to lower meat quality in terms of lower water-holding capacity and intramuscular fat content, and consequently also on taste and juiciness. Currently also sow lines evolve towards a leaner type, which benefits performance, but may negatively affect meat quality.

Aim: Evaluation of performance, carcass and meat quality in crossbred offspring of three common sow lines in Flanders and two types of Belgian Piétrain (BP) sire lines

Materials & Methods

3 sow lines stress negative

Topigs 20 (Topigs Norsvin)

TN70 (Topigs Norsvin)

Mira (RA-SE genetics)

×

2 sire lines stress positive

BP_{Growth} = Optimal (VPF)
Selected for high growth rate

$BP_{Quality}$ = Premium (VPF)
Selected for high carcass quality

Performance & carcass quality (n= 270)

- 3 gilts and 3 immunocastrates/pen
- 6 pen replicates per treatment
- Daily gain, feed intake, feed conversion ratio
  - From 10 weeks until slaughter
- Cold carcass weight, lean meat %

Meat quality of the loin (n=216)

- 18 animals/sex/treatment
- pH 35 min. after slaughter
- Drip loss with EZ- drip loss method
- Intramuscular fat content
- Sensory evaluation (expert panel) of toughness and juiciness (scale:0-100)

Results

	Topigs 20	TN70	Mira	$BP_{Quality}$	BP_{Growth}	P-value*	
Growth rate (g/day)	**911^{a}**	**951^{b}**	**954^{b}**	**896**	**968**	**0.048**	**0.008**
Feed conversion ratio (g/g)	**2.42^{b}**	**2.26^{a}**	**2.30^{a}**	2.33	2.35	**0.004**	0.980
Cold carcass weight (kg)	92.0	93.5	92.5	**90.4**	**94.4**	0.567	**0.008**
Lean meat %	**64.0^{a}**	**65.5^{b}**	**64.7^{ab}**	64.9	64.4	**0.003**	0.852
$pH_{35\ min.\ pm.}$	6.41	6.40	6.41	6.41	6.41	0.956	0.983
Drip loss %	9.16	9.62	10.1	9.66	9.58	0.131	0.898
IMF %	1.76	1.74	1.66	**1.79**	**1.65**	0.377	**0.016**
Toughness (0: tender -> 100 tough)	50	51	49	50	50	0.474	0.752
Juiciness (0: dry -> 100: juicy)	48	48	49	48	48	0.916	0.774

^{ab} Different letters indicate significant differences between the sow lines ($P < 0.05$)
* Interaction between sow and sire line was never significant

Conclusion

- ✓ Topigs 20 offspring: lower growth rate and higher feed conversion ratio compared to other sow lines
- ✓ Not significant differences in meat quality

- ✓ BP_{Growth} offspring compared to $BP_{Quality}$:
  - ✓ higher growth rate
  - ✓ not significant difference in feed conversion ratio or lean meat content
  - ✓ lower intramuscular fat content

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