SENSORY EVALUATION OF COOKED AND COLD SMOKED MEAT OF MALE HYBRIDS FROM LITHUANIA INDIGENOUS PIG AND WILD BOAR INTERCROSS

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Objective

The objective of this study was to examine the eating quality of fresh and smoked meat of entire and castrated males obtained from indigenous Lithuanian wattle pig and wild boar intercross.

Material and Methods

The samples of fresh *M. longissimus dorsi* cooked in boiling water at water and meat ratio 3:1 with 1 sodium chloride addition of 1% meat weight and samples of *M. semimembranosus,* injected with 10% sodium chloride brine to a quantity of about 10% of the sample weight and cold smoked <35^{0}C for 3 days. A total of 10 panel sessions were convened with 3-5 samples being evaluated at each session.

Results

There were significant effects of gender ($P < 0.001$) on the pork odour and flavour, with meat produced from castrates judged to be better than that from entire boars (Table 1). Samples of LD from entire boars were tender ($P < 0.05$) but samples of backfat had a higher boar taint intensity than those from castrates. There were no statistically significant effects of gender on other abnormal odours of backfat.

Table 1. Taste panel evaluation of fresh *M. longissimus dorsi* and backfat

	Entire boars	Castrates	SED
Tenderness	6.68	6.21	0.19 *
Juiciness	6.63	6.39	0.18
Flavour	6.50	7.30	0.17 ***
Odour	6.07	7.39	0.23 ***
Pork odour in backfat	6,32	6.60	0.28
Abnormal odour of backfat	3.18	2.73	0.27
Boar taint intensity	1.49	1.00	0.08 ***

*P<0.05;**P<0.01;***P<0.001

Samples of cold cured smoked SM from castrates had higher scores in odour and flavour ($P < 0.010$) but lower scores in tenderness ($P < 0.010$), juiciness ($P < 0.001$), stringinity ($P < 0.05$). The salinity score tended to be higher ($P = 0.057$) for SM from entire boars (Table 2).

Table 2. Taste panel evaluation by of cold smoked *M. semimembranosus*

	Gender		
	Entire boars	Castrates	SED
Tenderness	7.40	7.06	0.14*
Juiciness	7.55	7.02	0.14***
Flavour	7.03	7.59	0.19**
Odour	7.21	7.75	0.18**
Salinity	4.02	3.41	0.30
Stringiness	3.58	2.86	0.31*

*P<0.05; **P<0.01; ***P<0.001

Obtained correlation coefficients for sensory attributes of fresh pork were fairly low despite the significance found for the correlation between the age of entire boars and odour and juiciness ($P < 0.05$) in the samples of LD and the correlation between pork odour, abnormal fat odour and the concentration of testosterone (Table 3).

Table 3. Correlation coefficients between sensory scores of *M. longissimus dorsi*, backfat and related parameters

	Age	Weight of animal	Testosterone
Pork odour	-0.19*	0.11	-0.19*
Tenderness	-0.21	-0.12	0.02
Pork flavour	-0.18	-0.10	-0.13
Juiciness	-0.21*	-0.05	0.14
Fat odour	0.07	-0.07	0.19
Abnormal fat odour	0.16	-0.09	0.25*
Boar taint (androstenone)	0.19	0.09	-0.01

*P<0.05;

Correlation coefficients obtained for sensory attributes of cold cured and smoked SM were similar to those observed for fresh LD. Only the correlation coefficients obtained for cold cured and smoked SM stringinity and salinity were higher ($P < 0.001$) than those for other attributes.

Variation analysis of sensory evaluation data showed that the animal had the highest (from 7.7 % to 84.5%) impact on the evaluation of pork sensory properties. The influence of gender on separate sensory properties was from 0.3% to17.8 %.

Conclusions

The meat from entire males influenced by wild boar introgression was found acceptable, therefore raising of entire hybrids is practicable and fulfils the conditions for animal welfare. It is a challenge to identify factors that might be influenced by boar taint in some of the carcasses.