



# Growth performance and meat quality of stress negative Piétrain pigs in the tropics: the case of Vietnam

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## Introduction

Since 2007, stress negative Piétrain pigs developed by the University of Liège, Belgium have been raised under tropical conditions in North Vietnam. Reproduction, production performances have been studied. Investigating the meat quality for these purebred animals is important. Accordingly, this study was carried out at the Animal farm of Hanoi University of Agriculture to evaluate the effects of halothane genotype (CC and CT) and gender (intact males and females) on meat quality of Piétrain stress negative pigs under tropical conditions in Vietnam.

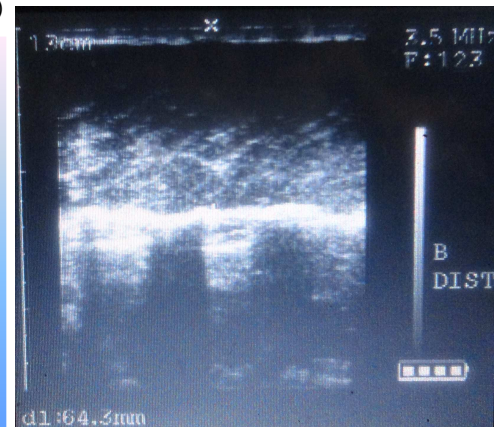
## Material and Method

The body weight of 116 pigs at 2.0, 7.5 months of age and the ultrasound measurements on 83 live animals before slaughtering in order to predict backfat thickness, *longissimus dorsi* muscle depth and lean meat percentage. The meat quality was evaluated from 35 samples (19 females and 16 intact males) of *longissimus dorsi* muscle. Furthermore, meat color (C.I.E L\*, a\* and b\*), peak shear force, pH at 45 minutes (pH45) and 24h (pH24) *post mortem* were measured on 31 meat samples (16 females and 15 intact males). All the data were analyzed according to a linear fixed model including halothane genotype effect (CC and CT) and gender (female and intact male). No interaction between genotype and gender effect was observed, and was accordingly ignored in the final model. The paired comparisons of least square means (LSM) were realized using Tukey approach.

## Results

Table 1. Number of animal & production performance of the stress negative Piétrain pigs (LSM)

Traits	Halothane				Gender			
	CC		CT		Male		Female	
Body weight at 2 months (kg)	71	19.43	45	18.99	54	19.30	62	19.12
Body weight at 7.5 months (kg)	71	98.45	45	96.51	54	93.85 <sup>a</sup>	62	101.11 <sup>b</sup>
Backfat (mm)	51	8.77	32	8.32	52	8.15 <sup>a</sup>	31	8.95 <sup>b</sup>
Longissimus depth (mm)	51	54.9	32	56.8	52	53.6	31	56.1
Lean meat percentage (%)	51	63.18	32	63.65	52	63.56	31	63.27



LSM with differing letters in each row within an effect differ (P<0.05)



Table 2. Meat quality of the stress negative Piétrain pigs (LSM)

Traits	Halothane		Gender	
	CC (n=17)	CT (n=14)	Male (n=15)	Female (n=16)
pH45	6.52	6.43	6.45	6.50
pH24	5.40	5.43	5.49 <sup>a</sup>	5.34 <sup>b</sup>
L*	55.10	54.69	54.24	55.54
a*	14.66	14.82	15.65 <sup>a</sup>	13.83 <sup>b</sup>
b*	8.04	7.80	8.09	7.75
Drip loss (%)	1.73	1.82	1.82	1.72
Cooking loss (%)	28.98	29.88	29.16	29.70
Shear force (N)	53.8	56.6	56.0	54.5

LSM with differing letters in each row within an effect differ (P<0.05)

## Conclusions

High lean meat percentage and satisfactory meat quality can be obtained with Stress negative Piétrain pigs under tropical climatic conditions in Vietnam. Pigs with halothane genotype CC and CT can be used for breeding without affecting the production performance and meat quality.