Effect of terminal sire genotype, slaughter weight, and gender on growth performance and carcass traits in European-Chinese pigs.

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INTRODUCTION

✓ Youna sows (Gene+) comes from the Tai Zumu composite line.

✓ Taizumu sows has been selected on the criteria of prolificacy, no. of teats, and mothering abilities.
INTRODUCTION

- Crosses involving Meishan (Young 1995, 1998):
  - Increased reproduction.
  - Decreased growth rate, and carcass traits of piglets.
  - Increased fatness of carcasses.

- However, intramuscular, and subcutaneous fat are very important for industry of dry-cured products.
- Terminal sire genotype is the main factor which affects performance parameters and carcass traits.
- Slaughter weight could affect meat quality.
OBJECTIVE

- To evaluate the effects of terminal sire genotype, slaughter weight, and gender on performance and carcass traits in crossbreds with Youna.
MATERIALS & METHODS

There were 8 treatments in a factorial design:

- Duroc vs Pietrain.
- 105 vs 115 kg BW.
- Castrated males vs entire females.

- A total of 256 pigs of 30.9 ± 4.9 kg initial BW.
- Four replicates of eight pigs/pen per treatment.
MATERIALS & METHODS

✓ All animals received the same feed offered *ad libitum*.

✓ Measures:
  ✓ Growth, feed intake and feed conversion.
  ✓ Carcass quality:
    ✓ Carcass fatness at P2 and *Gluteus medius* muscle.
    ✓ Dressing percentage.
    ✓ Trimmed ham, shoulder and loin yield.
MATERIALS & METHODS

Statistical analyses

✓ GLM procedure of SAS.
✓ Model:
  ✓ terminal sire genotype,
  ✓ slaughter weight,
  ✓ gender,
  ✓ and their interactions.
✓ Data are presented as least square means.
RESULTS: Terminal sire genotype

- No differences in performance parameters

**Carcass fatness**

![Bar chart showing carcass fatness for P2 and GM with Duroc and Pietrain breeds.](image)

- **P2:**
  - Duroc: 19.5 mm
  - Pietrain: 16.5 mm
  - P < .001
  - SEM = 0.42

- **GM:**
  - Duroc: 30.0 mm
  - Pietrain: 22.0 mm
  - P < .001
  - SEM = 0.65

Legend: **DUROC** (Red) and **PIETRAIN** (Yellow)
RESULTS: Terminal sire genotype

Carcass yield

![Graph showing carcass yield comparison between DUROC and PIETRAIN breeds with statistically significant differences.]
RESULTS: Terminal sire genotype

Trimmed ham and loin yield

**Ham**
- DUROC: 13.0%
- PIETRAIN: 13.8%
- **P < .001**
- SEM = 0.03

**Loin**
- DUROC: 7.0%
- PIETRAIN: 7.2%
- **P < .001**
- SEM = 0.05
RESULTS: Slaughter weight

- No differences in performance parameters and carcass fatness

Carcass yield

%
RESULTS: Slaughter weight

Loin yield

% P< .05

SEM = 0.05

6.65
6.70
6.75
6.80
6.85
6.90
6.95

105 kg 115 kg

105 kg

115 kg

EAAP, August 2009
**RESULTS: Gender**

**Performance parameters**

- **Growth rate**
  - Females: 780 g/d
  - Castrated males: 820 g/d
  - SEM = 7.5

- **Feed intake**
  - Females: 2,450 g/d
  - Castrated males: 2,550 g/d
  - SEM = 21

*P < .001*
RESULTS: **Gender**

**Carcass fatness**

- **P2**
  - Females: 16.0 mm
  - Castrated Males: 17.0 mm
  - P < .001
  - SEM = 0.42

- **GM**
  - Females: 24.0 mm
  - Castrated Males: 26.0 mm
  - P < .001
  - SEM = 0.65

Legend: *FEMALES*  *CASTRATED MALES*
RESULTS: Gender

Trimmed ham and loin yield

Ham

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P < .001
SEM = 0.03

Loin

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P < .001
SEM = 0.05

FEMALES  CASTRATED MALES
CONCLUSIONS

• Crossbred with Duroc boars:
  - increased carcass fatness.
  - decreased carcass, ham, and loin yield.

• In consequence, the use of Duroc genotype as terminal sire improves fat deposition of pigs destined for the dry-cured industry, but decreases the yield of meat cuts.
CONCLUSIONS

- A slaughter weight of 115 kg BW:
  - increased carcass and loin yield.
- Therefore, it is interesting to increase the SW from 105 to 115 kg BW in Duroc x Youna pigs.
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CONCLUSIONS

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  - decreased carcass, ham, and loin yield.
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