GENETIC DETERMINISM OF BOAR TAINT AND RELATIONSHIP WITH MEAT TRAITS

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Context : end of piglet castration

- Meat quality problem: Boar taint in entire males
- Molecules responsible for boar taint: **Androstenone** + Skatole

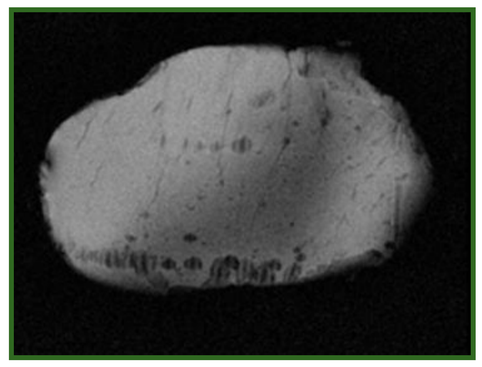
➢ Need to decrease androstenone accumulation in backfat
➢ Need to evaluate the consequences of a selection against androstenone on meat production and quality traits on purebred or crossbred pigs.

Objectives

Evaluate the correlated effects on the meat traits of :

- a direct selection to reduce androstenone
- an indirect selection by decreasing the level of estradiol

by estimating genetic parameters.



Methods

Population :

- Pietrain (553 to 712) and Pietrain x Large White (556 to 736)
- Entire male pigs.

- Genetic parameters evaluated with VCE6 software

Measured traits :

- Growth traits
- Carcass composition
- Hormones
- Technological quality
- Computerized tomography measures (CT)
- Skin lesions

Results :

Selection against	Effects	Purebred	Crossbred
Androstenone h^2 = 0,57 in purebred h^2 = 0,71 in crossbred	Favorable effects on:	CT measures Growth traits Technological quality	CT measures Growth traits Technological quality Carcass composition Skin lesions
	Unfavorable effects on:	Testosterone level	CT measures (bone)
Estradiol h^2 = 0,23 in purebred h^2 = 0,17 in crossbred	Favorable effects on:	Androstenone level Growth traits	Androstenone level Skin lesions
	Unfavorable effects on:	Testosterone level	Testosterone level

Conclusion

Heritability and genetic correlations indicate that a selection to decrease estradiol level would have overall favorable effects on meat traits and would strongly reduce androstenone level.

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