



# Feeding strategy in organic farming as a lever to improve various quality dimensions of pork

## Context

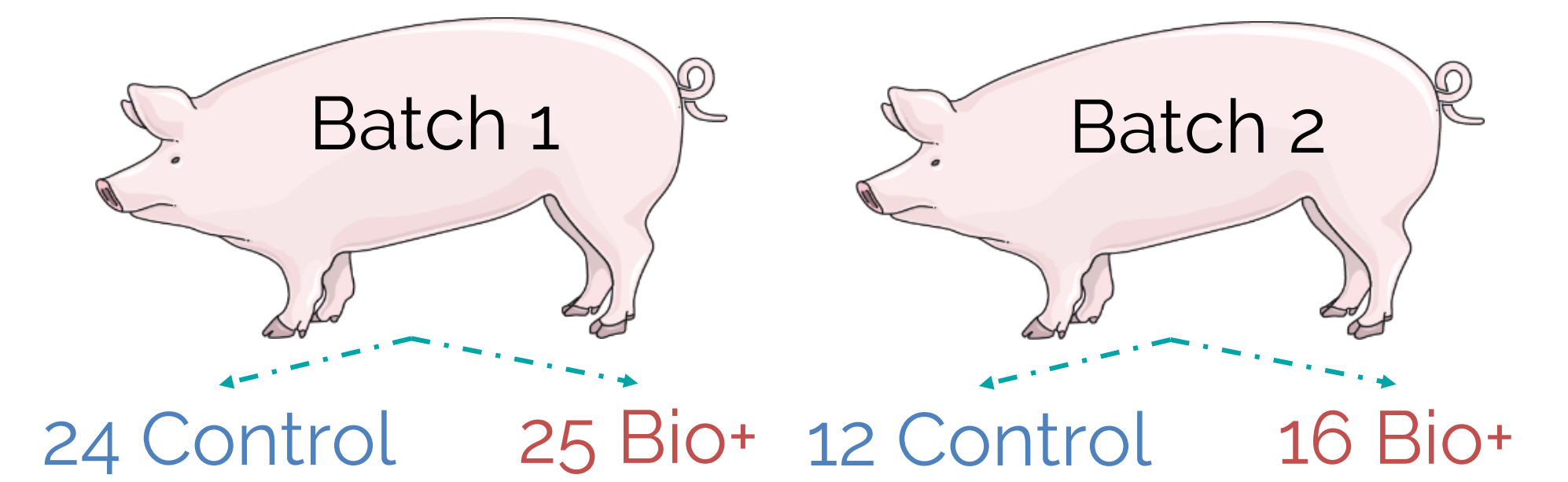
Since 2022, the specifications for organic pig production requires feed to be 100% organic, which strengthens the link with the soil through raw material. The consequences of different organic feeding strategies on the intrinsic and extrinsic qualities of pork products are still poorly understood. This work present an experiment to assess the multiple dimensions of quality. It is a part of the National Casdar Farinelli project.

## Objectives

Evaluate the effect of two feeding strategies : **Control** (in compliance with organic specifications) and **Bio+** (rich in fibre, local raw materials: faba bean, linseed) distributed to **non-castrated male pigs** on :

- Animal behaviour
- Growth performance
- Carcass composition and organoleptic, nutritional and technological quality of meat.

## Experimental design



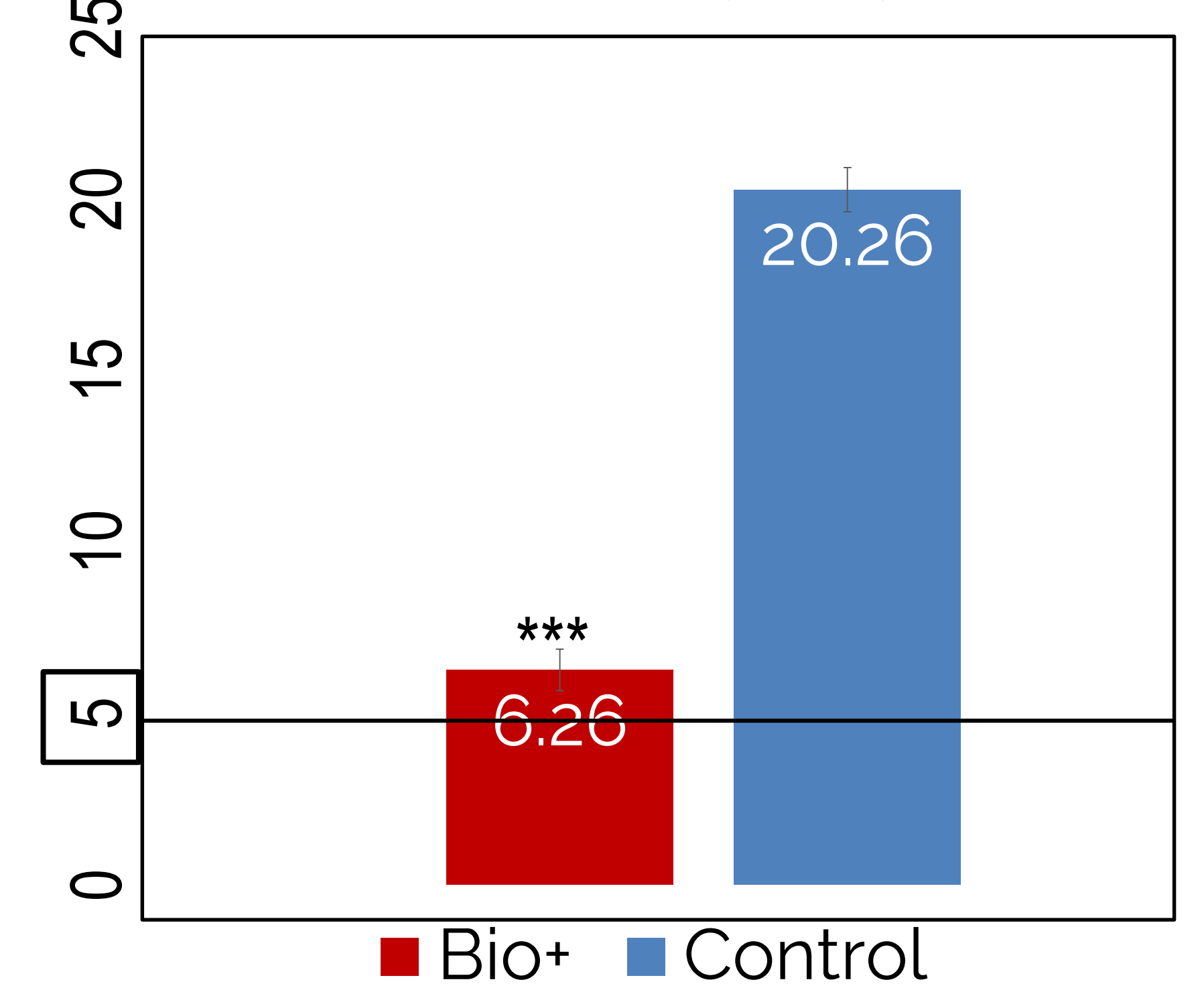
- n=77 pigs
- From 33 kg to 125 kg

Genotype: Piétrain (NN) x Large White  
Experimental farm INRAE Porganic : straw bedding (1,3 m<sup>2</sup>/pig) + free outdoor (1,0 m<sup>2</sup>/pig)  
Feeding : control and Bio+ growing and finishing iso-proteic and iso-energetic diets

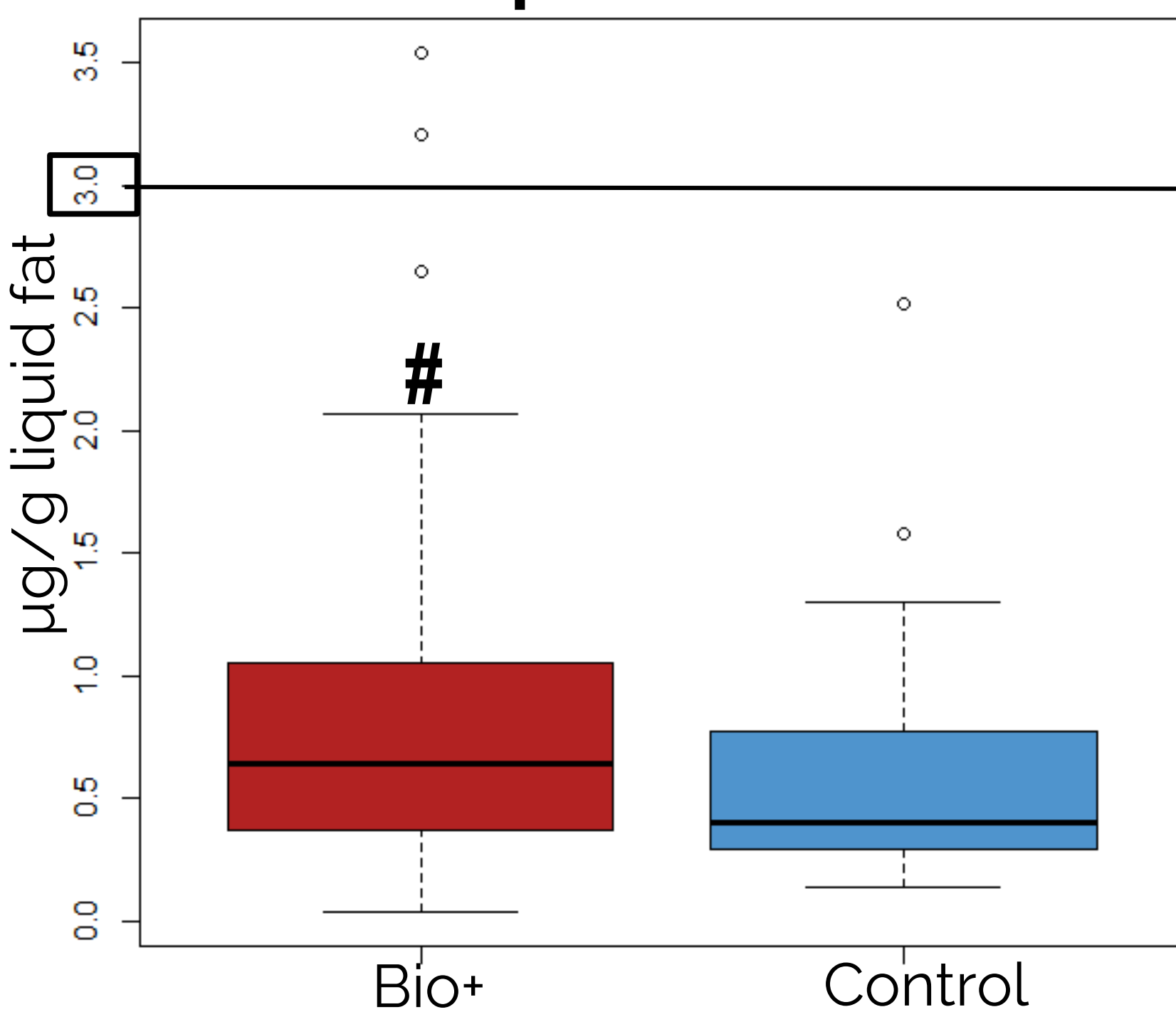
## Growth performance and meat quality

	Bio+		Control
Final live weight, kg	129	ns	127
Average daily gain, g	1021	ns	998
Hot carcass weight, kg	99.5	ns	97.9
Lean meat content, %	60.7	*	59.8

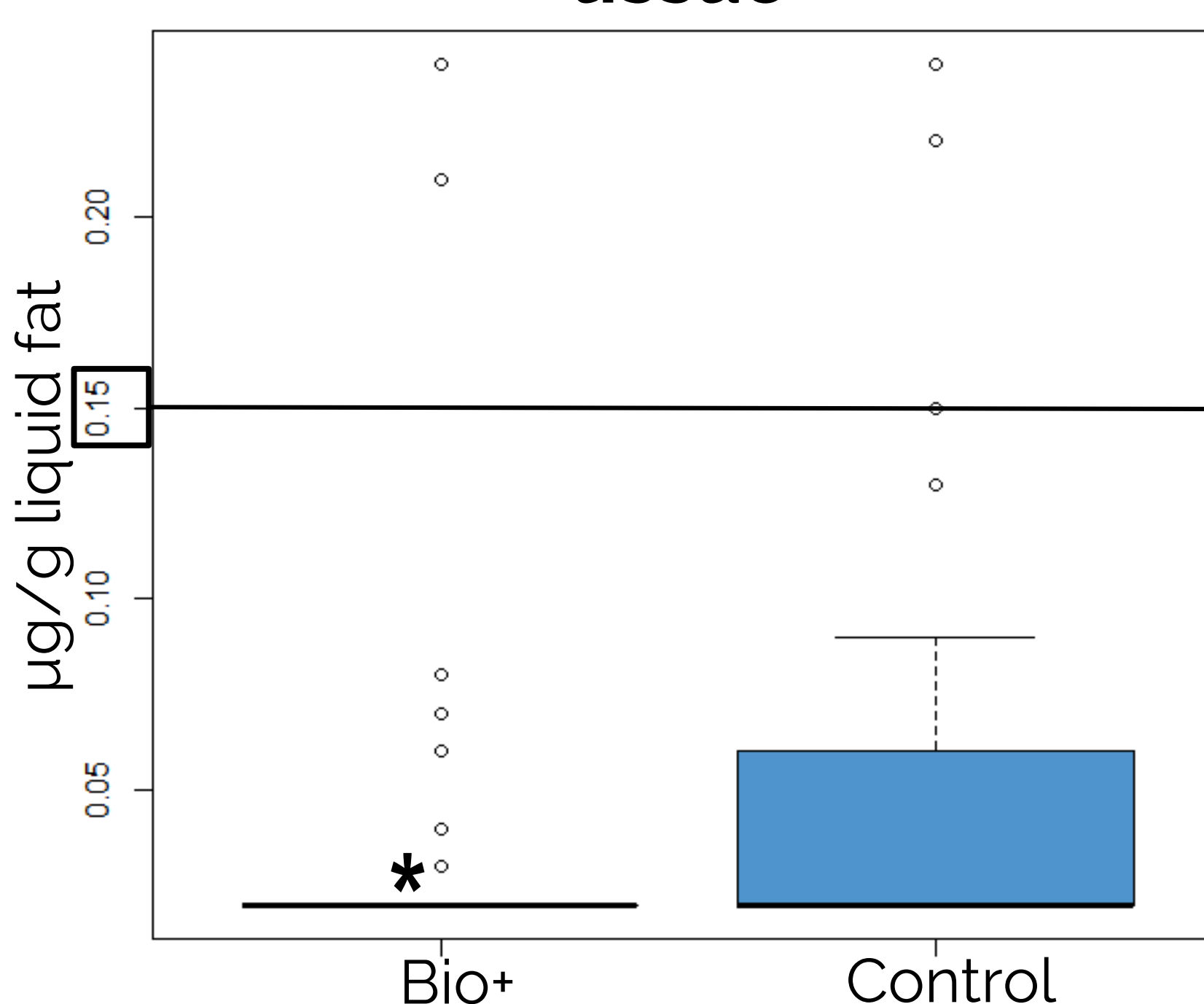
## Linoleic acid (LA) : alpha-linolenic acid (ALA) ratio



## Androstenone content in adipose tissue

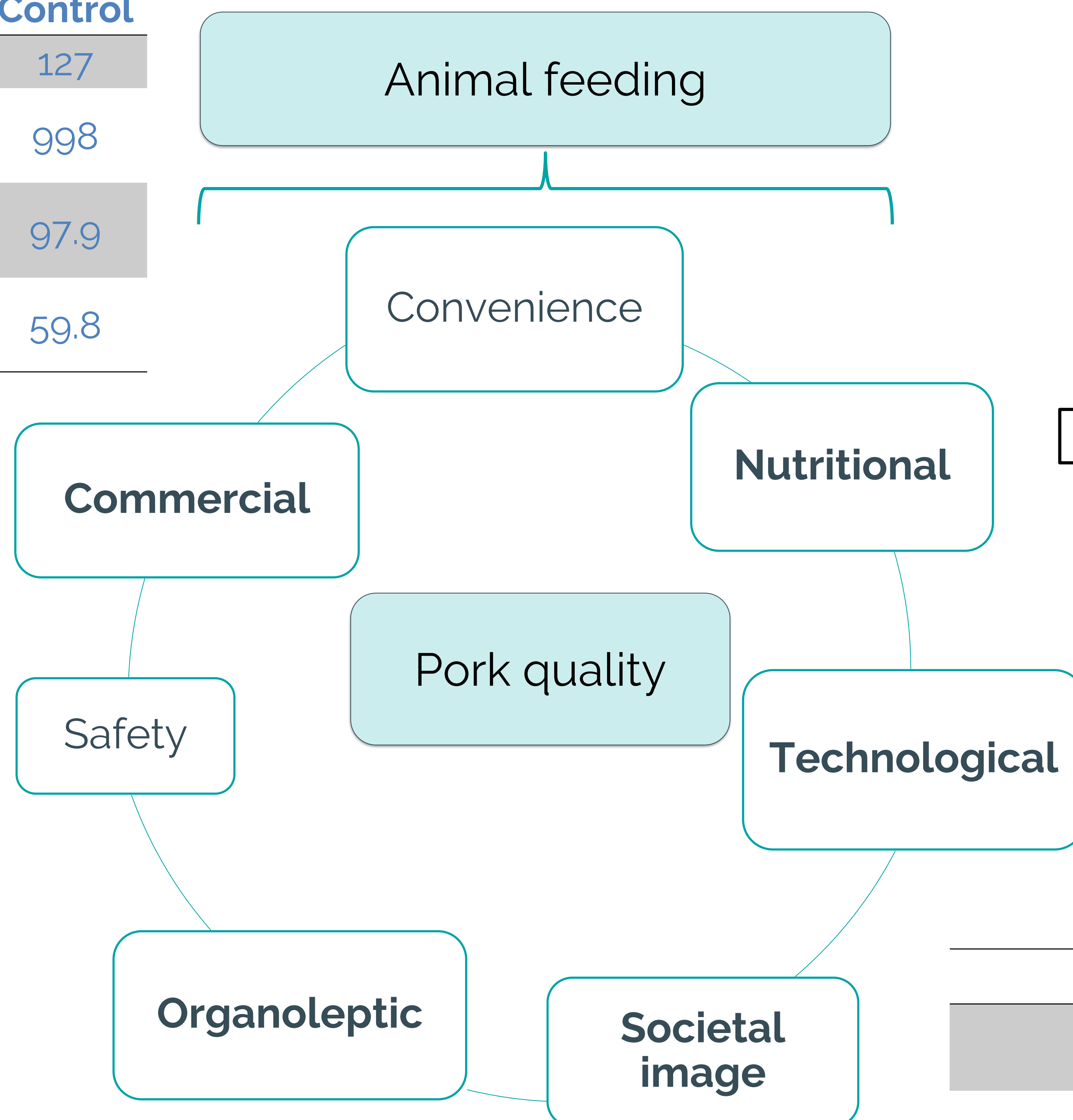


## Skatole content in adipose tissue



➤ 0 carcasses downgraded (boar taint) in commercial slaughterhouse

Feeding effect: # : P<0.10; \* : P<0.05 ; \*\* : P<0.01; \*\*\* : P<0.001, ns: P>0.10.



➤ **No differences** between feeding strategies on **sensory quality traits assessed by** a trained panel : tenderness, juiciness, odor intensity, aromatic persistency (P=ns)

➤ Presence of **aromatic** compounds

- Relocation of raw materials
- Animal behaviour

## Meat quality indicators : Longissimus muscle

	Bio+		Control
pH 24 h	5.56	*	5.51
Drip loss, %	3.9	#	4.2
Glycolytic potential, μmole eq.lactate/g	160	***	178

## Conclusions and Perspectives

- Bio+ strategy did not affect growth performance but improved the technological and nutritional properties and some organoleptic properties of pork.
- Future prospects: relationships between the sensory profile and aromatic compounds of pork and integration of experimental results into a systemic review of literature.