TREASURE

WP 2 Task 2.3/2.4

Growth potential of immune- and surgically castrated Iberian pigs fed diets of different protein concentration

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eez

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Introducción

Castration ♂ pigs

Prevent

- ***sexual development agressive behaviour***
- ***boar taint***
  - Androstenone
  - Skatole

Concern on European citizens

Animal welfare

Alternatives

Immunocastration

HEAVY PIGS

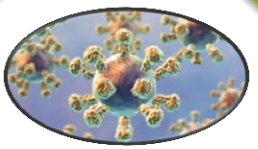
FEMALES

Introducción

Inmunocastración

Vaccination againts gonadotropin releasing hormone (GnRH)

Affects sexual steroids synthesis in males



Supress ovaric cycle and oestrus females

2 dosis

- Animal welfare
- Increased performance until second vaccination (Millet et al. 2011; Batorek et al., 2012)
- Increased protein/Lys requirements in IC males vs SC males (Elsbernd et al., 2017)

Iberian pig?

Objective

Examine the effects of immunocastration on Iberian pig performance and carcass traits under different dietary protein concentrations

Materials & Methods

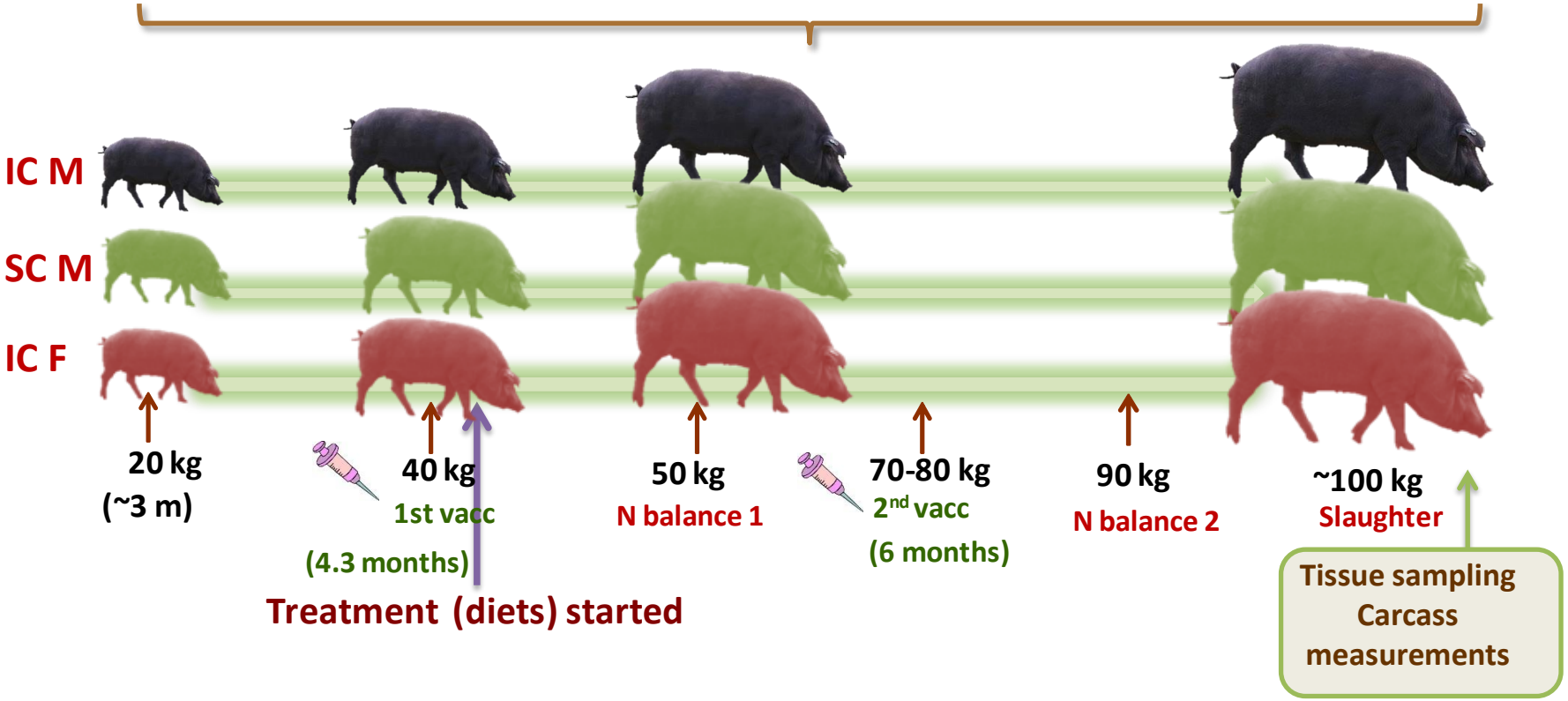
Experimental design

3 Groups: Immunocastrated Iberian male pigs **IC M** (n=18)
Surgically castrated Iberian male pigs, **SC M** (n=18)
Immunocastrated Iberian female pigs, **IC F** (n=18)

3 diets: 16% PB, 14% PB and 12% PB (90% *ad lib*)

6 pigs per treatment combination (n= 54, 2 Replicates)

Feed intake individually adjusted to BW (weekly) individual housing



Materials & Methods

Experimental Diets

Ingredients, g/kg	High CP	Medium CP	Low CP
Barley	700	700	700
Maize	145	189	232
Soybean meal 47	125	81	37
Calcium phosphate	9.0	9.3	10.2
CO_3Ca	6.3	6.2	6.1
ClNa	3.0	3.0	3.0
Vitamins/minerals	3.0	3.0	3.0
L-Lys (50%)	6.0	6.0	6.0
L-Thr (50%)	2.4	2.3	2.2
Met hydrox. analog.(75%)	0.8	0.6	0.4
L-Trp (19.6%)	0	0	0.3
Nutrient composition, g/kg			
Crude protein, g/kg FM	143	125	107
Crude protein g/kg MS	161	141	121
ME, MJ/kg MS	14.6	14.7	14.3
Total lipids	20.3	20.9	21.4
Lysine	9.4	8.2	7.0
Threonine	6.2	5.4	4.7
Methionine	2.7	2.4	2.0
Tryptophane	1.7	1.4	1.2

Materials & Methods

Experimental design

Materials & Methods

Statistical analysis

2-way ANOVA, *Sex* *(IC males, SC males, IC females)*

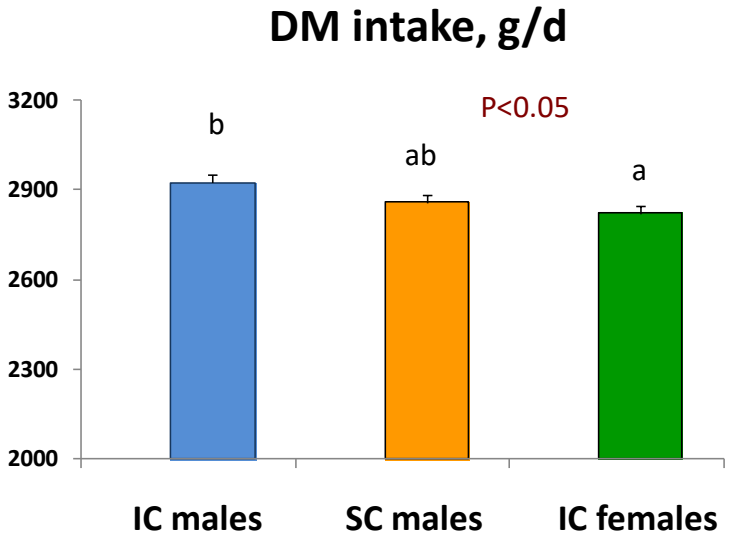
Diet *(HP, MP, LP)*

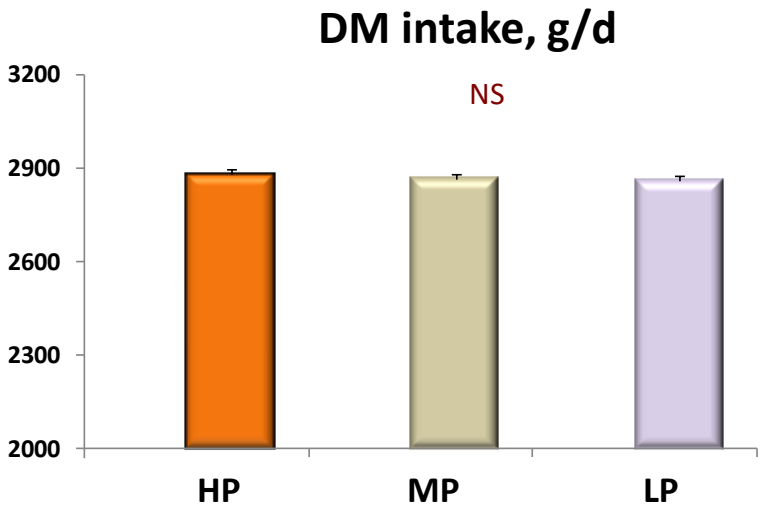
Sex × Diet

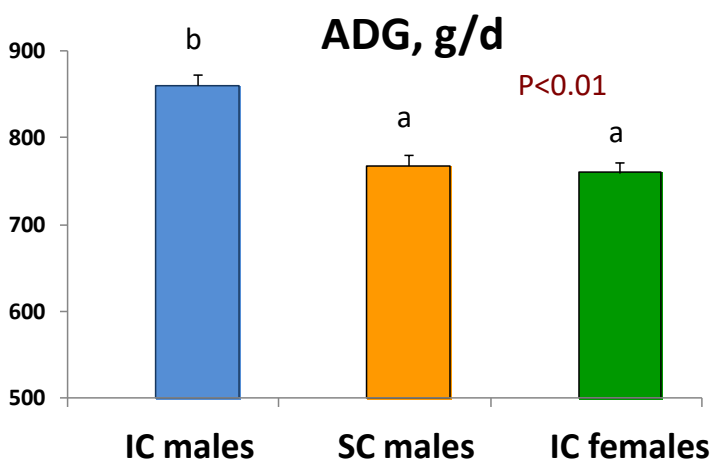
test LSD $P < 0,05$

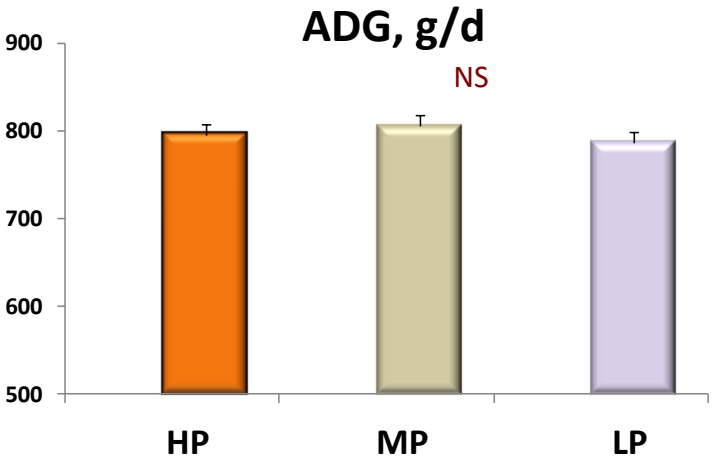
Results and discussion

Performance





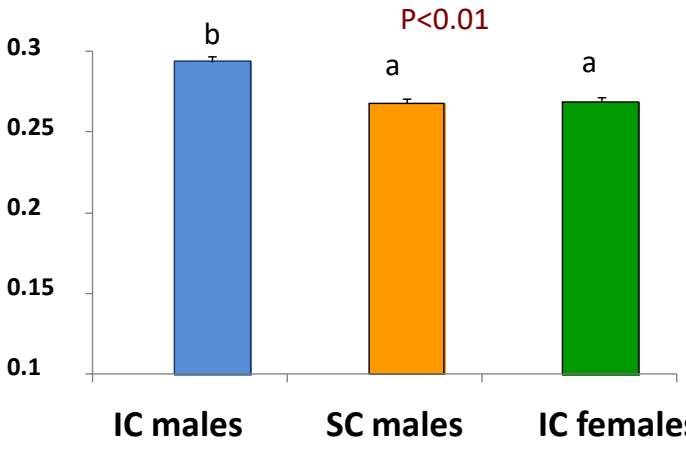




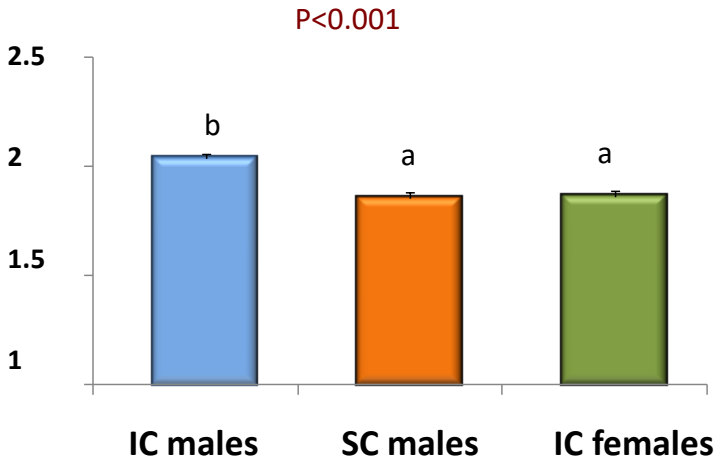
Results and discussion

Performance

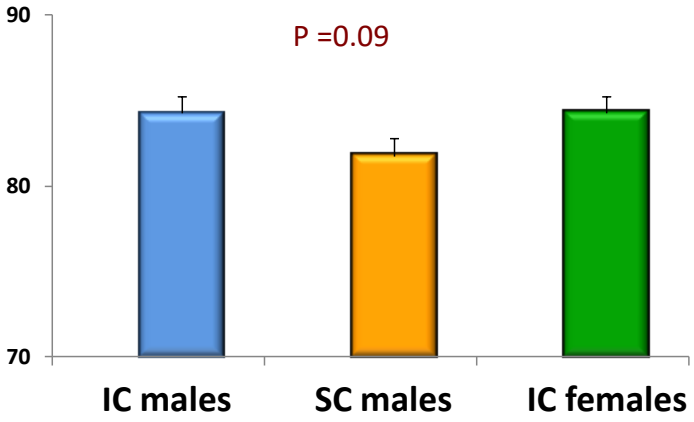
Gain : feed intake



Gain : protein intake

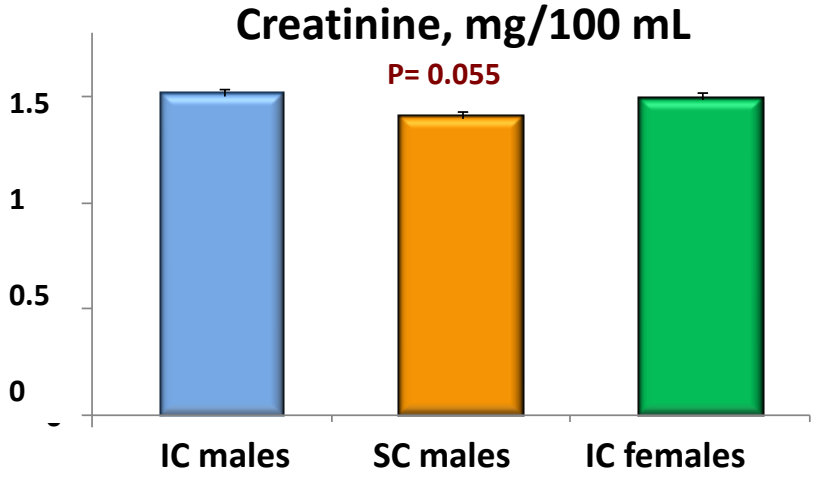


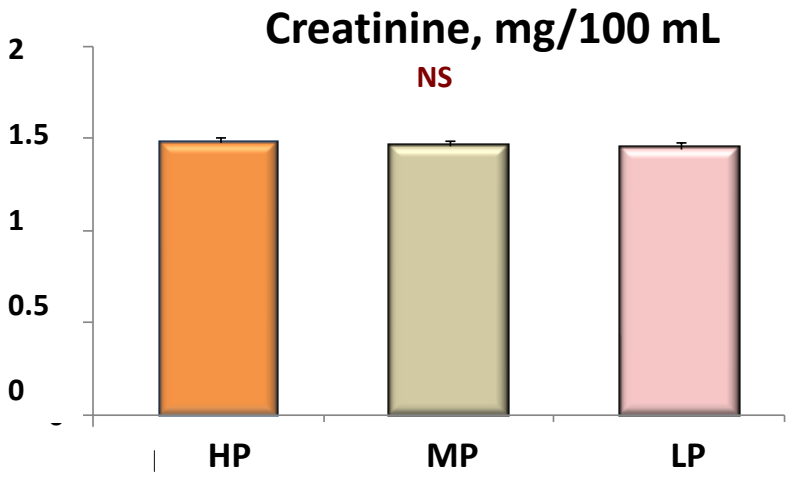
Carcass weight, kg

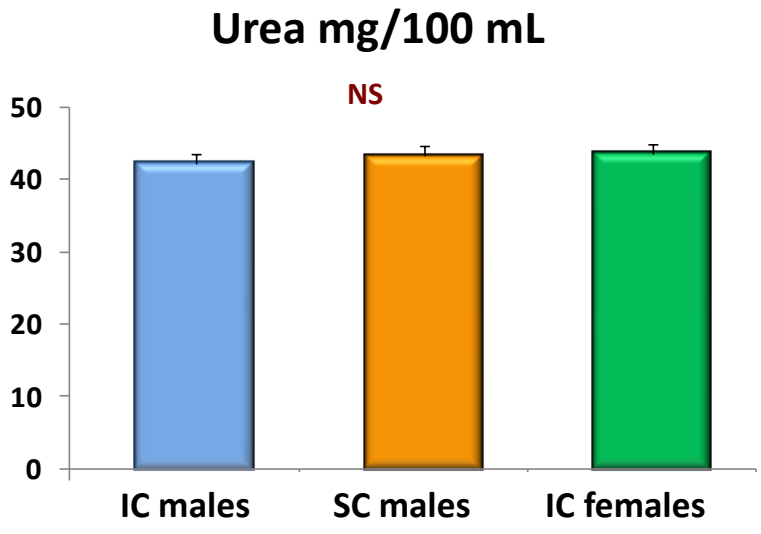


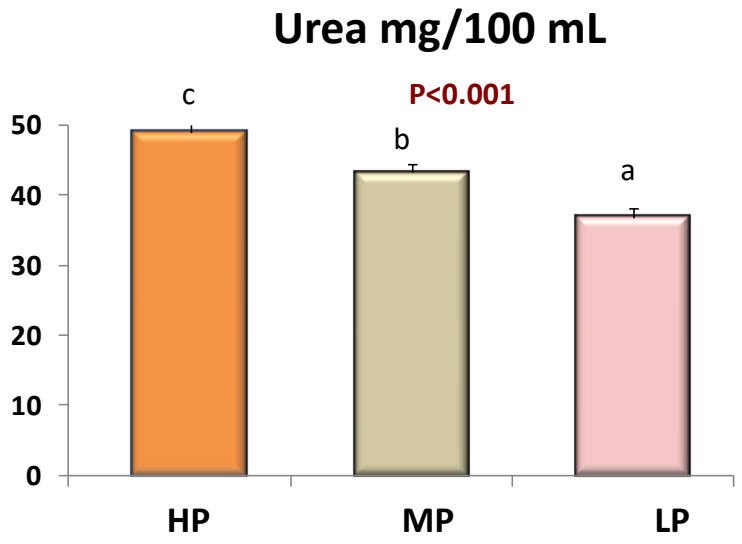
Results and discussion

Plasma metabolites







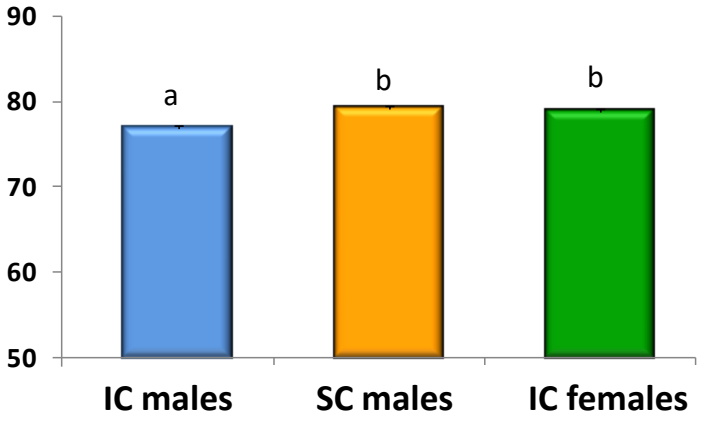


Results and discussion

Carcass traits

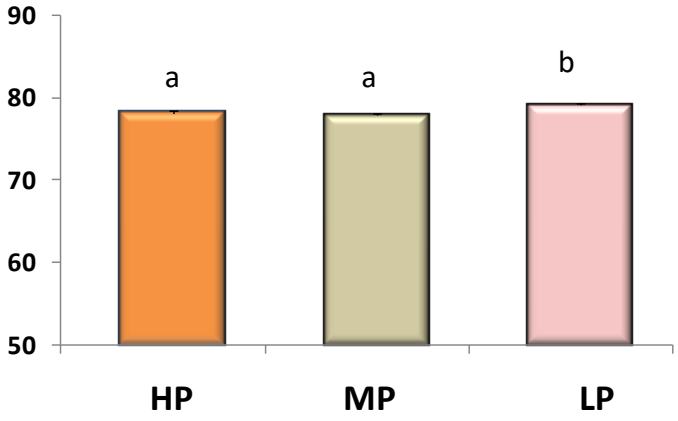
Carcass yield (%)

P<0.001



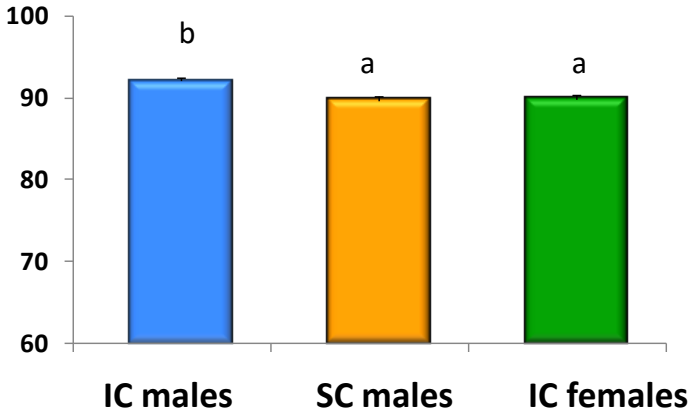
Carcass yield (%)

P<0.001



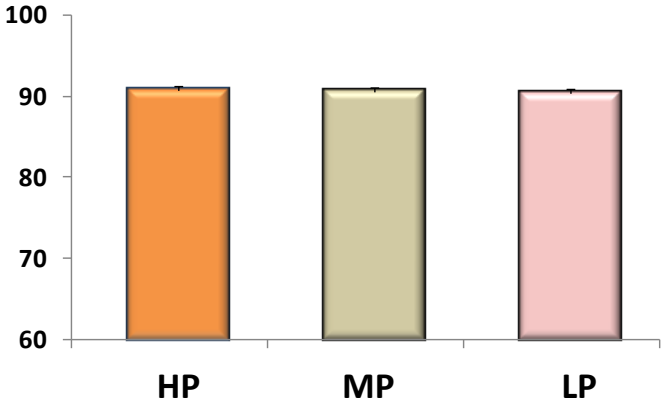
Carcass length, cm

P<0.001



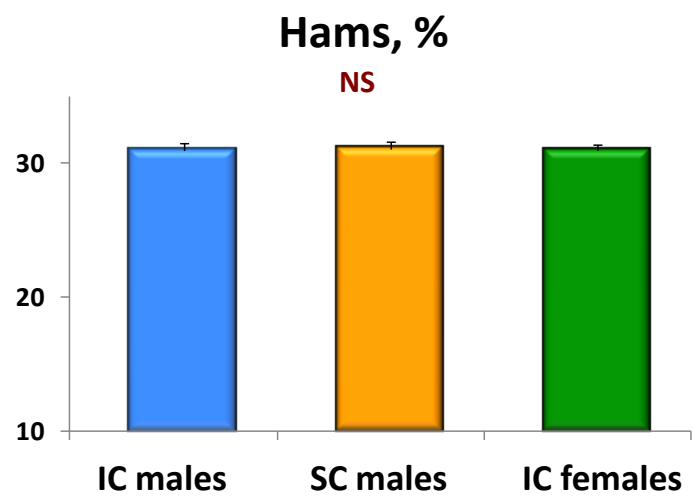
Carcass length, cm

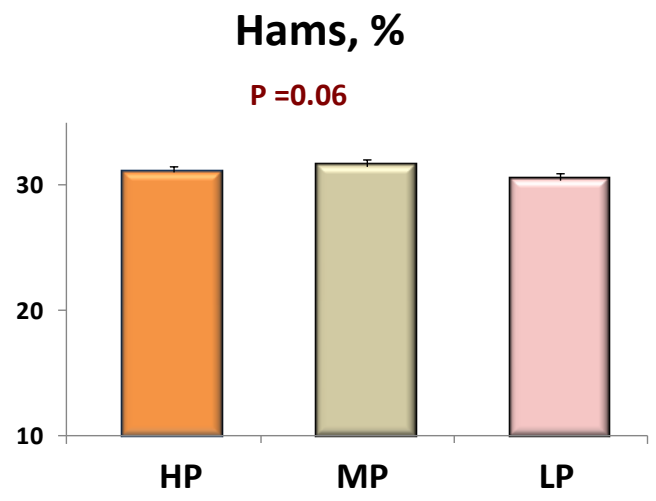
NS

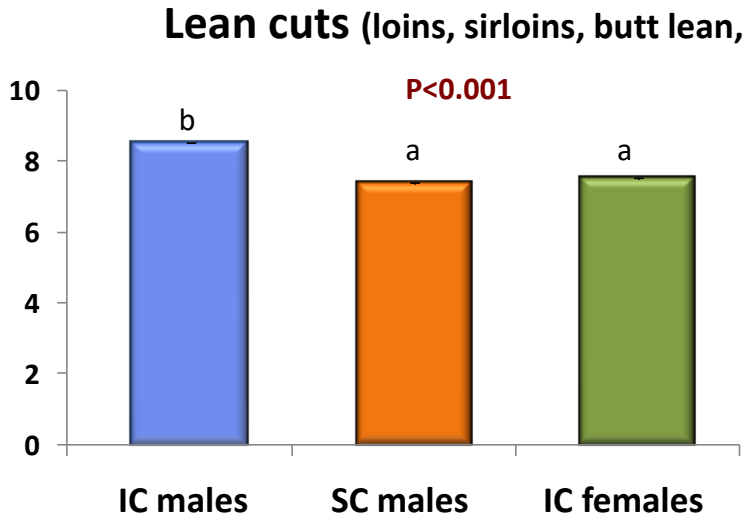


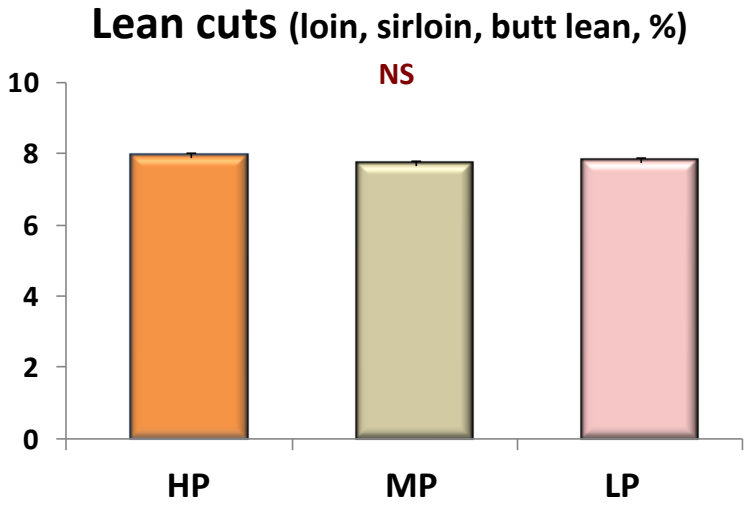
Results and discussion

Carcass traits









Conclusions

- ✓ **IC Iberian males** showed higher growth rate and feed efficiency than **SC males** and **IC females**
- ✓ **IC males** had lower carcass yield, similar ham (shoulder, backfat) proportions, and higher lean cuts (loin, sirloin, butt lean) than **SC males** and **IC females**
- ✓ **IC females** and **SC males** showed similar performance and carcass characteristics
- ✓ No apparent effects of dietary **protein** concentration on performance were observed and very moderate effects on carcass traits

Thanks for your attention!!

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