

Androstenedione sensitivity of European consumers: the Spanish, French and English case

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SESSION 17 Theatre 3

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Product Quality

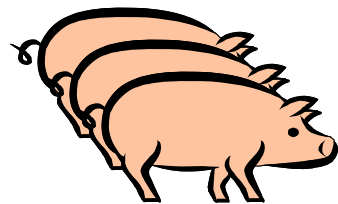
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INTRODUCTION

Pig production in Europe:



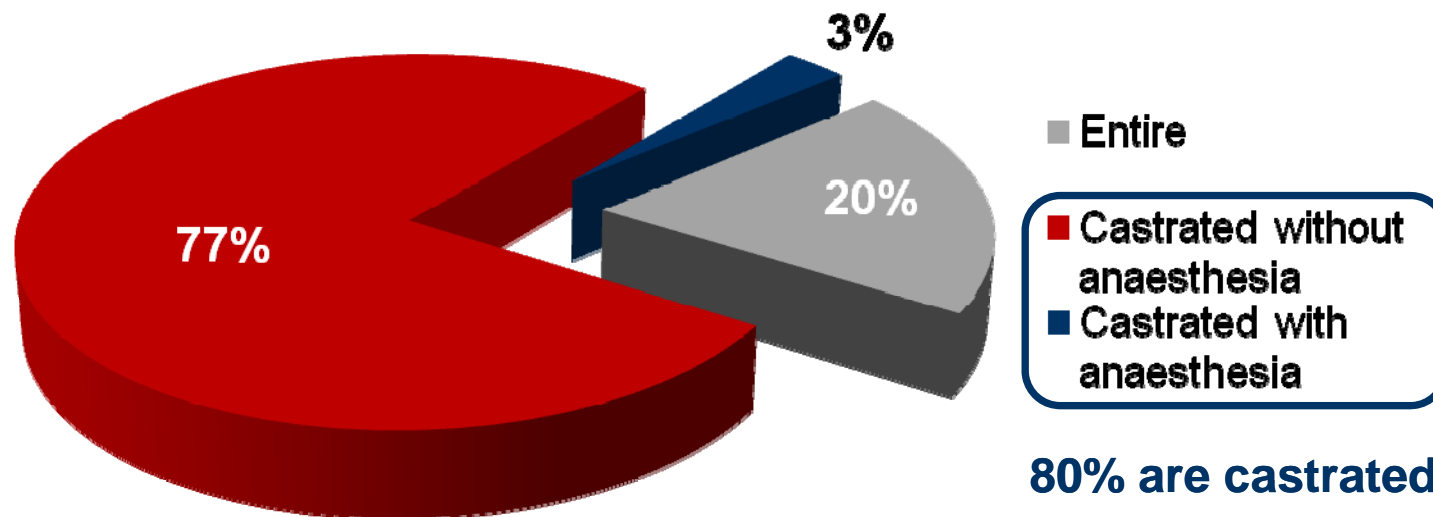
= 250 millions/year



50% are Male Pigs






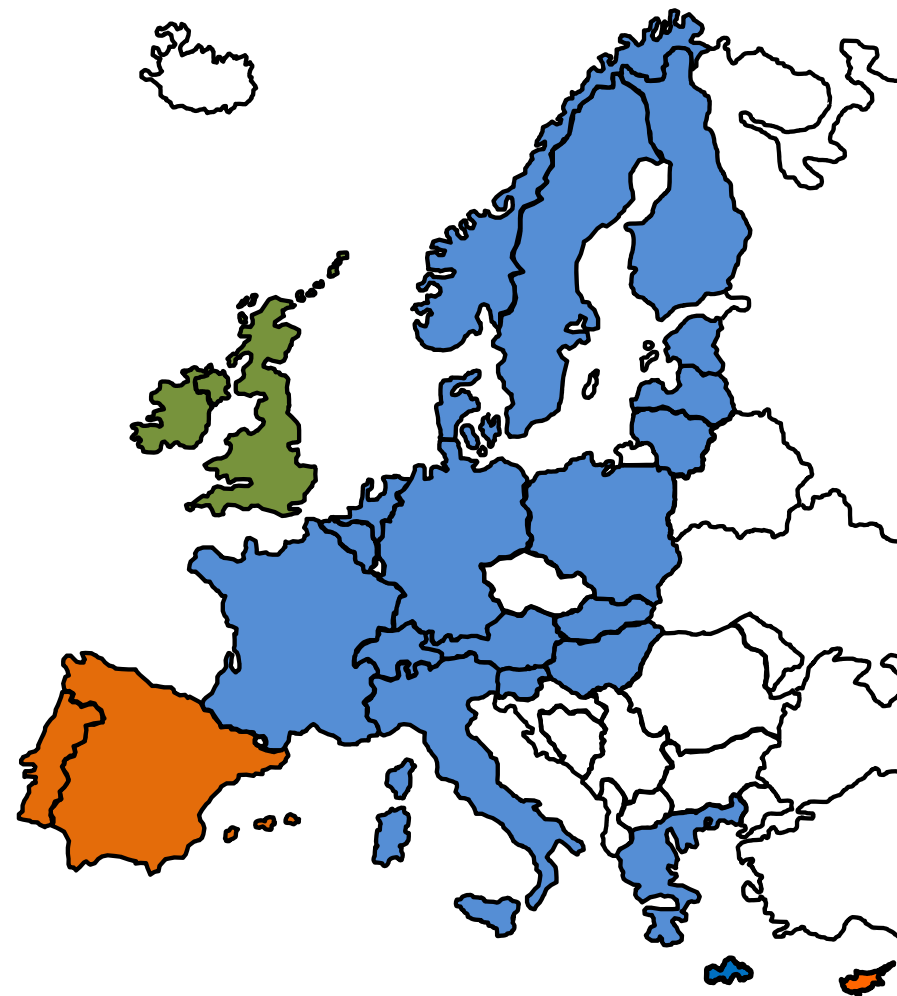
MALE PIGS:



Practice on castration of piglets in Europe:



-  Castrate most of the pigs
-  Do not castrate
-  Castrate approximately 30 % of the pigs



Why are pigs castrated?

To control boar taint

- Boar taint is an unpleasant sensory defect of pork.
- Boar taint affects the acceptability of pig meat by consumers.
- The main compounds responsible for boar taint are **androstenone** and **skatole** which are accumulated in the fat tissue.
- **Androstenone perception is genetically determined.** People who can not perceive it are anosmic to this substance.

Androstenedione sensitivity



ANOSMIA

REFERENCE	WOMEN	MEN	COUNTRY
Gilbert and Wysoki, 1987	11-30%	24-37%	Around the world
Weiler et al., 2000	66%	70%	Germany
Weiler et al., 2000	48%	60%	Spain
Bremner et al., 2003	13.6%	18.1%	USA
Font i Furnols et al., 2009	46.4%	63.5%	Spain
Lunde et al., 2009	53.6%	73.7%	Norway
Bekaert et al., 2010	49%	62%	Flanders

OBJECTIVE

The aim of this work was to evaluate consumers' sensitivity to androstenone in three countries in Europe: France, Spain and United Kingdom

MATERIALS AND METHODS

Why did we study these three countries?



FR






ES



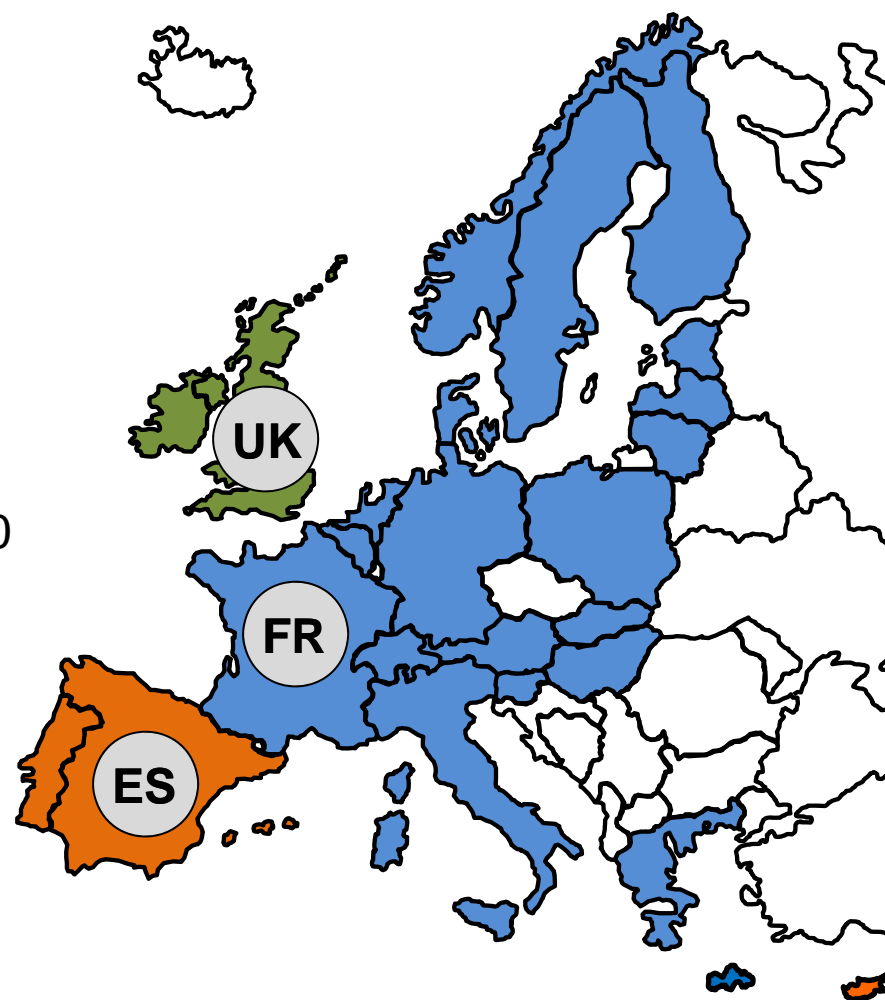
UK

Practice on castration of piglets in Europe:



-  Castrate most of the pigs
-  Do not castrate
-  Castrate approximately 30 % of the pigs

Country	Number of consumers
FR	138
ES	293
UK	147
Total	578



Weiler et al., 2000

Score given by the consumers after
smelling pure androstenone.
(Weiler et al., 2000)



Can you smell anything? How strong is it this smell?

Imperceptible 0 1 2 3 4 5 6 7 8 *Extremely strong*

0	1	2	3	4	5	6	7	8
No	Low			Medium		High		
No-low				Medium-high				

Weiler et al., 2000

Score given by the consumers after
smelling pure androstenone.
(Weiler et al., 2000)

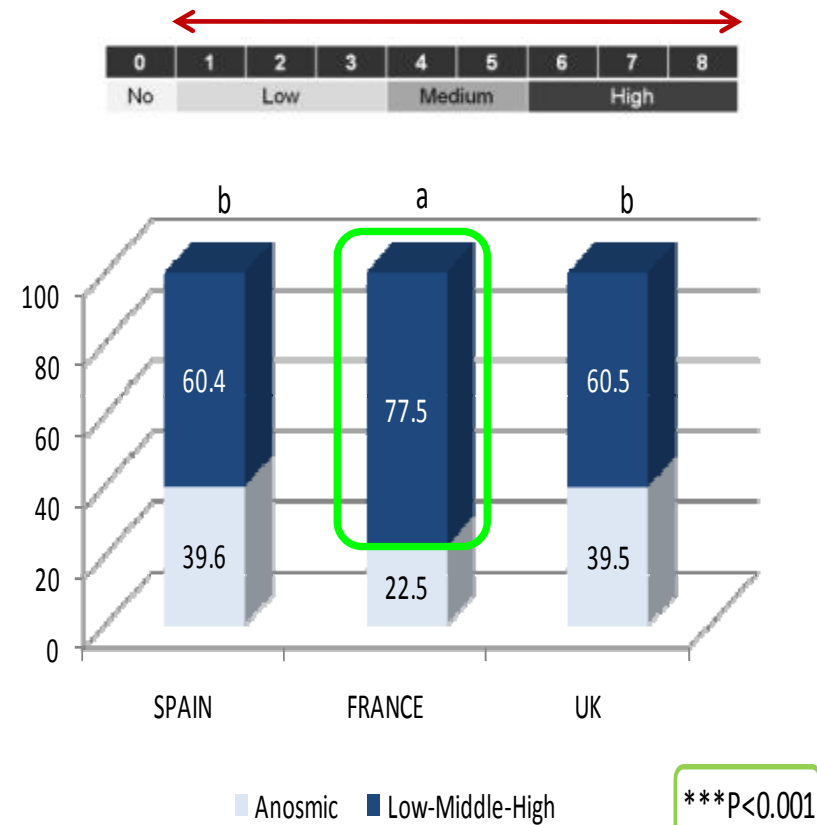
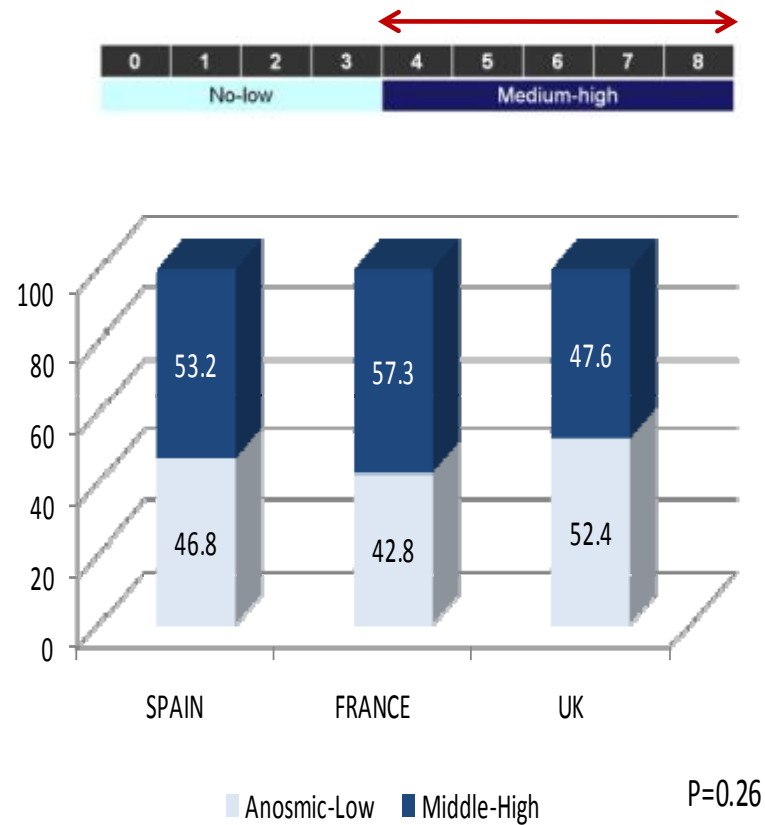


Do you like this smell?

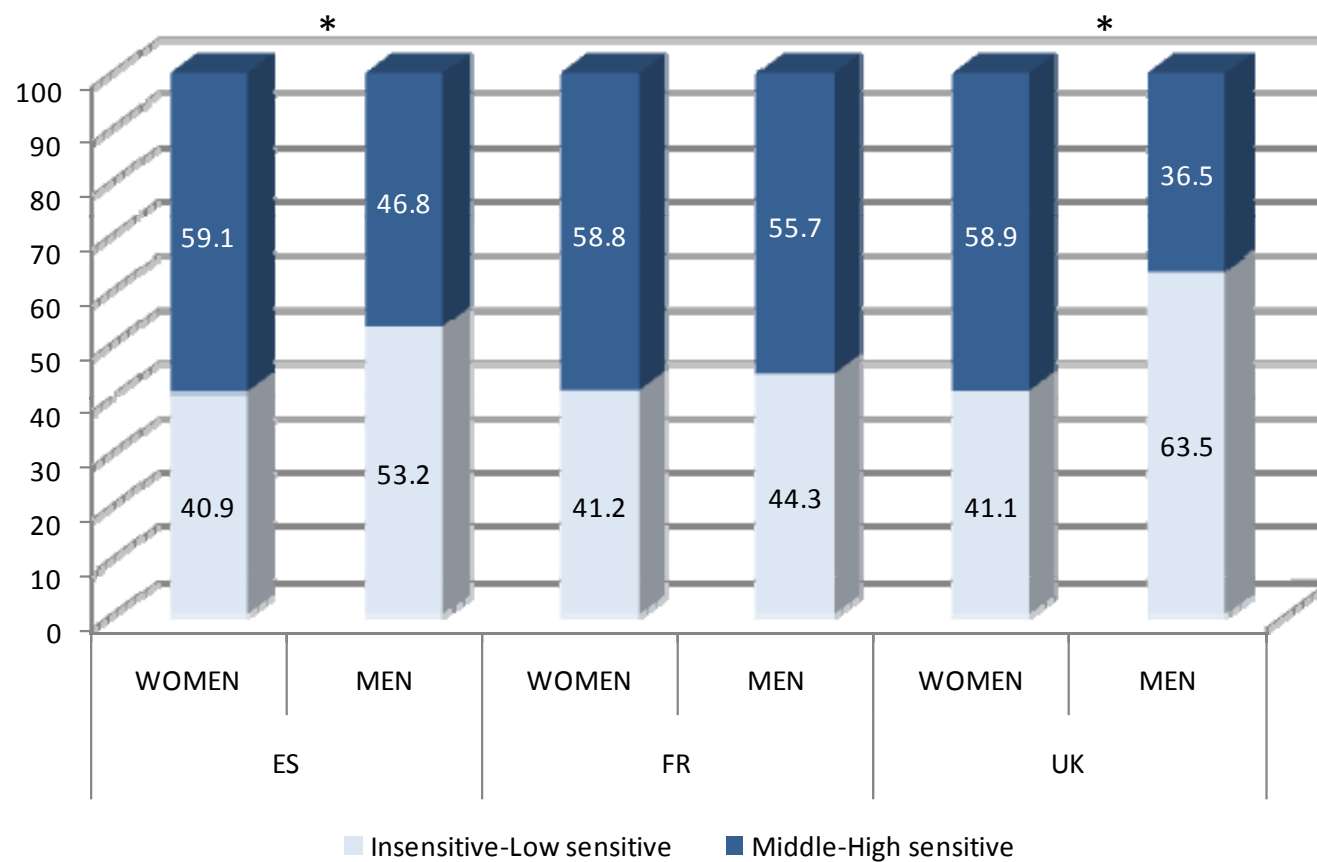
- No, I don't like it.
- Neutral / Yes, I like it.

RESULTS

SENSITIVITY TO ANDROSTENONE - COUNTRY

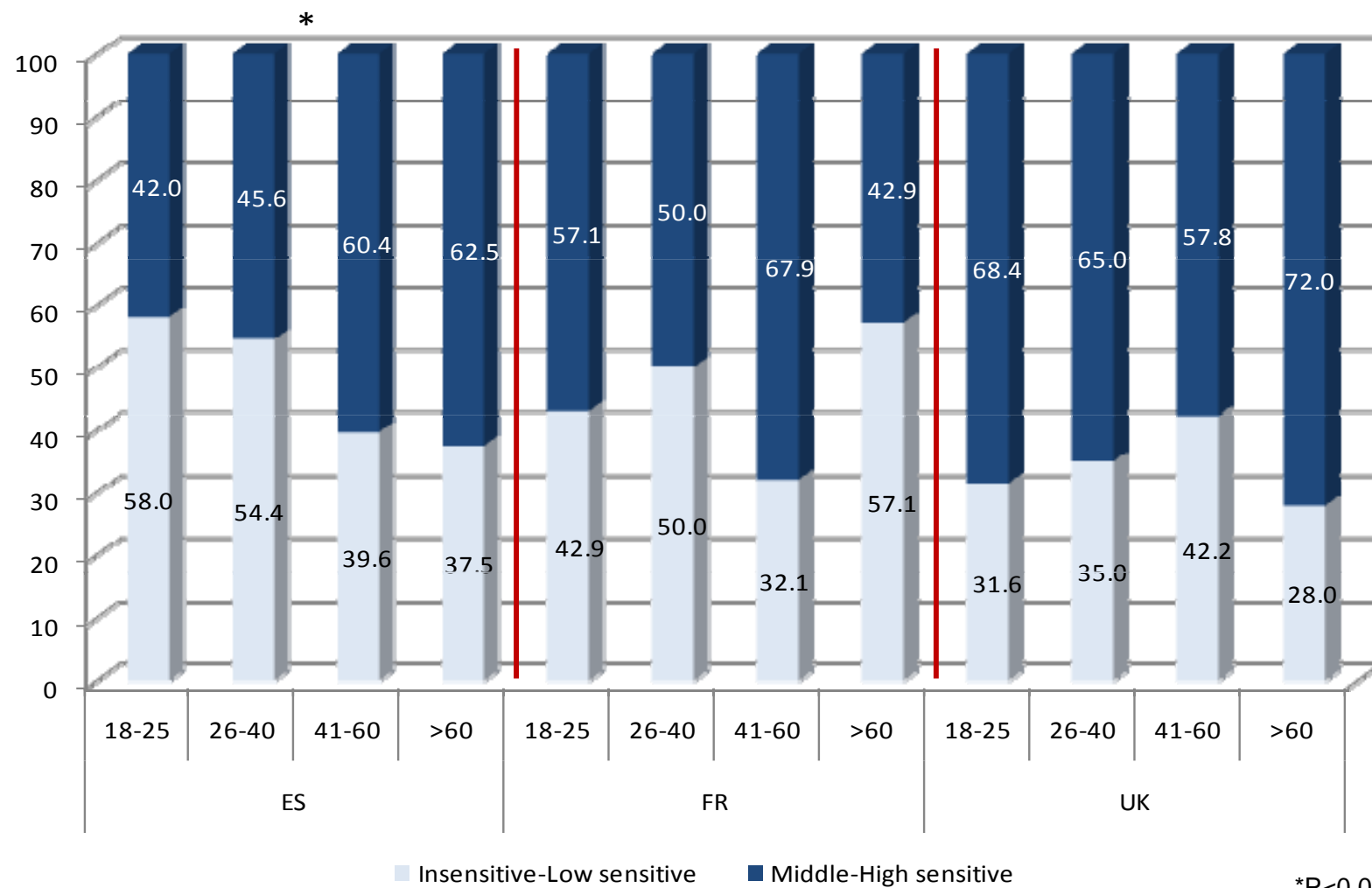


SENSITIVITY TO ANDROSTENONE-GENDER

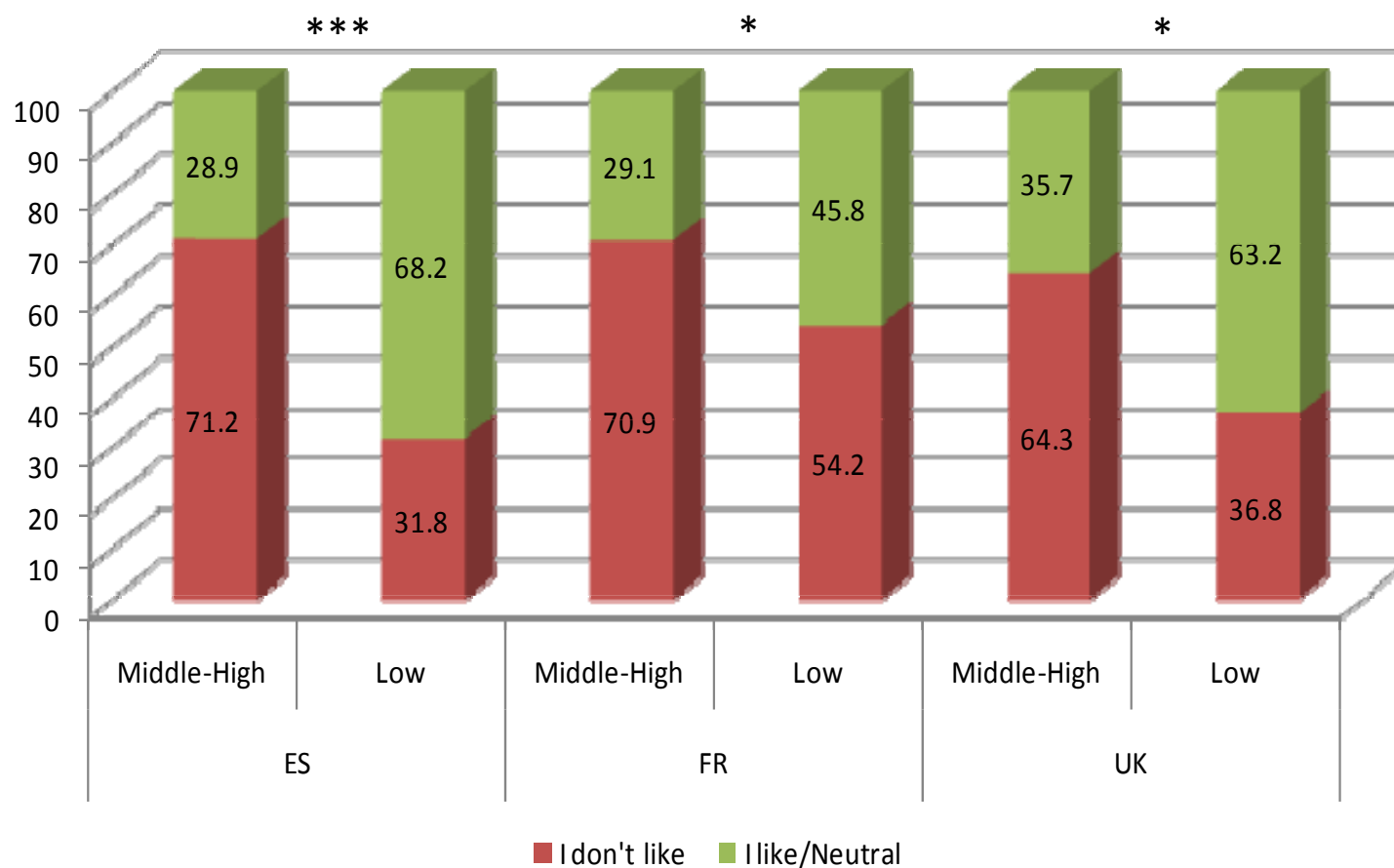


*P<0.05

SENSITIVITY TO ANDROSTENONE - AGE



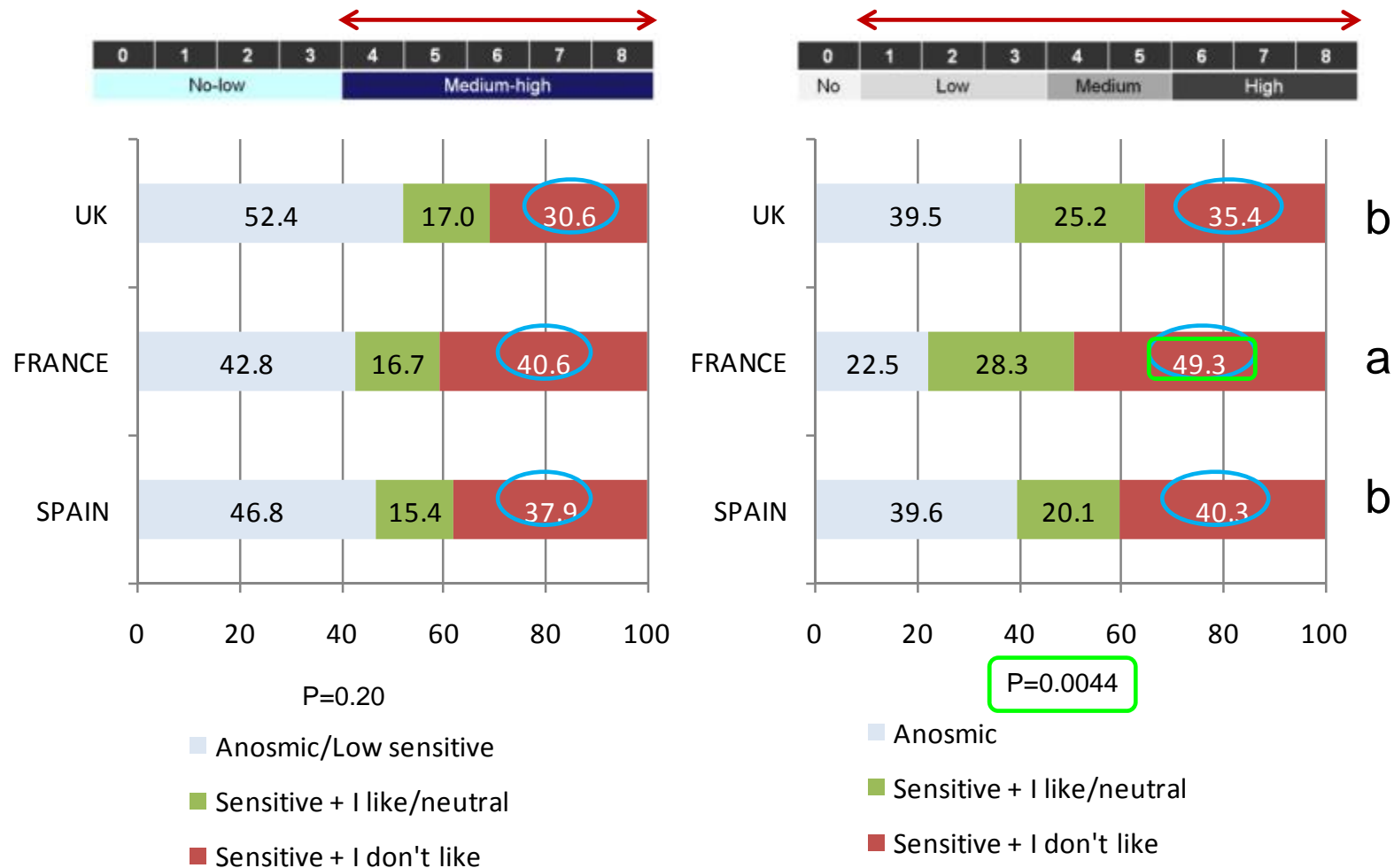
SENSITIVITY TO ANDROSTENONE - LIKE



*P<0.05

***P<0.001

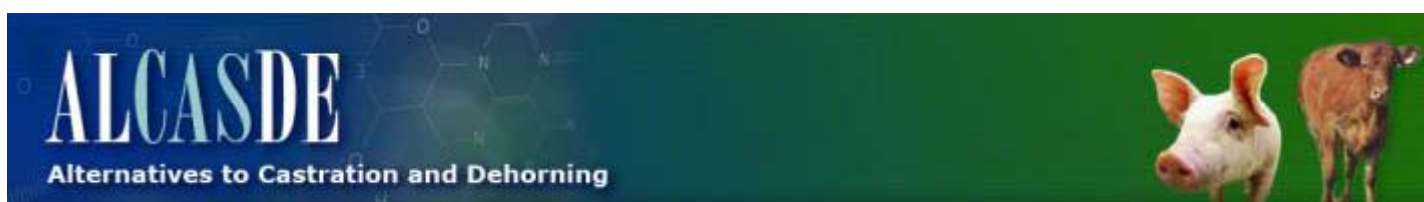
RISK: Consumers that may reject tainted meat due to androstenone (sensitive consumers*dislike)



CONCLUSIONS

- In general, women are more sensitive to androstenone than men.
- The effect of age on sensitivity to androstenone is not clear.
- The percentage of people who dislike androstenone is higher in middle-high sensitive than in low sensitive people.
- The potential risk of consumers that may reject tainted meat due to androstenone is between 30-50%.

But...How many carcasses are tainted?



[http:// ec.europa.eu/food/animal/welfare/seminars/index_en. htm](http://ec.europa.eu/food/animal/welfare/seminars/index_en.htm)

THANK YOU FOR YOUR ATTENTION!

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Product Quality

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