

O-01-01

Attitudes of Eastern European consumers towards surgical castration and immunocastration of piglets (#19)Igor Tomasevic¹, Maria Font-i-Furnols², Luis Guerrero², Ilija Djekic¹, Marijke Aluwé³, Marjeta Čandek-Potokar⁴, Michel Bonneau⁵, Ulrike Weiler⁶¹ University of Belgrade, Faculty of Agriculture, Belgrade, Serbia; ² IRTA, Product Quality, Monells, Spain; ³ ILVO, Flanders Research Institute for Animal Sciences Unit, Melle, Belgium; ⁴ Agricultural Institute of Slovenia, Ljubljana, Slovenia; ⁵ IFIP, The French Pork and Pig Institute, Le Rheu, France; ⁶ Universität Hohenheim, Stuttgart, Germany**Introduction:**

Castration of male piglets is a common practice in pig husbandry performed to avoid boar taint, an offensive odour connected mainly with the presence of skatole and androstenone (Claus, Weiler, & Herzog, 1994) that can be perceived during the cooking and/or heating of pork from uncastrated male pigs. Taking into account relatively high animal welfare standards and discrepancy in public interest in farm animal welfare and ethical issues across European countries, generalisation of findings from Western European consumer studies to Eastern European countries would be quite questionable. Even more so because a general insight into Eastern European meat consumers' perceptions and behaviour is largely unavailable (Font-i-Furnols & Guerrero, 2014), except for a few studies published recently (Tomasevic et al., 2018). The aim of this research was to investigate the attitudes of Eastern European consumers regarding surgical and immuno-castration.

Methods:

The field survey on consumers' attitudes and beliefs about castration and perception of meat from castrated pigs has been conducted during 2017 using a questionnaire directed at 5,508 consumers of 13 Eastern European countries (Bosnia and Herzegovina, Bulgaria, Czech Republic, Croatia, Macedonia, Hungary, Moldova, Poland, Romania, Serbia, Slovakia, Slovenia and Ukraine). A structured questionnaire was developed including 5 statements regarding consumers' attitude towards castration. Different seven-point scales were used. In order to identify segments of consumers with similar attitude patterns, an Agglomerative Hierarchical Cluster Analysis was conducted (Ward method and Euclidian distance).

Results:

The largest Cluster 1, could be named as 'Consumers against castration', since this was the only cluster that significantly leaned towards the "I agree" end of the scale for the claim "Castration is not necessary" (4.5) and "Surgical castration is savage" (4.7). It was also unique in terms that these consumers were ambivalent about whether they prefer to eat meat from castrated pigs (3.9) while the rest of the Eastern European consumers in Clusters 2 and 3 agreed with the statement (5.0 and 5.3, respectively). The attitudes towards castration for this group of consumers (Cluster 1) were also exceptional in terms that they considered surgical castration as something bad (3.3) and difficult to perform (5.0) while being indecisive if it was harmful or beneficial (3.9). The rest of the Eastern European consumers in Clusters 2 and 3 considered surgical castration as beneficial (4.9 and 5.9, respectively). Cluster 2 could be named as 'Consumers indifferent towards castration' since their

answers on 12 out of 14 statements were in between the answers from the respondents of Cluster 1 and Cluster 3. Moreover, their answers on half of the questions were mainly characterized by a high number of respondents positioning themselves in the middle of the scale. The only distinguishing characteristic of Cluster 2 consumers in the present survey, was their strong attitude that castrating pig was something artificial (5.7). Gender, place of growing up and age of the respondents were not a distinctive characteristic of the Cluster 3, as they were not with the Cluster 1 and Cluster 2, before. What distinct about Cluster 3 from the other two clusters is the disbelief that castration is not necessary (2.7), the disagreement that it is savage (3.0) and the preference for eating meat from castrated pigs (5.3). These consumers were also unique in terms of their attitudes towards castration because they were positive that it is beneficial (5.9), good (6.0), natural (1.9) and easy to perform (2.7). Thus, this cluster could be named as 'Consumers pro-castration'. Similar to other clusters, they were ambivalent if the pig castration with vaccines is good or bad, and if they are willing to pay a little more for the meat from castrated pigs or if the meat from castrated pigs is leaner.

Conclusion:

In general, attitudes of the Eastern European consumers are not defined, probably because of the lack of knowledge towards these important issues. However, when consumers are classified in clusters, clear differences between them can be identified. In this sense, most of the consumers considered castration artificial, bad and difficult, some other consumers considered castration natural, good, easy and beneficial and, another group of consumers have opinions in between them.

Acknowledgements:

The author(s) would like to acknowledge networking support by the COST Action (CA 15215): "Innovative approaches in pork production with entire males"

References:

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Notes

Table 2. Description of the three clusters regarding attitudes toward castration¹.

	Cluster 1 (n=2,568)	Cluster 2 (n=1,693)	Cluster 3 (n=1,199)	RMSE
The attitudes towards castration:				
I think that surgical castration of pigs is...				
<i>1: Harmful; 4: Neither ... nor ...; 7: Beneficial</i>	3.9 ^c	4.9 ^b	5.9 ^a	1.8
In my opinion, surgical castration of pigs is...				
<i>1: Easy; 4: Neither ... nor ...; 7: Difficult</i>	5.0 ^a	3.4 ^b	2.7 ^c	1.8
The surgical castration of pigs is...				
<i>1: Bad; 4: Neither ... nor ...; 7: Good</i>	3.3 ^c	5.4 ^b	6.0 ^a	1.6
I believe that castrating pigs is something...				
<i>1: Natural; 4: Neither ... nor ...; 7: Artificial</i>	4.8 ^b	5.7 ^b	1.9 ^c	1.6
Pig castration with vaccines is				
<i>1: Bad; 4: Neither ... nor ...; 7: Good</i>	3.9 ^a	3.8 ^b	3.7 ^b	1.9

¹Items in the same row and within classification category with different superscripts are significantly different (P<0.05); RMSE: root-mean-square error

Table 2.
Description of the three clusters regarding attitudes toward castration¹.

Table 1. Description of the three clusters in terms of demographics

%	Cluster 1 (n=2,568)	Cluster 2 (n=1,693)	Cluster 3 (n=1,199)	Total (n)
<i>Country</i>				
Bosnia and Herzegovina	93.0	6.7	0.3	312
Bulgaria	11.9	75.3	12.8	352
Czech Republic	43.5	31.0	25.5	510
Croatia	53.8	21.6	24.6	301
FYRoM (Macedonia)	45.4	17.3	37.3	284
Hungary	12.0	34.3	53.8	400
Moldova	44.1	24.7	31.1	299
Poland	72.8	16.5	10.7	504
Romania	25.3	38.2	36.4	557
Serbia	76.5	15.1	8.4	664
Slovakia	53.3	17.7	29.0	300
Slovenia	57.5	23.7	18.9	228
Ukraine	31.5	56.2	12.3	749
<i>Gender</i>				
Male	44.7	32.7	22.6	2,435
Female	48.9	29.7	21.4	3,025
<i>Place of growing up</i>				
Urban	44.1	36.3	19.6	2,447
Rural	50.6	24.5	24.9	3,013
<i>Age</i>				
Less than 36	48.2	32.7	19.1	1,869
36 – 55	47.4	31.3	21.3	2,078
Above 55	44.9	27.4	26.7	1,513

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Description of the three clusters in terms of demographics

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