



# Norwegian consumer attitudes towards pig castration: More emphasis on animal welfare

M. Sødning\*, O. Nafstad, T. Håseth.  
Animalia, Norwegian Meat and Poultry  
Research Centre,  
Lørenveien 38, 0585 Oslo, Norway  
[\\*marianne.sodring@animalia.no](mailto:marianne.sodring@animalia.no)



## BACKGROUND

A consumer survey on attitude towards the castration of pigs conducted in Norway in 2008 found that vaccination against boar taint appeared to be accepted by most Norwegian consumers, provided that the method was approved by the Norwegian authorities (1). However, most participants were content with the then current practice of castration using local anesthesia, and did not see a need for alternatives. Since the 2008-survey much has changed in Norway, and the consumers have shown an increased focus on animal welfare. Therefore, a replica of the 2008-survey was conducted to explore whether the consumer position regarding castration has changed over the past years in line with the increased emphasis on animal welfare.

## MATERIALS AND METHODS

An internet-based survey of consumer attitudes towards four different methods (Surgical castration with anesthesia; castration without anesthesia; vaccinations against boar taint; entire males) was conducted. A total of 1002 persons participated in the survey administered in November 2016. The web-panel was made up of a set of randomly chosen males and females over the age of 18. Sampling of participants was weighted by age, gender, and geographical location to better reflect the Norwegian population. The survey conducted in 2016 is an accurate replica of the survey completed in 2008. However, in the 2016 survey, one additional question was added where the participants were provided information regarding past and ongoing research on vaccination against boar taint. This supplementary information explained that, despite considerable research activity over the past 10 years, it has not been possible to reduce the amount of boar taint present in vaccinated pigs to the same low levels seen with surgical castration.

## RESULTS AND DISCUSSION

First, the participants were asked to simply evaluate Norway's current practice of castrating male pigs with local anesthesia and analgesia at approximately 10 days old. The results showed that 65 % of the participants considered the practice to be acceptable, 18% found it unacceptable, while 17% did not have an opinion (Fig.1). This shows a decline in acceptance of today's castration method by 8 percentage points from what was observed in 2008. When asked to evaluate the current practice of surgical castration with anesthesia as compared to the three other methods (vaccination against boar taint, surgical castration without anesthesia or rearing of entire males), both surgical castration with anesthesia and vaccination against boar taint were highly accepted among the participants (88% and 78% respectively) (Fig. 2). Surgical castration without anesthesia was generally considered unacceptable among Norwegian consumers in both 2008 (77%) and 2016 (70%). When asked which factor was most influential on making a choice between the four methods, 73% of the consumers mentioned animal welfare as important, either as the most important (49%) or equally as important as the consideration for eating quality and food safety (24%) (Fig.3). Animal welfare is also the single factor that has increased the most since 2008 among a set of assessment criteria when purchasing pork products; from 2008, animal welfare as a purchasing factor has increased by 8 percentage points. When given additional information that vaccination against boar taint may not be able to reduce boar taint to the levels that castration with anesthesia does, consumer skepticism towards vaccination increased (Fig. 4).

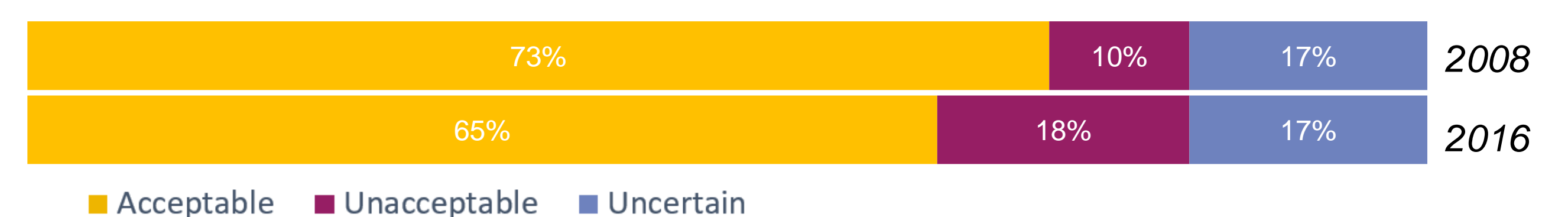


Figure 1. Change in consumer attitudes towards castration with anesthesia, the most commonly used method of castration in Norway, from 2008 and 2016.

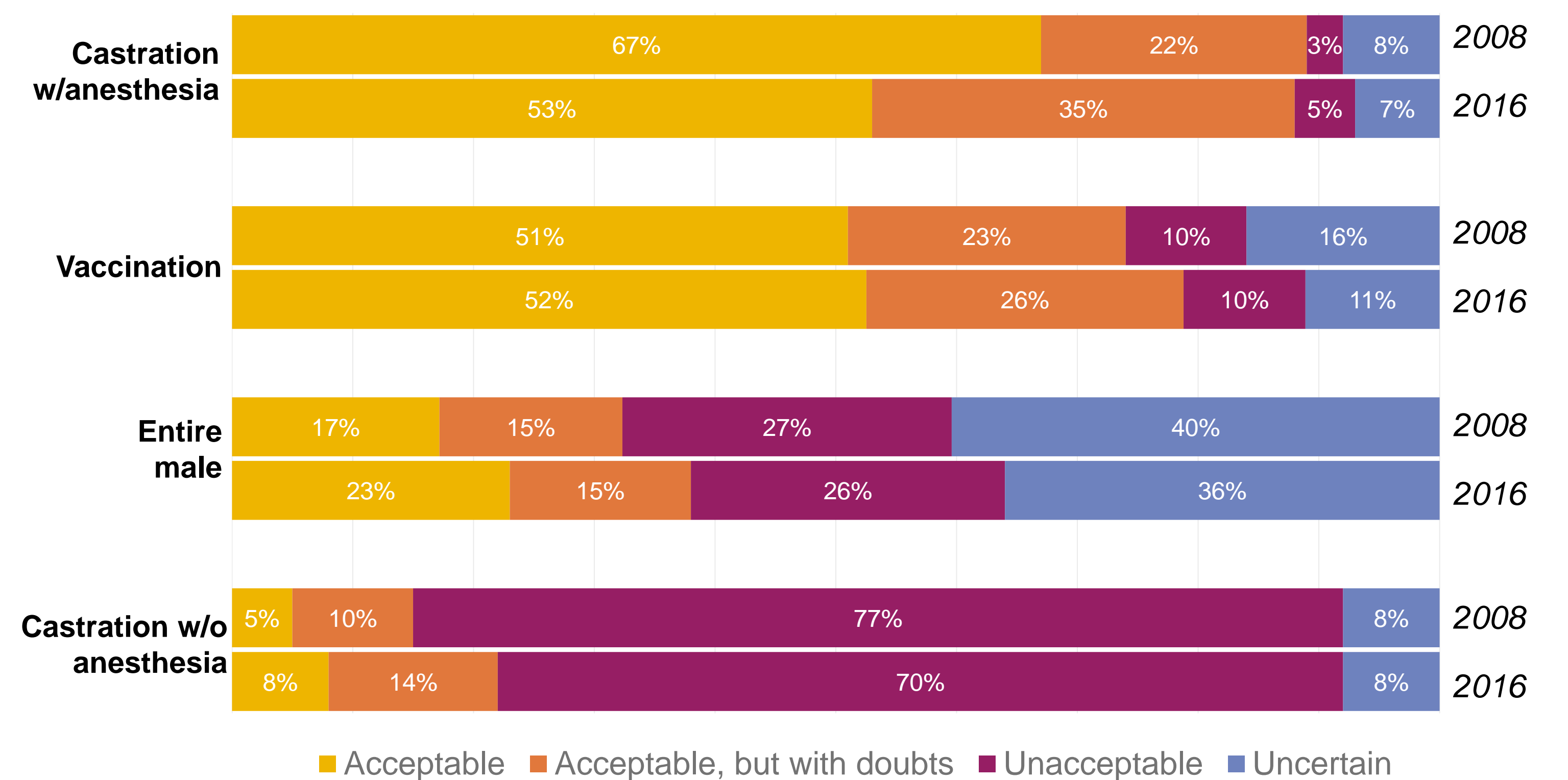


Figure 2. Change in consumer attitudes towards four different methods of castration from 2008 to 2016

## CONCLUSION

Norwegian consumers are content with the current practice of castration using local anesthesia, but the acceptance of today's method has declined since the original survey in 2008. The consumers also acknowledge vaccination against boar taint as an acceptable alternative to surgical castration, albeit slightly less so. Both in 2008 and 2016, approximately 40% of the respondents were uncertain about rearing of entire males as an alternative to castration, which may simply be due to lack of knowledge on the part of the consumer. Since 2008, animal welfare has gained more support as an important factor for the Norwegian consumers when evaluating each castration method. However, when informed that vaccination against boar taint may not result in boar taint levels as low as those seen with surgical castration, the pork quality concerns appeared to surpass the animal welfare concerns in that consumer acceptance of vaccination against boar taint slightly decreased while skepticism increased. Surgical castration without anesthesia was deemed unacceptable by most consumers, although an increase in acceptance was noticed in 2016 as compared to 2008.

### Reference

1. Fredriksen, B., Johnsen, A. M. S., & Skuterud, E. (2011). Consumer attitudes towards castration of piglets and alternatives to surgical castration. *Research in Veterinary Science*, 90(2), 352–357.

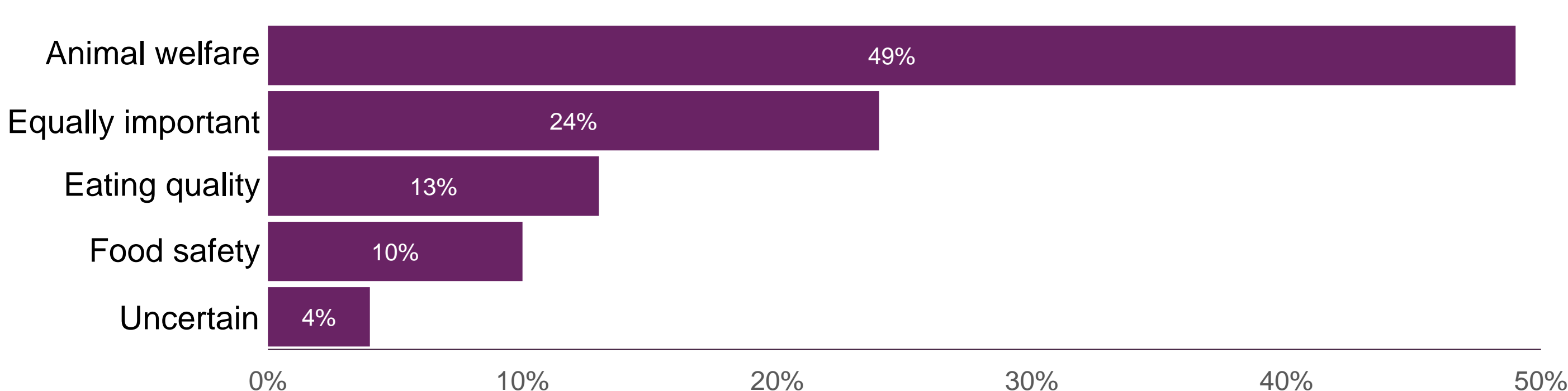


Figure 3. Most influential factors for the consumers when making a choice between the four castration methods

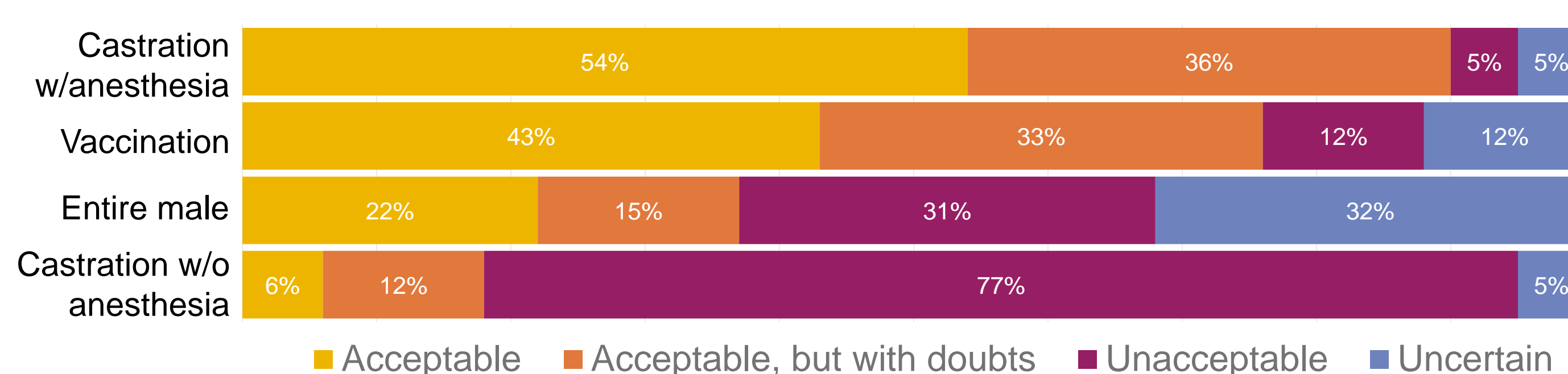


Figure 4. Consumer attitudes towards the different castration methods when provided additional information on vaccination and boar taint levels in meat