

Consumers' perceptions of chicken meat safety in South Africa

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Meat that is safe and suitable for human consumption is characterised as having been processed under adequate hygiene control, not containing chemical residues exceeding the established limits, not having been treated with illegal substances as specified in relevant national legislation, free of physical contaminants and not causing food-borne infection or intoxication when properly handled and prepared. In contrast to this objectively-defined view on meat safety, consumers' perceptions of the concept are highly subjective. Similar to quality perceptions, consumers use cues to predetermine the safety of chicken meat during purchasing and consumption.

Cues are stimuli that provide information about a product leading to a particular behaviour by the consumer, e.g. a choice. Intrinsic cues relate to physical characteristics of the meat product whereas extrinsic cues relate to the meat product but are not physically part of it. Understanding consumers' perceptions of the safety of chicken meat can provide valuable information to the chicken industry and public health educators since it is the most consumed meat in South Africa.

One of the objectives of my PhD study was to explore perceptions of a group of South African consumers on the safety of chicken meat based on intrinsic and extrinsic attributes and to identify related food safety risks. Data were collected through a web-based survey (863 participants). The survey respondents were asked how important 12 attributes of chicken meat were to them when judging the safety of raw chicken during purchasing. The attributes considered in the questionnaire were smell, colour, amount of visible fat, damaged packaging, price, sell-by date, use-by date, brand name, free-range, no growth hormones in feed, no brine injected into meat and country of origin.

The respondents were requested to rank the attributes from 1 being most important to 12 being least important.

The survey results indicated that the most important attribute to consumers when assessing the safety of chicken meat at point of purchase was smell, with a mean ranking of 4.37 ($p < 0.05$) (Figure 1). More than half of the respondents (67%) ranked this attribute lower than the central rank position (< 6), indicating its importance. Use-by date and sell-by date were the second most important attributes, followed by colour. The attributes, price, no growth hormones in feed and no brine injected into meat were considered equally important. The attributes considered to be least important were country of origin and free-range.

Cluster analysis was performed to distinguish different consumer groups based on their safety perceptions of chicken meat (Table 1). Three consumer clusters were identified and about a third of the consumers were in each cluster. Cluster 1 (37% of consumers) considered smell and use-by date as the most important, cluster 2 (30%) ranked packaging integrity, use-by date and country of origin as the most important, while sell-by date was assigned the highest importance by cluster 3 (33%).

Though smell, colour and date labels are good indicators of the quality of chicken meat, they do not reflect the presence of bacterial pathogens in chicken meat which can cause food-borne illnesses even when the meat is unspoiled. Since human pathogenic bacteria are almost always present in raw chicken, particularly *Salmonella* and *Campylobacter*, knowledge about microbial risks and safe handling practices for chicken meat need to be communicated effectively to prevent risks from pathogens at the consumer level.

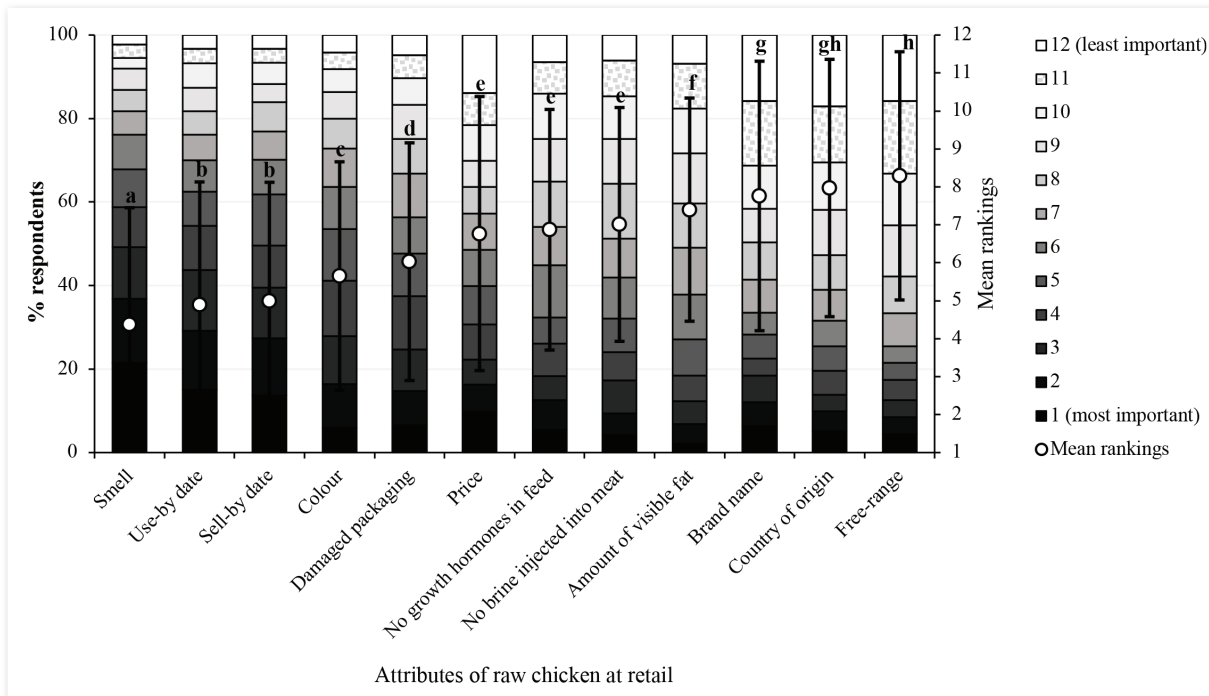


Figure 1: Ranking of the importance of attributes of chicken meat when assessed by consumers for safety during purchasing (Katiyo et al., 2020)

Consumers’ perceptions of the safety of chicken meat revealed in the study also provide valuable insight for the chicken industry. It was established that most of the consumers consider the two extrinsic attributes, absence of hormones and absence of brine, as relatively more important as indicators of safety of chicken meat than factors such as brand name, free-range, country of origin and amount of visible fat. This implies that chicken producers and processors may need to conduct market research on reasons why consumers seem to be unsatisfied with the safety of brined chicken meat and the supposed use of hormones during production. Although chicken meat is relatively cheap and the most consumed in South Africa, consumer trust is still paramount.

Therefore, the chicken industry may need to be more transparent regarding production and processing methods to meet consumer expectations. Furthermore, three distinct consumer segments were identified according to perceptions of the safety of chicken meat. Some consumers tended to rely more on either intrinsic or extrinsic attributes, while others indicated that both attributes are extremely important. Overall, the results suggest that the chicken industry may need to clearly communicate both intrinsic and extrinsic attributes of chicken meat to target consumers who rely on either or both attributes during purchase decisions.

References are available.

Table 1: Order of importance of attributes of chicken meat when assessed by consumers for safety during purchasing (Katiyo et al., 2020)

Rank order	Cluster 1 (n = 318)	Cluster 2 (n = 258)	Cluster 3 (n = 287)
Most important Least important	smell, use-by date	damaged packaging, use-by date, country of origin	sell-by date
	colour	smell, brand name, price, no growth hormones, no brine injected, sell-by date	smell
	sell-by date	colour, amount of visible fat	price
	damaged packaging	free-range	use-by date, colour
	no growth hormones, no brine injected		damaged packaging, brand name, no brine injected
	amount of visible fat, country of origin		amount of visible fat, free-range, no growth hormones
	free-range, price		country of origin
	brand name		