

tech knowledge

prosafebeef

STAKEHOLDER DIGEST

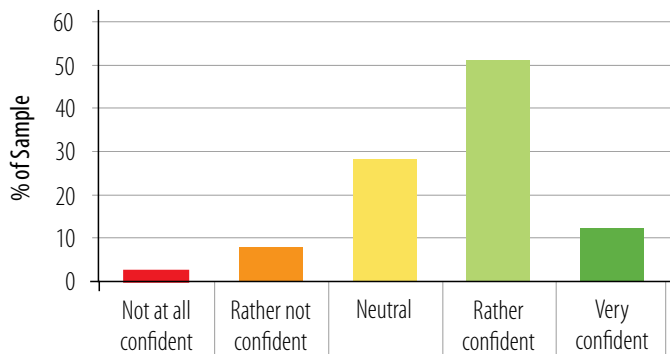
Consumer perceptions of beef safety and healthiness

The consumer research within ProSafeBeef focused on assessing European consumer needs for beef safety, healthiness, information and investigating the acceptability of novel processed beef products. The results of the consumer studies provided insight into consumer decision making processes by exploring how consumers perceive and assess the safety and healthiness of beef. Two consumer studies were conducted among beef consumers in various European countries. The first study was conducted in May 2008, consisting of focus groups in which 65 beef consumers discussed their attitudes towards and interest in beef safety, healthiness, information and technologies. In February and March 2010, a second consumer study was set up, in which an online questionnaire was completed by 2520 beef consumers to assess their acceptance of beef technologies, consumers' consumption behaviour and attitudes towards beef.

The results showed that consumer confidence in purchased beef was relatively high. Beef safety concerns such as the BSE crisis were still present at the back of consumers' minds, but in general European beef consumers were confident that the consumption of beef would not result in adverse health effects. However, the recent research and consumer interest in the association between red meat and cancer has caused confusion among consumers about the

healthiness of beef, and in particular about healthy red meat consumption levels. Clear communication about healthy beef consumption amounts could provide helpful guidelines for consumers.





European consumer confidence in beef and beef products (n=2,520) (France, Germany, Spain, Poland, UK)

Consumers felt individually responsible for the healthiness of the beef they consumed. They mostly related beef healthiness to types of cuts, consumption amount, and preparation methods,

each being individual consumer choices. This is largely in contrast with the perceived responsibility for beef safety, that consumers hardly recognised their own role in beef safety, and expected the beef industry to deliver safe products. The awareness of individual responsibility for health suggests that food industries and retailers could benefit from the supply of healthy beef products to consumers. Furthermore, it implies that consumers should be enabled to make correct judgements about the healthiness of their food, which is not always straightforward and feasible for an individual consumer.

Maximum efforts are required to avoid the occurrence of beef safety incidents. These efforts can be made visible through labelling or guarantees from independent party certification organisations. Labelled and branded beef were perceived as safe and healthy. As the labels indicate that the beef has undergone a certain type of control, consumers considered it as trustworthy.

Background and need for data/technology/innovation

The research activities within the ProSafeBeef consumer pillar focused on assessing European consumer needs for beef safety,

Meat is a main element of the diet in many parts of the world nowadays, particularly in developed countries where the consumption of animal protein per capita is the highest. The major sources of world meat production and consumption are pork (39%), poultry (30%) and beef (24%). The European Union (EU) has a dominant global position in terms of beef production and consumption. The current EU-27 beef market ranks globally second in size for consumption and third for production, with approximately eight million tonnes annual consumption and a similar, but somewhat lower level of domestic production.

Although beef constitutes an important element in many European consumers' diet, the share of beef consumption in overall meat consumption has been decreasing over the past 20 years, mainly to the advantage of poultry and pork. Beef consumption has become a quite controversial issue. Several factors have been – and still are – contributing to this shift in meat consumption behaviour: the increasing price of beef relative to other meat, the occurrence of beef safety crises, changing consumer preferences, increasing consumer concerns of safety, health and sustainability, the historically low innovativeness of the beef sector, and the inconsistent

quality of beef. The European beef sector has not always responded adequately to these changes.

The decreases in beef consumption levels during and after the BSE crisis showed that consumer attitudes and perceptions towards beef can have a direct impact on the profitability of the sector. Therefore, knowledge about what preoccupies beef consumers is indispensable for the sector to advance into a competitive consumer-oriented industry. Most studies about consumer perceptions on beef safety have been performed in the aftermath of the BSE crisis. Since then, the positive image of the nutritional value of red meat has often been overshadowed by diverging and possibly contradicting information about the safety and healthiness of beef.

The research activities within the ProSafeBeef consumer pillar focused on assessing European consumer needs for beef safety, healthiness, information, and investigating the acceptability of novel processed beef products. The results of the consumer studies provided insight into consumer decision making processes by exploring how consumers perceive and assess the safety and healthiness of beef.

The consumer studies

A description of the research undertaken.

To adequately assess consumer attitudes towards beef safety and healthiness, consumer studies were performed among beef consumers across various European countries. The countries were selected because of their significant beef market volume and potential, as well as for their strategic geographical location within Europe. The consumer studies were executed independently of each other, including different sets of participants, and at different points in time.

In May 2008, eight focus group discussions were conducted in the capital cities of France, Germany, Spain and the UK. In each country, one group of men and one group of women participated

in the study. Each group had seven to nine participants. In total, 65 beef consumers first discussed their perception of and interest in beef safety, beef healthiness and a beef eating quality guarantee, and afterwards they discussed their attitudes towards beef technologies. These discussions were transcribed and the content was analysed using NVIVO software (a powerful research tool to analyse textual data).

A second consumer study was conducted during February and March 2010. An online questionnaire was distributed among 2520 beef consumers in France, Germany, Poland, Spain and the UK. The survey assessed consumer acceptance of technologies that are applied at different stages of the beef chain, as well as consumers' beef consumption behaviour and attitudes towards beef. The statistical software SPSS was used to analyse the obtained quantitative data.

Trusted and distrusted actors and activities in the beef chain with relation to beef safety

Production	Processing	Distribution	Consumption
None	Slaughterhouses ¹	Quality labels	Consumer organisations
	Meat industries ¹	Certificates	
	Packaging firms ¹	Brands	
		Supermarkets/butcher	
		Retailers' recommendations	

¹ Actors that consumers distrust concerning beef safety and beef safety information provision

Main results

- The participants in the ProSafeBeef consumer studies were all beef consumers, showing relatively high confidence about purchased beef and beef products. European beef consumers were generally confident that the consumption of beef would not result in adverse health effects immediately.
- The focus group participants considered beef as a healthy component of the diet. Both positive (energy, muscle development, bone formation) and negative health effects (cancer, cardiovascular diseases, Creutzfeldt-Jacob disease) were expected outcomes from beef consumption. The negative effects of beef consumption on human health were perceived as related to the amount and type of beef consumed, the preparation method, and the presence of harmful residues in beef. The negative effects of beef consumption were not directly related to beef as the core product, but rather related to the 'side' and preparation ingredients such as butter, margarine, oil and sauce. To assess beef healthiness, consumers indicated to use several cues: labelled, branded, fresh and lean beef were perceived as healthy, in contrast with further processed and packaged beef.
- The focus group participants associated beef safety with national and international regulations, and with control of production methods, hygienic practices at the point of purchase and quality control of beef products. Personal experiences with beef safety issues such as the BSE food scare were still present at the back of consumers' minds.
- Consumers acknowledged that it is hard to assess beef safety. They developed different strategies to deal with the difficulties in assessing beef safety. One strategy was to stop or radically diminish beef consumption. A second strategy consisted of a cautious continuation of beef consumption, with a lasting awareness of beef safety issues. A third strategy was to adhere to a conscious lack of knowledge, preferring not to know too many details about the production and processing of beef and beef products. A fourth strategy related to the conscious use of beef safety cues such as colour, degree of processing, labels, origin of beef, and packaging type.
- The responsibility for beef safety was put mainly on actors that are situated early in the beef production chain, such as farmers, veterinarians, inspectors, abattoirs and scientists. Remarkably, consumers also reported to put the least trust in these actors, while putting more trust in actors in the distribution and retailing part of the beef chain, with who they are more familiar with. Consumers had a low awareness of their own responsibility for beef safety.

Key conclusion or impact for beef stakeholder

International dietary recommendations systematically advocate for increased consumption of fruits and vegetables, a variety of foods, and moderate consumption of meat, especially red meat and processed meat products. Consumers are faced with conflicting messages about whether beef and beef products may be healthy. Confusion about healthy amounts of red meat consumption might influence consumers' behaviour. The awareness of individual responsibility for health suggests that food industries and retailers could benefit from the supply of healthy beef products to consumers. Furthermore, it implies that consumers should be enabled to make correct judgements about the healthiness of their food, which is not always straightforward and feasible for an individual

consumer. Clear communication about healthy beef portions could provide helpful guidelines for consumers.

Maximum efforts are required to avoid the occurrence of beef safety incidents. These efforts can be made visible through labelling or guarantees from independent certification organisations. Labelled and branded beef are perceived as safe and healthful. Quality type indicators are considered among the most important information cues used by consumers when making beef purchasing decisions. All actors in the beef supply chain and related institutions or authorities are requested to provide adequate information in order to reduce consumer uncertainty.

Main scientific publications:

Van Wezemael, L., Ueland, Ø., Rødbotten, R., De Smet, S., Scholderer, J., and Verbeke, W. (2012) 'The effect of technology information on consumer expectations and liking of beef' *Meat Science* doi: 10.1016/j.meatsci.2011.09.005 in press.

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de Barcellos, M.D., Kügler, J.O., Grunert, K.G., Van Wezemael, L., Perez-Cueto, F.J.A., Ueland, Ø., and Verbeke, W. (2010) 'European consumers' acceptance of beef processing technologies: a focus group study' *Innovative Food Science & Emerging Technologies* 11: 721–732.

Van Wezemael, L., Verbeke, W., Kügler, J.O., de Barcellos, M.D., and Grunert, K.G. (2010) 'European consumers and beef safety: perceptions, expectations and uncertainty reduction strategies' *Food Control* 21: 835–844.

Van Wezemael, L., Verbeke, W., de Barcellos, M.D., Scholderer, J., and Perez-Cueto, F. (2010) 'Consumer perceptions of beef healthiness: results from a qualitative study in four European countries' *BMC Public Health* 10: 342.

Verbeke, W., Van Wezemael, L., de Barcellos, M.D., Kügler, J.O., Hocquette, J.F., Ueland, Ø., and Grunert, K.G. (2010) 'European beef consumers' interest in a beef eating-quality guarantee. Insights from a qualitative study in four EU countries' *Appetite* 54: 289–296.

Verbeke, W., Perez-Cueto, F.J.A., de Barcellos, M.D., Krystallis, A., and Grunert, K.G. (2010) 'European citizen and consumer attitudes and preferences regarding beef and pork' *Meat Science* 84: 284–292.

For further information, please contact:

Wim Verbeke,
Ghent University,
E-mail: Wim.Verbeke@UGent.be

Lynn Van Wezemael,
Ghent University,
E-mail:

Lynn.VanWezemael@UGent.be

www.prosafebeef.eu