

**Title:** Can quality replace quantity? Pleasure-driven reduction in red meat consumption.

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**Background and objective:** With the aim of reducing red meat consumption, consumer research has to a large extent focused on red meat substitution or reduction alternatives [e.g. Austgulen, 2014; Schlosler et al, 2012; Lea and Worsley, 2003; De Bakker and Dagevos, 2012]. Yet, many consumers desire the sensory qualities of red meat and no truly successful alternative has been found. In the GroBEat project, an alternative strategy is proposed: to replace quantity with quality. More specifically, to let a desire for high quality red meat products drive a lower consumption quantity and product demand. Put another way, to work with human constraints instead of against them.

Sensations of hunger and satiety are major determinants of food intake. Behind these sensations are processes mediated by the food's sensory characteristics. Sensory perceptions drive the motivation to begin/continue eating, as well as the satiation that develops during a meal/persists between meals, by increasing or lowering sensory desires. Sensory satisfaction can be regarded a state of contentment (where desires are fulfilled) [Cornil & Chardon, 2016; Møller, 2015], and has been associated with a lower need and desire to continue eating [Wang et al, 2001; Pelchat et al, 2004; Lemmens et al., 2009; Møller, 2013; Andersen et al, 2017]. Thus, sensory satisfaction holds the potential to be used as a strategy to limit intake, without compromising the human well-being.

**Materials and method:** Building on previous evidence, our overall hypothesis is that sensory satisfaction is a key driver of satiation/satiety. More specifically, we hypothesize that consumption of red meat of a high and complex sensory quality is associated with high levels of sensory satisfaction, rapid satiation, and thus drives a lower intake during a meal and at the same time lowers snack desire after a meal. Consumers will participate in two steak-meal sessions, consuming: 1. Steak from Holstein organic dairy bull calves, raised in a nurse cow grass-based system, known to bring pronounced sensory characteristics [e.g. Therkildsen & Vestergaard, 2014; Corbin et al, 2015] slaughtered at two ages and 2. A comparable cut from a conventional indoor raised bull calf. Dynamics in sensations of satisfaction, satiation and desires will be studied before, during and after the meals. Data from the consumer study are merged with data from an objective sensory profiling test, to study sensory drivers of satisfaction, satiation and desires for a holistic understanding of the eating behavioural effects.

**Results:** With this presentation, we wish to present the innovative perspective of utilising sensory satisfaction as a strategy for replacing food quantity with quality in sustainable food consumption;

- the perspective and relevance of working with human constraints instead of against them
- the confirmatory evidence and application potential of using sensory satisfaction as a strategy to alter eating behaviour and encourage sustainable food consumption
- the results from a research project studying sensory satisfaction for the purpose of reducing red meat consumption

**Conclusion and discussion:** A greater insight into the sensory mediated processes involved in human eating behaviour will be critical for understanding and guiding the future agenda of a healthy eating behaviour and a sustainable food consumption.

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