Determining consumer preferences – its more than just talk – the need for organoleptic analysis

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Overview of presentation

- Increasingly we're investing in research to "enhance" food product quality in hopes of increasing value…
  - New varieties (pest and disease resistant, climate suited)
  - Perishability, storage life
  - Labels (credence information such as "organic")
- BUT, what if what if that product changes the sensory attributes
- May be able to sell the product once, but what about twice?
- Important to understand all quality cues consumers use
- Must understand the impact of product "improvements" on sensory or organoleptic attributes

Organoleptic analysis?

- "…of or pertaining to the sensory properties of a particular food or chemical."
- Typical sensory properties of a food product
  - taste (sweet, sour, bitter, flavour)
  - appearance
  - color
  - aroma
  - size
  - firmness
  - sound (e.g., the "snap" or "crack" when biting an apple)
  - mouth feel (tenderness, juiciness)
  - any other sensations related to eating a food

An example of how sensory information matters…

Example: Development of grass-finished beef products

- Determine factors influencing consumers' preferences and WTP for grass-finished beef steaks.
- What product attributes and socio-demographic, behavioral factors affect consumers' willingness to pay for grass-finished beef
  - Organoleptic – tenderness, juiciness, flavour, overall acceptability
  - Visual factors (e.g. colour)
  - Production attributes
  - Nutritional attributes
  - Demographics, psychographics, behavioural

Umberger, Boxall and Lacy, 2009, "Role of credence and health information in determining US consumers' willingness-to-pay for grass-finished beef." *Australian Journal of Agricultural and Resource Economics*. 53, 603-623.

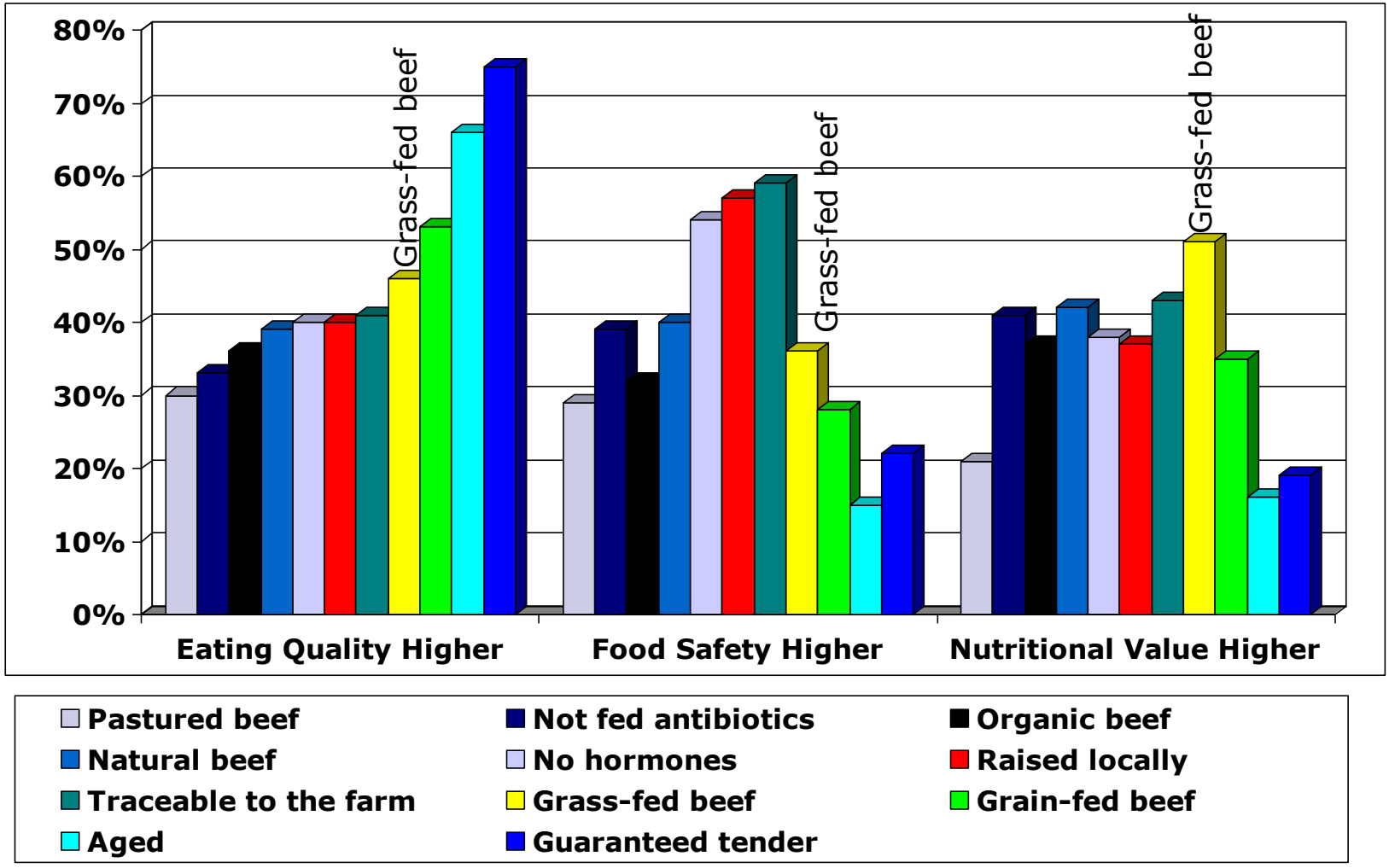
Methods

- 250 consumers randomly selected
- 12 taste panels in each location (6-12 consumers per panel)
- Paid $50 and endowed with a one-pound pack of frozen steaks
- Surveyed on purchasing behavior, preferences, attitudes, perceptions, knowledge of labeling claims & socio/psycho-demographic characteristics
- Introduction of economic experimental auction procedures
- Practice auctions
- Sensory and visual evaluation and binding auctions w/ 6 pairs of steaks w/ varying amounts of information

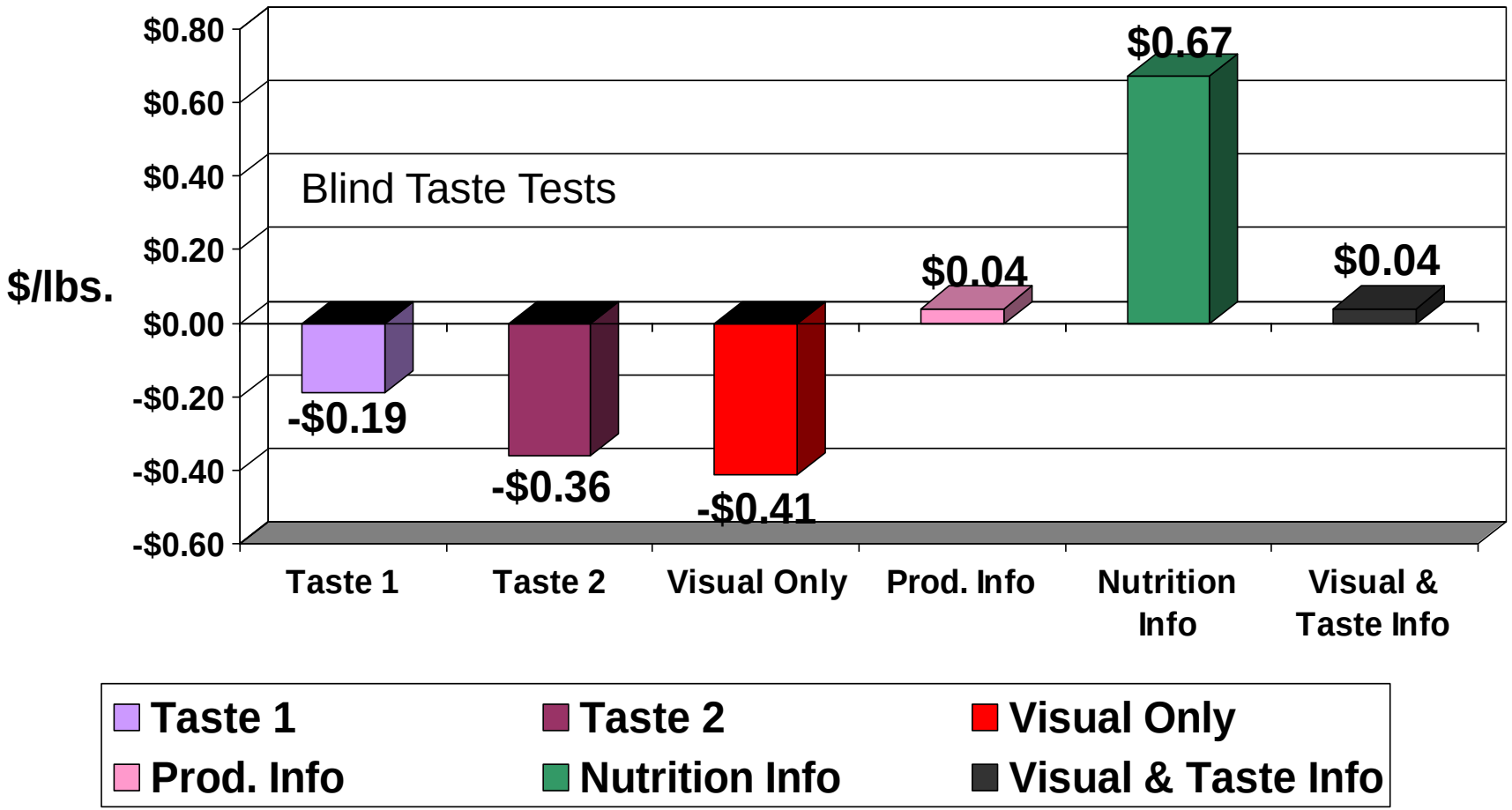
Previous Research: Labeling Claims

- US consumers prefer the taste of grain-fed beef
- Grass-fed beef products contain *elevated* concentrations of some “good nutrients”
  - B-carotene (Vit. A)
  - Omega-3 fatty acids
  - Conjugated linoleic acid (CLA)
- Higher levels of omega-3 fatty acids have a positive effect on consumer choice,
  - …But price, fat and calories most important (McCluskey et al., 2005)

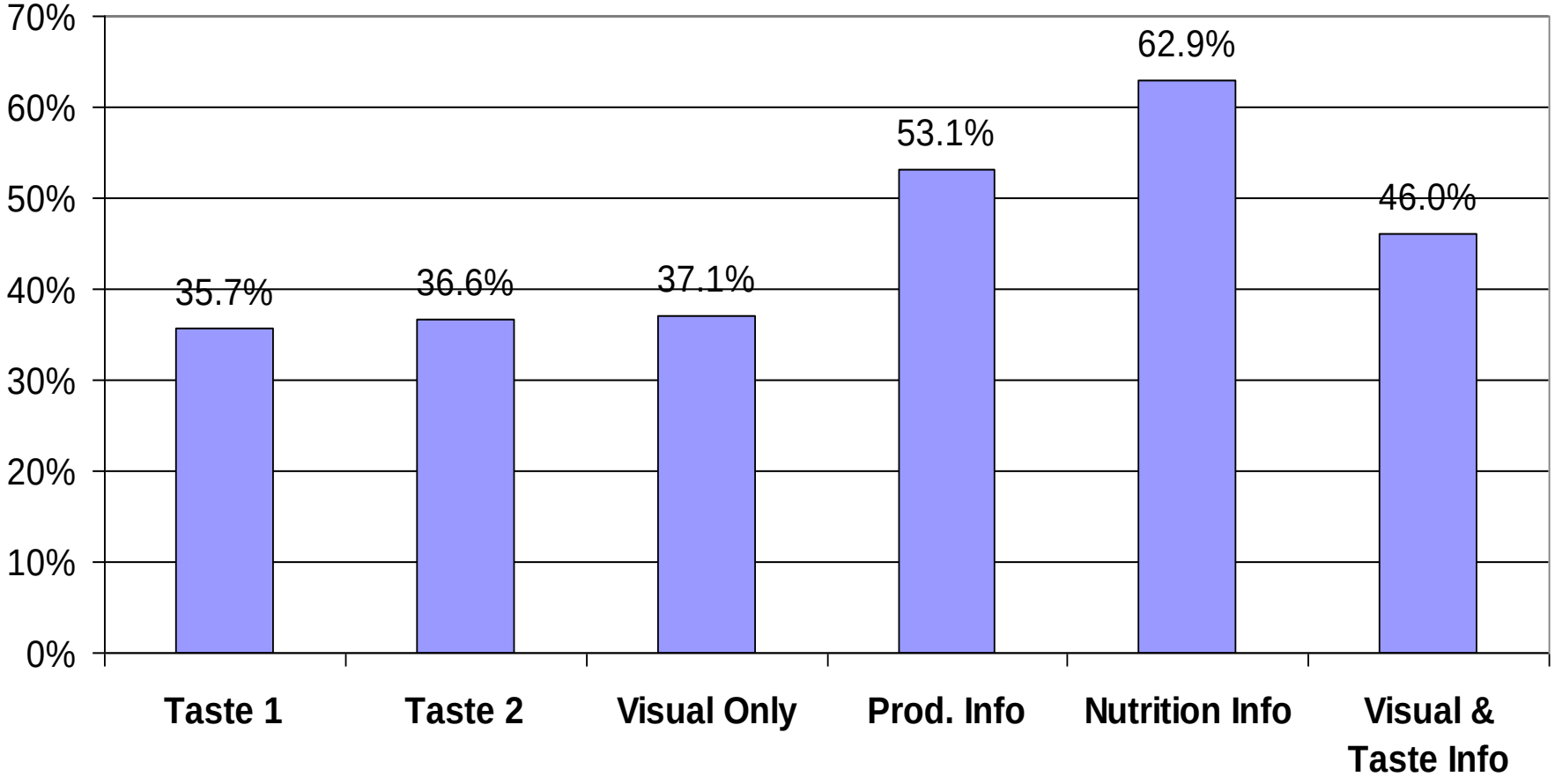
Perceived Eating Quality, Food Safety and Nutritional Value of Beef with Attributes



Impact of Information on WTP for Grass-fed Beef



% Consumers preferring grass



Preference Consistency?

- 29% of consumers who preferred GRASS with market information changed their preference to GRAIN in when presented with full information
  - Taste of GRASS was “bad” enough to cause them to switch to GRAIN
- 13% of consumers who preferred the GRAIN changed their preference to GRASS after tasting
  - Information played a more important role than taste

Conclusions and Implications: R4D Perspective

- Understanding the quality attributes important to consumers is important for value chain development
  - Ultimately extrinsic attributes will sell a product once, but organoleptic quality is also important in growing demand
- Exposing producers to organoleptic information is also helpful
  - e.g. impact of production methods on quality
- Sensory research does not need to be difficult- you do not need “trained” panels
  - But, you do need products to test
  - Need methods to measure consumers’ perceptions of organoleptic quality

Questions?

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