Section 3.1 Consumer Tastes & Preferences: What Research Indicates

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Section Summary

- Understand consumer adoption of innovations
- Show current trends in consumer tastes and preferences
  - Throughout the U.S.
  - Throughout the state
  - Grass-fed vs. corn-fed
- Summarize marketing implications

Understanding Consumer Adoption Of New Products

- Important to understand consumer behavior about new products when targeting a niche segment
- Appropriate to target groups that value specific characteristics of your product (grassfed, natural, etc.) and consumers who welcome change
- Sociology has developed a system to classify consumers by their attitudes toward change (see following table and Appendix Figure 1)

Consumer Adoption Of Innovations

Innovation Category	Category Size	Description
Innovator	2.5%	Very eager to try new ideas and take risks that products may fail
Early Adopter	13.5%	Leaders who have a reputation for choosing successful ideas see strategic advantage in adopting an innovation
Early Majority	34%	Follow in adopting an innovation, but make a deliberate decision to adopt
Late Majority	34%	Skeptics who adopt after innovation becomes norm, pushed by peers to adopt
Laggard	16%	Traditionalists who are fixated on the past and the last to adopt

Put Theory To Practice: Target Your Consumers

- Use adoption model to assess appropriate product development and promotion plans
  - Assume both adoption categories and preferences for beef characteristics are important
- First, look at what consumers prefer and have adopted at the national level
- Next, examine particular consumer segments in Colorado

Growing Segment Wants Direct Market Experience

Consumers want:

- Better flavor
- Nutrition, healthy, safe
- Pleasing aesthetics
- Heritage/nostalgia
- Agritourism
- Convenience

Source: Desmond A. Jolly. 2002. "Farmers Markets: Trends and Prospects". Small Farm News. Vol. 3. University of California Cooperative Extension.

Farmers Markets Are Booming…

- By August 2000, 2,863 in operation; 63% increase since 1994
- USDA-AMS found customers spent $306 per market season in 2000
- A 2001 USDA press release said sales would top $1 billion “with most of that money going directly to small family farmers“
- As a result, the 2002 Farm Bill includes programs to support farmers market activities and institutions

Source: Desmond A. Jolly. 2002. "Farmers Markets: Trends and Prospects". Small Farm News. Vol. 3. University of California Cooperative Extension.

New Opportunities Create New Markets

- “Consumer-driven” product markets vs. “supply-driven” commodity markets
- Changing U.S. economy and demographics
- Technology improves products
- Global markets - opportunities to expand sales

Consumer-Driven Vs. Supply-Driven Markets

- Markets evolving towards more differentiated and consumer-oriented products

- Consumers demanding more variety and convenience
  - Supermarkets carry more items
  - Increased number of ready-to-eat entrees and side dishes

U.S. Population Is Changing

- Grew from 152 to 280 million from 1950 to 2000
- Projected at 323 million by 2020
- More single and single-parent households
- Ethnic diversity is up: non-white population increased 5% from 1990-2000
- Median income per capita was $22,851 in 2001; increased by 23% from 1991 ($18,526)

Changing Demographics

	1960	1980	2000
U.S. pop (millions)	178	226	280
Households (millions)	53	80	105
Single parent HH (%)	26	38	46
Female head (millions)	9	20	30
Both work (%)	26	43	61
Metro (%)	70	74	81

Changes Mean:

- Need more food for growing population
- Single and single-parent households demand quick, easy-to-prepare meals
- Growing ethnic diversity sparks demand for more varied cuisine
- People with higher incomes demand more prepared foods

➔ See Appendix 3.1, Figures 2-5

As Incomes Rise, Consumers...

- Upgrade their diets (eat more meat)
- Increase food variety (ethnic, world foods)
- Spend a smaller share of income on food
- Demand more value-added marketing services, especially convenience
- Eat away from home more often
- Mix social concerns with food purchases (environment, animal welfare, world hunger, etc.)

➔ See Appendix 3.1, Figures 2-5

What Do Consumers Prefer, Corn-Fed Or Grass-Fed?

- Study conducted to determine consumers’ tastes and preferences and willingness to pay for them
- Performed consumer taste panels
- Paired samples of beef (1 domestic, 1 foreign):
  - Australian grass-fed with United States corn-fed
  - Canadian barley-fed with United States corn-fed

Source: Wendy Umberger, Chris Calkins, Dillon Feuz, & Bethany Sitz. "Consumers' Preferences and Willingness-to-Pay for Beef Originating from the U.S., Canada, and Australia". Paper presented at the 2003 Western Ag Econ Assoc Meetings.

Corn-Fed Vs. Grass-Fed, Perceived Differences

- Consumers note significant difference between domestic corn-fed beef and foreign grass-fed/barley-fed beef
- Rate corn-fed beef (domestic) an average of 1 score higher for flavor, juiciness, tenderness and overall, than grass-fed beef (Australian)
- Perceive slight difference between domestic beef and Canadian (barley-fed); rate domestic an average 0.2 of a score higher

➔ See Appendix 3.1, Figures 6-7

Source: Wendy Umberger, Chris Calkins, Dillon Feuz, & Bethany Sitz. "Consumers' Preferences and Willingness-to-Pay for Beef Originating from the U.S., Canada, and Australia". Paper presented at the 2003 Western Ag Econ Assoc Meetings.

Consumers Willing To Pay More For Domestic Corn-Fed

- In general, most consumers preferred corn-fed beef over Australian grass-fed

- Consumers in Denver and Chicago preferred the taste of corn-fed beef and were willing to pay a higher premium for it

➔ See Appendix 3.1, Figure 8

Corn-Fed Vs. Grass-Fed: Results & Implications

- General population prefers corn-fed beef over grass-fed
- Consumers are willing to pay a premium for the product they prefer
- Potential small niche market exists for those who prefer grass-fed (20% of the Denver-Chicago sample prefer grass-fed)

➔ See Appendix 3.1, Figures 9-10

Source: Wendy Umberger, Chris Calkins, Dillon Feuz, & Bethany Sitz. "Consumers' Preferences and Willingness-to-Pay for Beef Originating from the U.S., Canada, and Australia". Paper presented at the 2003 Western Ag Econ Assoc Meetings.

Regional Consumer Tastes & Preferences

Two studies completed:

1. Survey by Kamina Rosenstiel, Dawn Thilmany, Wendy Umberger and Marcia Bugbee for Colorado Homestead Ranches, funded by a USDA value-added grant

2. Panel study of natural meats demand was conducted by Ed Sparling, Jennifer Grannis and Dawn Thilmany with funding from Rocky Mountain Farmers Union

1. Colorado Homestead Ranches Study

- Determined consumer purchase motivation and how consumers ranked product attributes

- Surveyed people who shop at:
  - Farmers markets
  - CHR's Homestead Market
  - Other locations that sell CHR natural beef products

CHR Study Results: Purchase Motivations

- Support local agriculture and small business
- Trust the quality, flavor, freshness and safety of the product
- Not as motivated by:
  - Colorado Proud Program
  - Idea of personal relationship with producer

➔ See Appendix 3.1, Figure 11

Source: Kamina Rosenstiel, Dawn Thilmany, Wendy Umberger, and Marcia Bugbee. 2002. "Colorado Homestead Ranches: Value Added Beef Products and the Local Commodity Market".

CHR Study Results: Product Attribute Rank

- Highest rank: quality, freshness, convenience, juiciness & leanness
- Moderate: source assurance, grass-fed, natural & premium brand
- Lowest: frozen and organic

➔ See Appendix 3.1, Figure 12

Source: Kamina Rosenstiel, Dawn Thilmany, Wendy Umberger, and Marcia Bugbee. 2002. "Colorado Homestead Ranches: Value Added Beef Products and the Local Commodity Market".

2. Panel Study On Natural Meats Demand

- Provide base for a small Western CO producer group to establish direct marketing strategies
- Producers needed to know:
  - Customer buying behavior, differences between rural & urban regions
  - Potential interest in freezer beef
  - Willingness to pay for natural steak & ground beef
  - Market share associated with various price levels

Panel Study On Natural Meats Demand

- Surveyed a random sample of the Intermountain Region (Colorado's Front Range and Western Slope, urban New Mexico, Four Corners area)
- Survey was conducted by the National Family Opinion Organization

Buying Behavior, Geographic Differences

- Western Slope: most potential for producer sales (24% buy some meat directly from producers)
- Urban New Mexico: least potential for producer sales (4% buy some meat directly from producers)
- Rural: greatest potential for freezer beef producer sales, makes logistical sense – go to store less often
- Urban: more potential for specialty shop and natural food store sales

➔ See Appendix 3.1, Tables 1-2

Freezer Beef Interest

- Households with freezers and hunters (large overlap) most likely buy directly from producers
- Western Slope and Four Corners more likely to buy from producers than consumers from the Front Range and urban New Mexico
- Fewer freezer beef sales in urban areas, but target market size may be potentially large due to denser population

➔ See Appendix 3.1, Table 3

Attribute Importance At Different Price Premiums

- As premiums increase on natural steak, demand for grass-fed beef and antibiotic-free or hormone-free beef increases

- Natural ground beef ratings are less than steak, but follow similar pattern

➔ See Appendix 3.1, Figures 13-14

Source: Ed Sparling, Jennifer Grannis and Dawn Thilmany. 2003.
"Final Report: Panel Study of Natural Meats Demand".

Willingness To Pay

- Consumers of natural beef are willing to pay higher premium for natural steak and ground beef than typical consumers

- Percent of people willing to pay more than $1.00/lb. above conventional price drops quickly for both natural steak and ground beef

➔ See Appendix 3.1, Figures 15-16

Source: Ed Sparling, Jennifer Grannis, and Dawn Thilmany. 1998. "Regional Demand for Natural Beef Products: Urban vs. Rural Willingness to Pay and Target Consumers".

Market Share In Colorado

- Like willingness to pay results, market share drops quickly when both products are priced higher than $1.00/lb. above conventional price
- Important to consider costs of producing natural beef when looking at consumer willingness to pay
  - For example: irrigated pastures, time to slaughter, slaughter costs, byproduct values

➔ See Appendix 3.1, Figures 17-18

Source: Ed Sparling, Jennifer Grannis and Dawn Thilmany. 2003.
"Final Report: Panel Study of Natural Meats Demand".

Marketing Implications In Colorado Target Market

- Target market is accessible and local
- Volume demanded is manageable
- Consumers with freezers able to store large volumes
- Products are less price sensitive at lower premium levels

Source: Ed Sparling, Jennifer Grannis and Dawn Thilmany. 2003. "Final Report: Panel Study of Natural Meats Demand".

Marketing Implications In Colorado Target Market

From both studies, target market demands:

- Product free of antibiotics and hormones
- Fresh product that is nutritious
- Grass-fed product

Appendix 3.1

Figures and tables - Section 3.1

Figure 1:
Distribution Of Consumer Adoption Categories

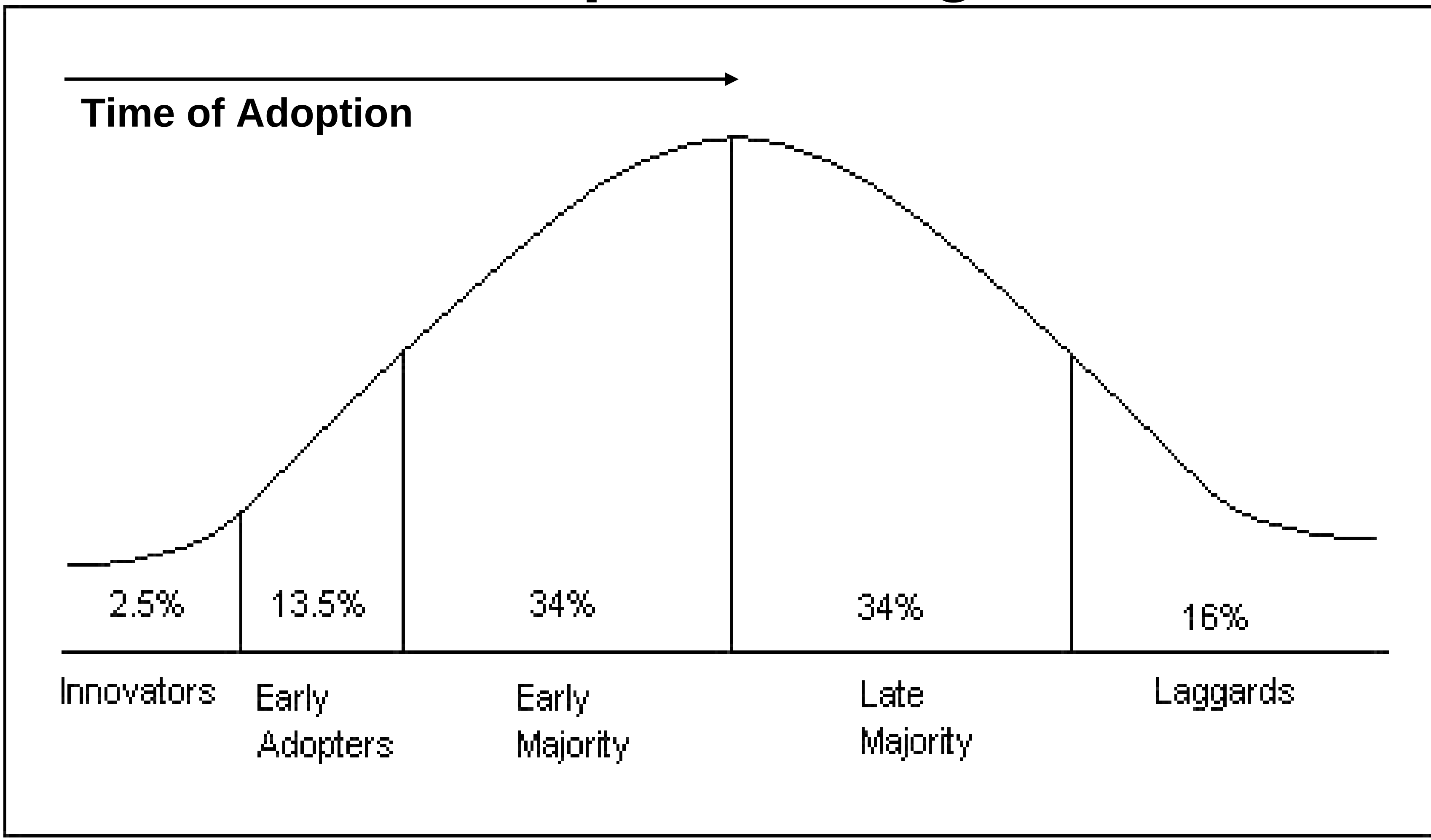
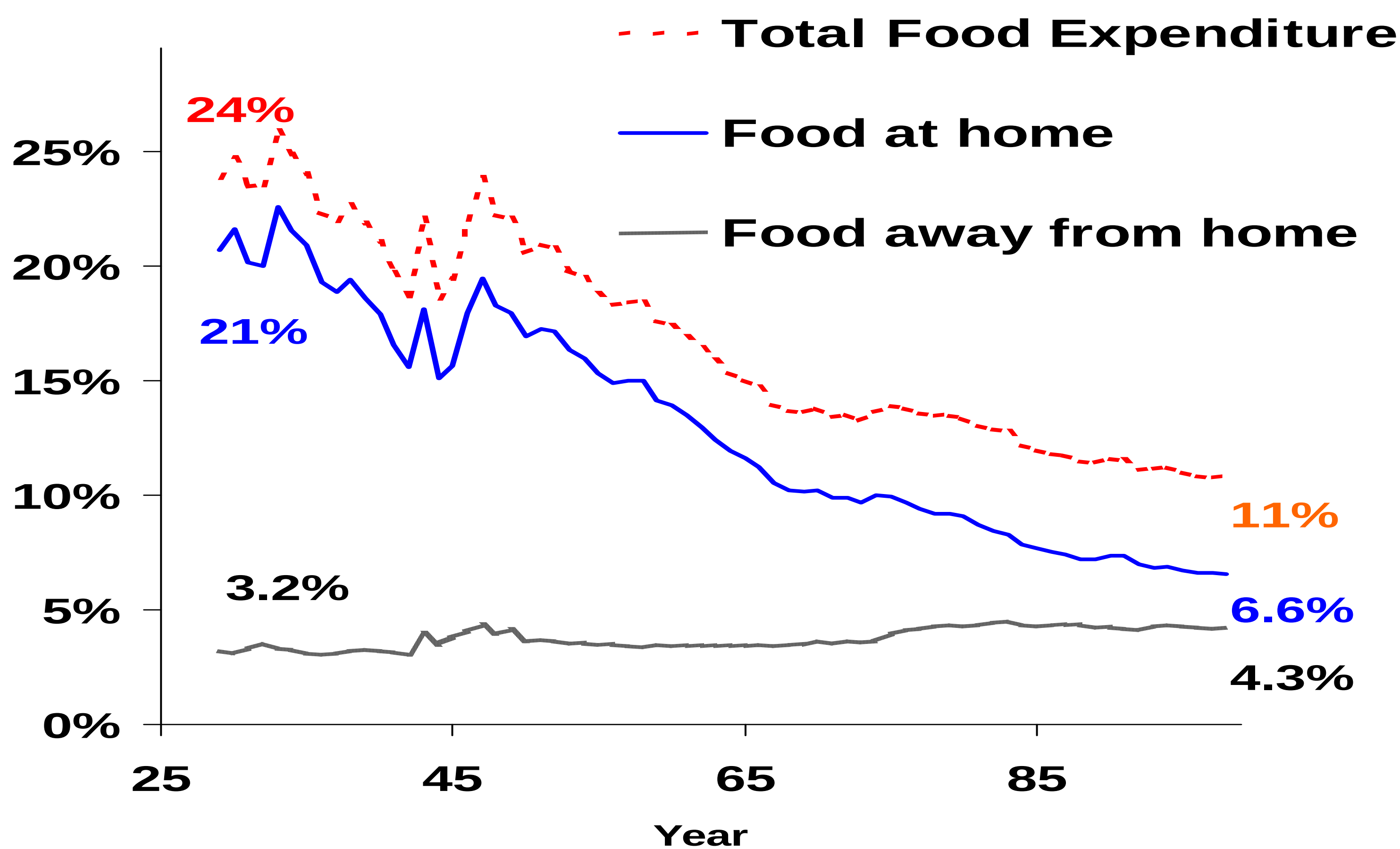
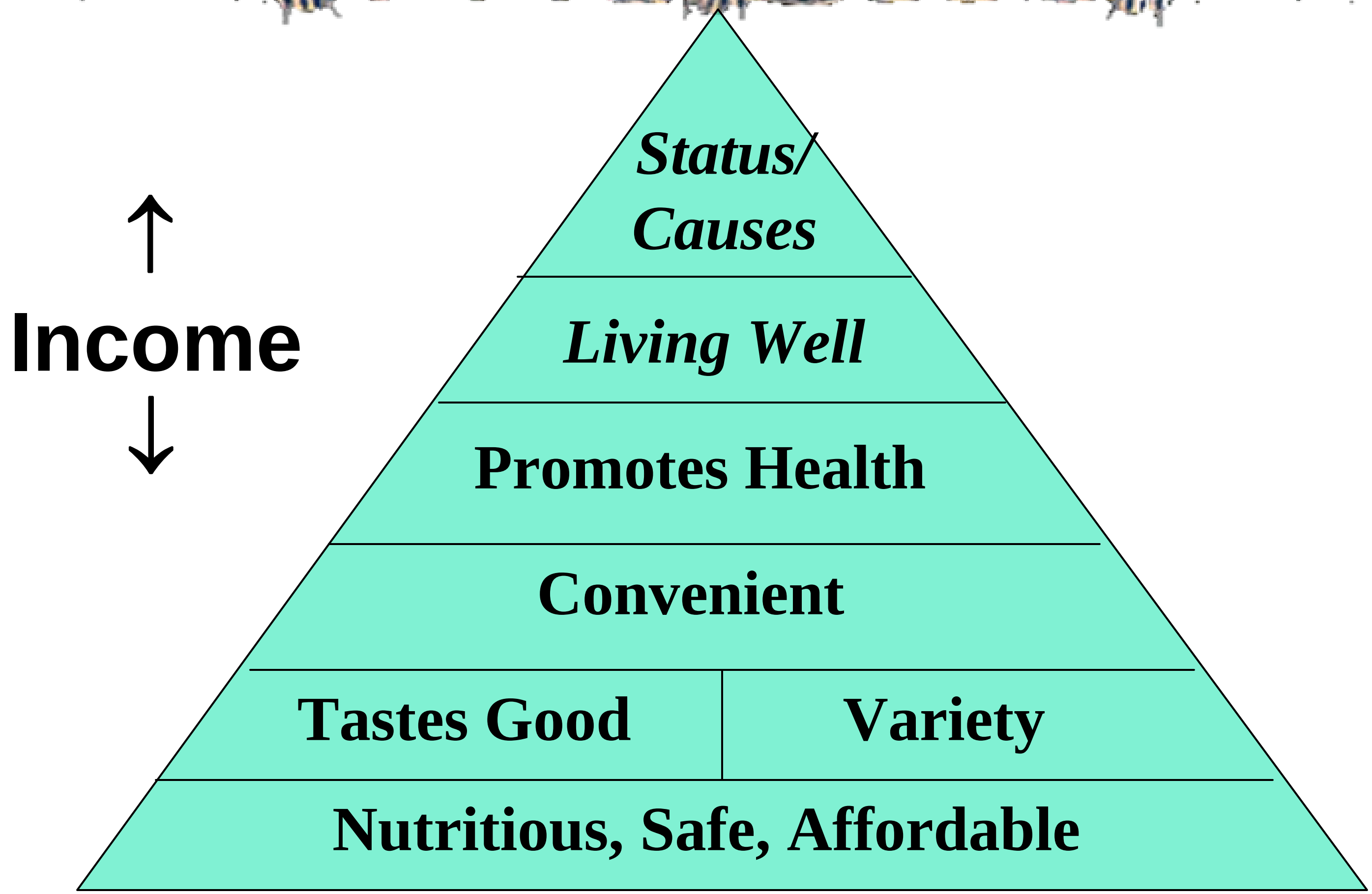


Figure 2:
Consumers Spend Less Of Their Income On Food



Source: Jean Kinsey. 2000. "The Changing Global Consumer". Presented at the 2000 IAMA World Food & Agribusiness Congress. Chicago, IL.

Figure 3: As Income Changes, Consumer Preferences About Food Change



Source: Jean Kinsey. 2000. "The Changing Global Consumer". Presented at the 2000 IAMA World Food & Agribusiness Congress. Chicago, IL.

Figure 4:
Consumers Spend More On Fast Food, Specialty Items Than Groceries

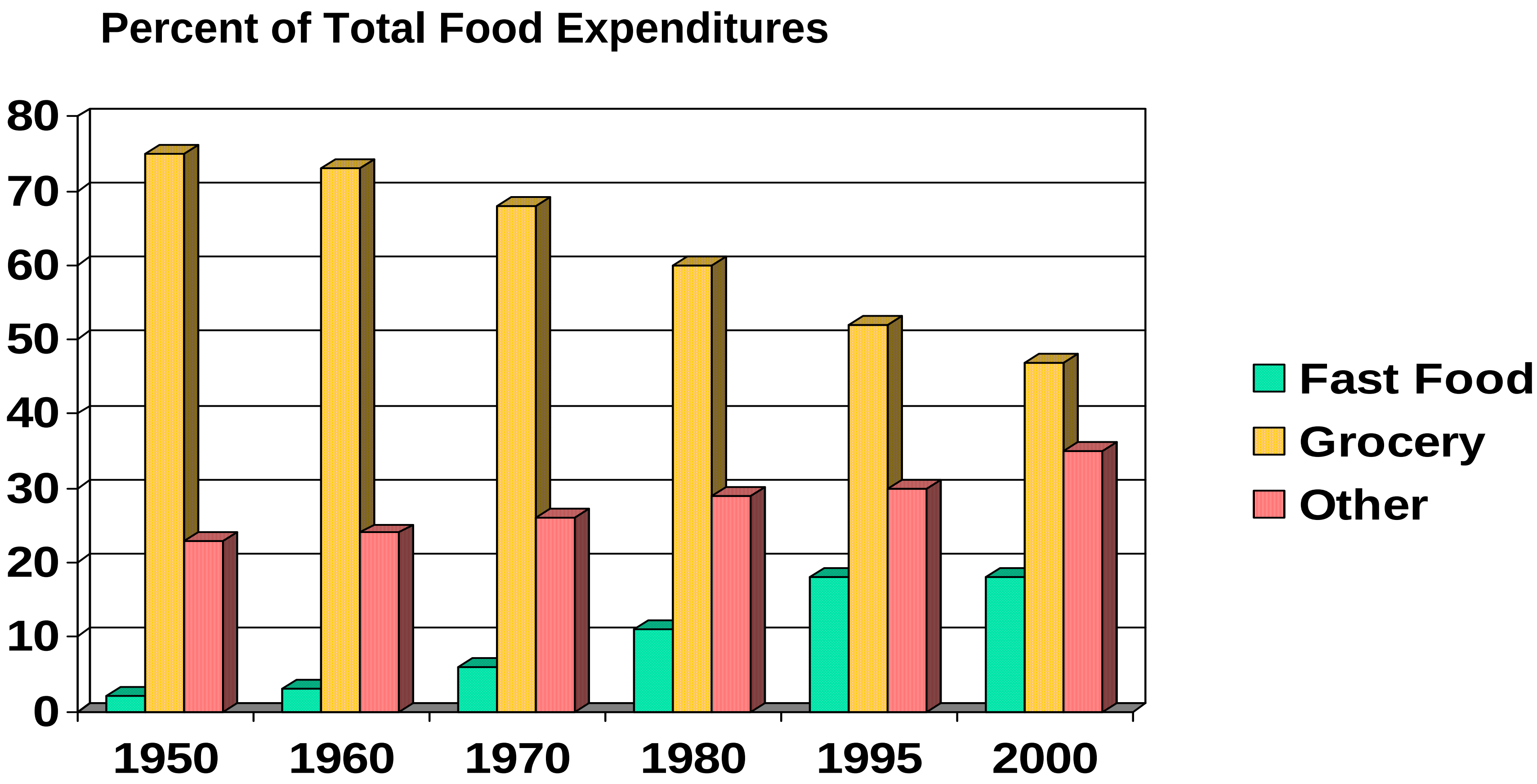


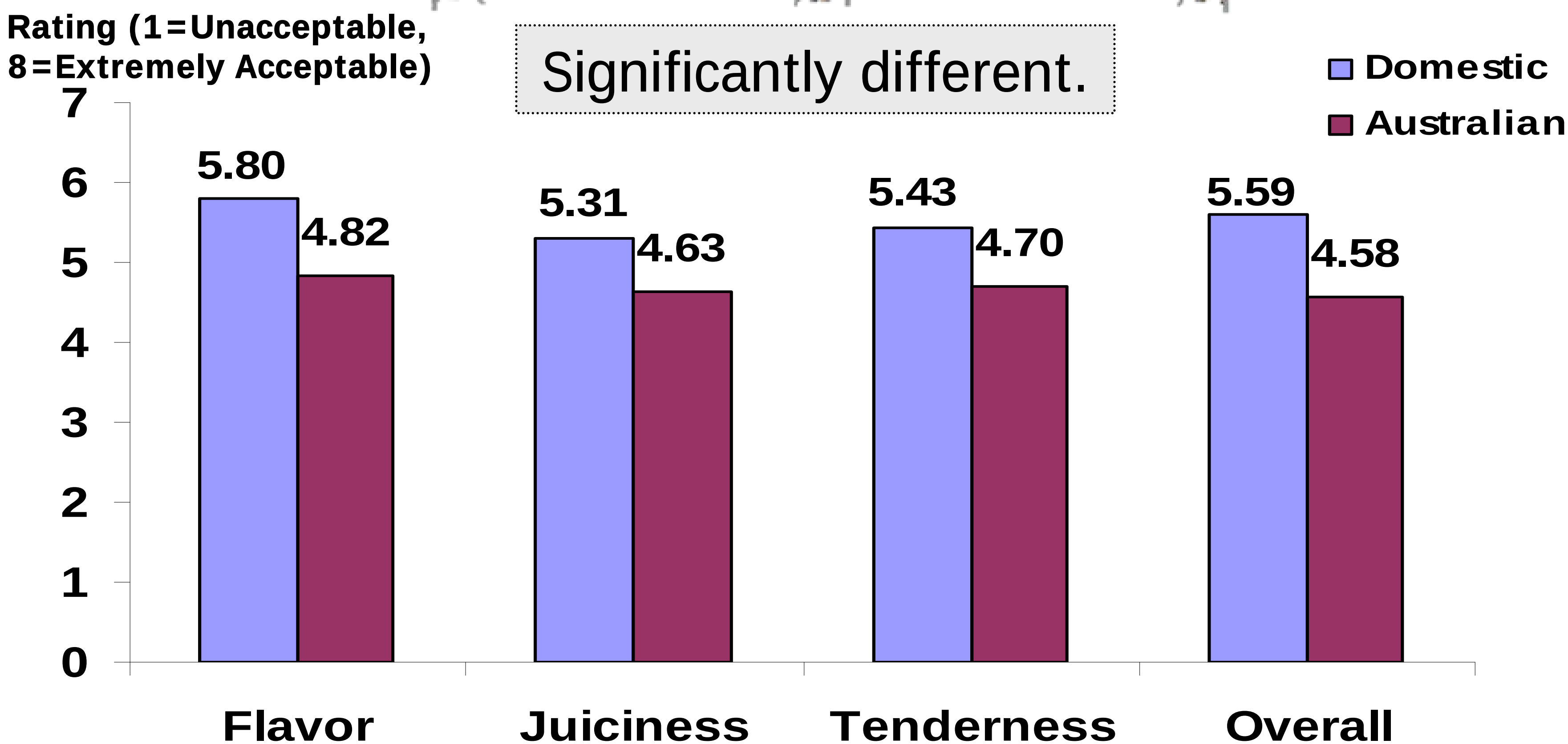
Figure 5: Major U.S. Food Consumption Trends, 1960-2000

- Nominal retail food prices
- Consumer food expenditures
- Pounds eaten per capita
- Daily calories
- Eating out
- Demand for marketing services

- Share of income spent on food
- Time spent cooking at home
- Nutrition ???

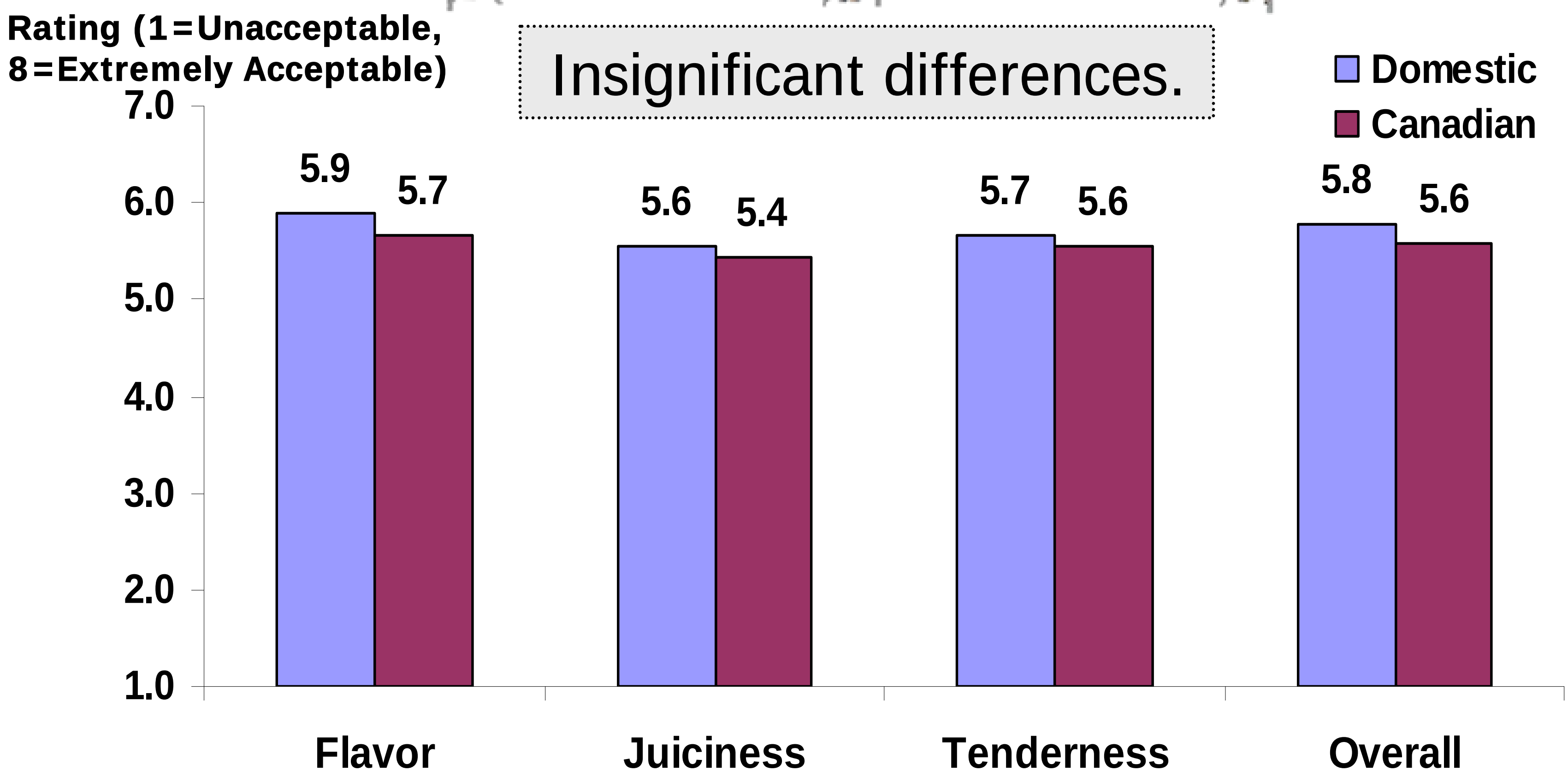
Source: Jean Kinsey. 2000. "The Changing Global Consumer". Presented at the 2000 IAMA World Food & Agribusiness Congress. Chicago, IL.

Figure 6:
Perceived Difference Between Australian & Domestic Beef



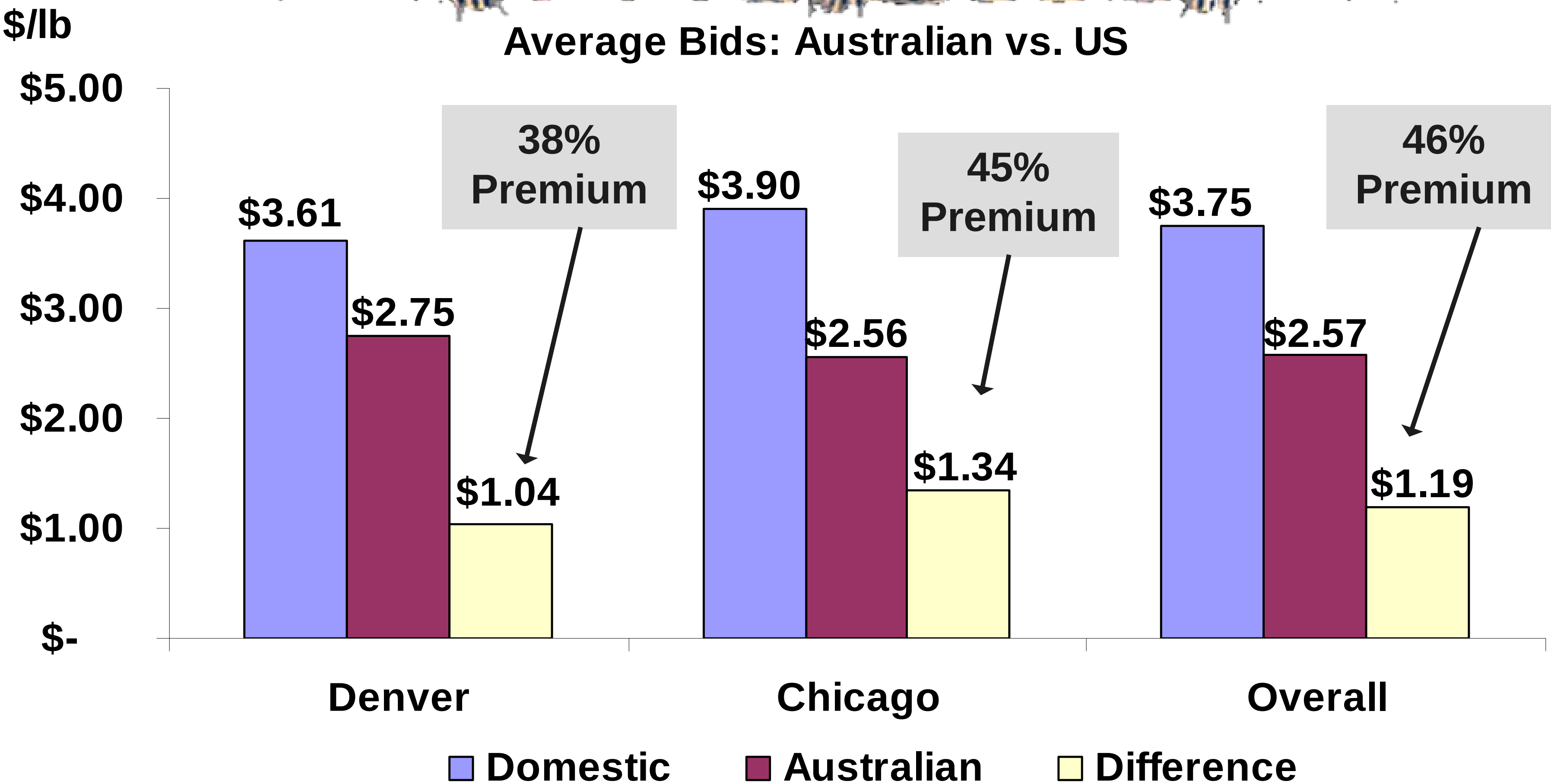
Source: Taste Panel Ratings: Domestic Corn-Fed vs. Australian Grass-Fed Umberger et. al. *Agribusiness: An International Journal*. 18(Autumn 2002): p. 491-504.

Figure 7:
Perceived Difference Between Canadian & Domestic Beef



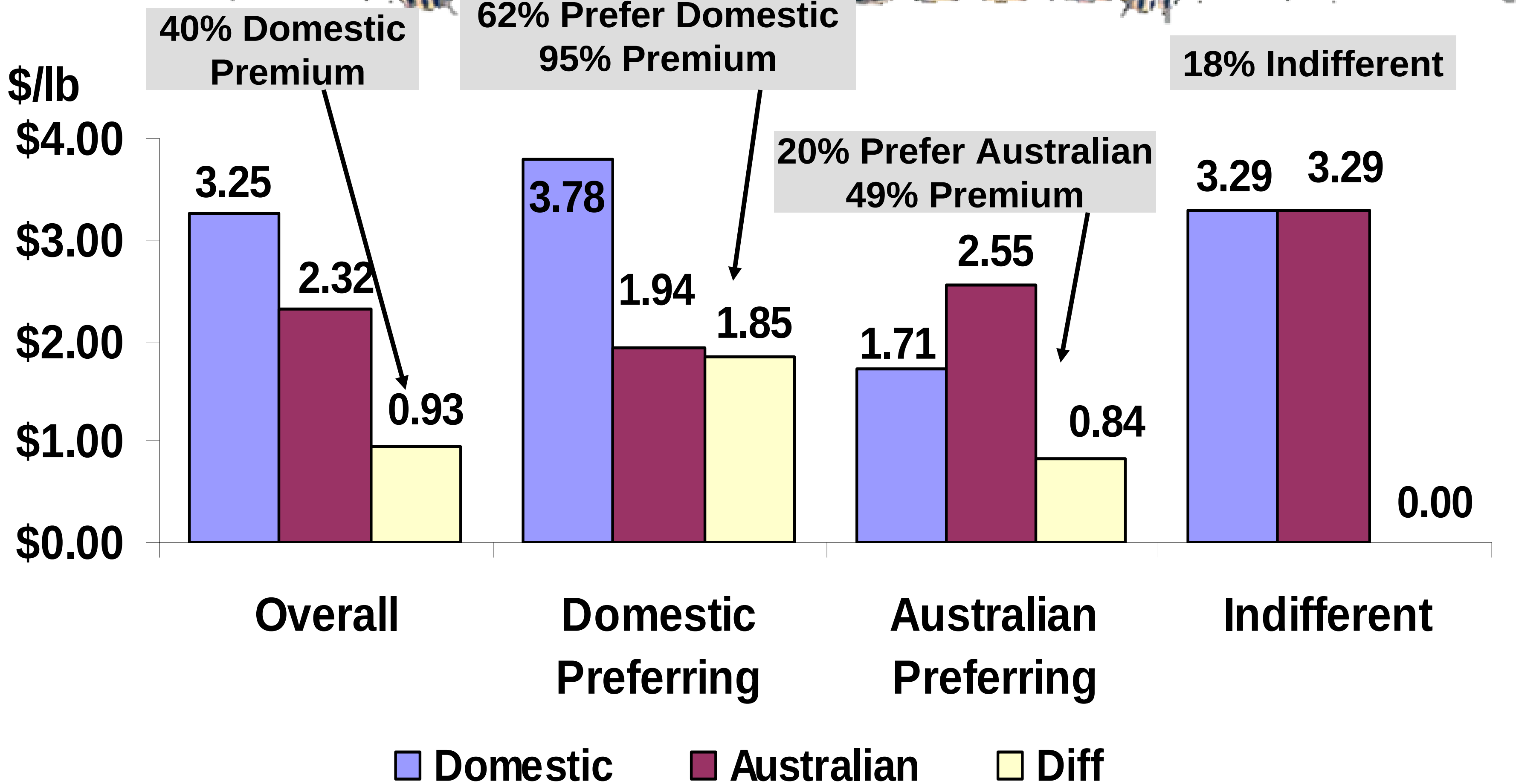
Source: Taste Panel Ratings: Domestic Corn-Fed vs. Canadian Barley-Fed Umberger et. al. *Agribusiness: An International Journal*. 18(Autumn 2002): p. 491-504.

Figure 8: Consumers Willing To Pay More For Corn-fed



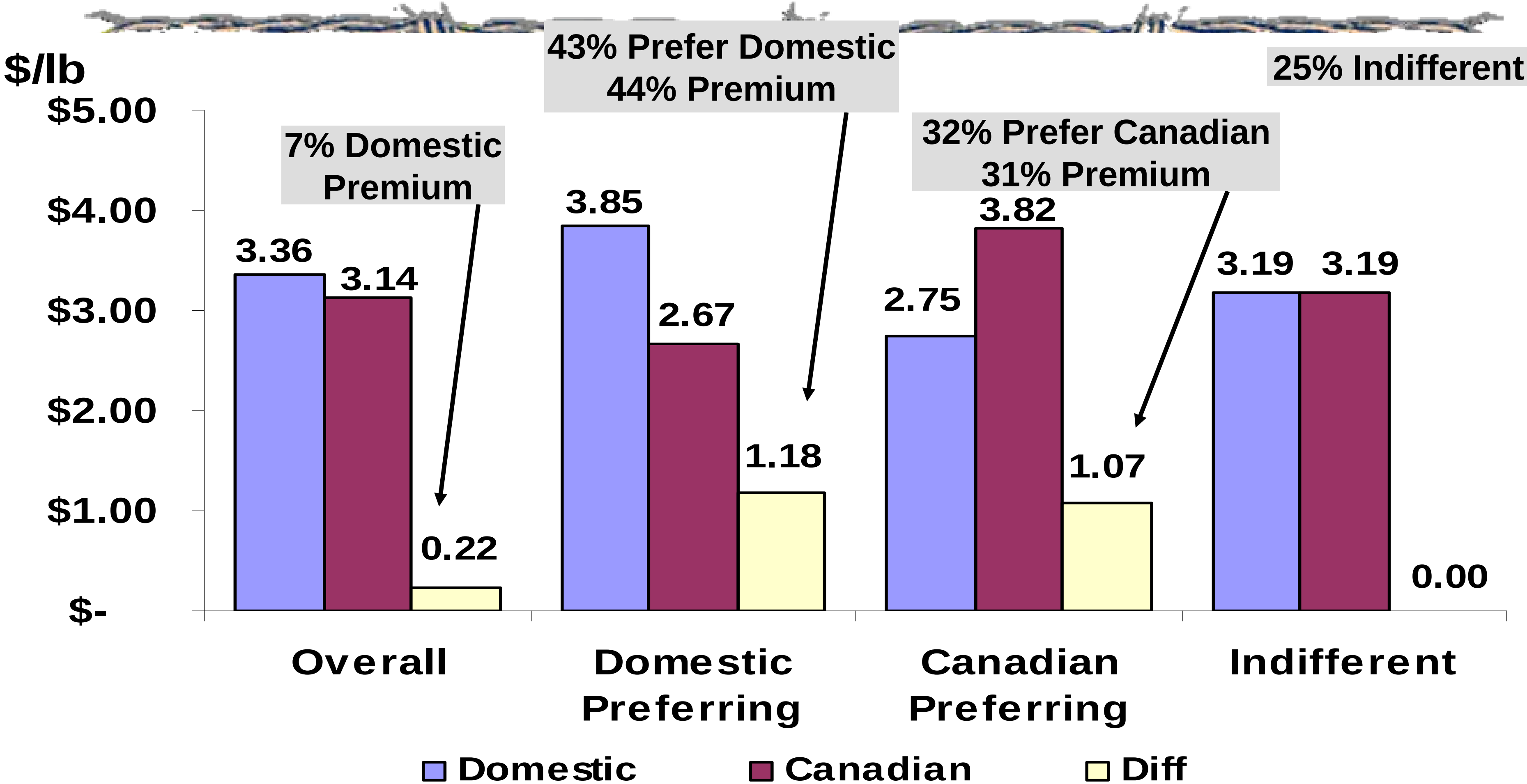
Source: Taste Panel Ratings: Domestic Corn-Fed vs. Australian Grass-Fed. Umberger et. al. *Agribusiness: An International Journal*. 18(Autumn 2002): p. 491-504.

Figure 9:
Consumer Willingness-To-Pay For Tastes (U.S. vs. Australian)



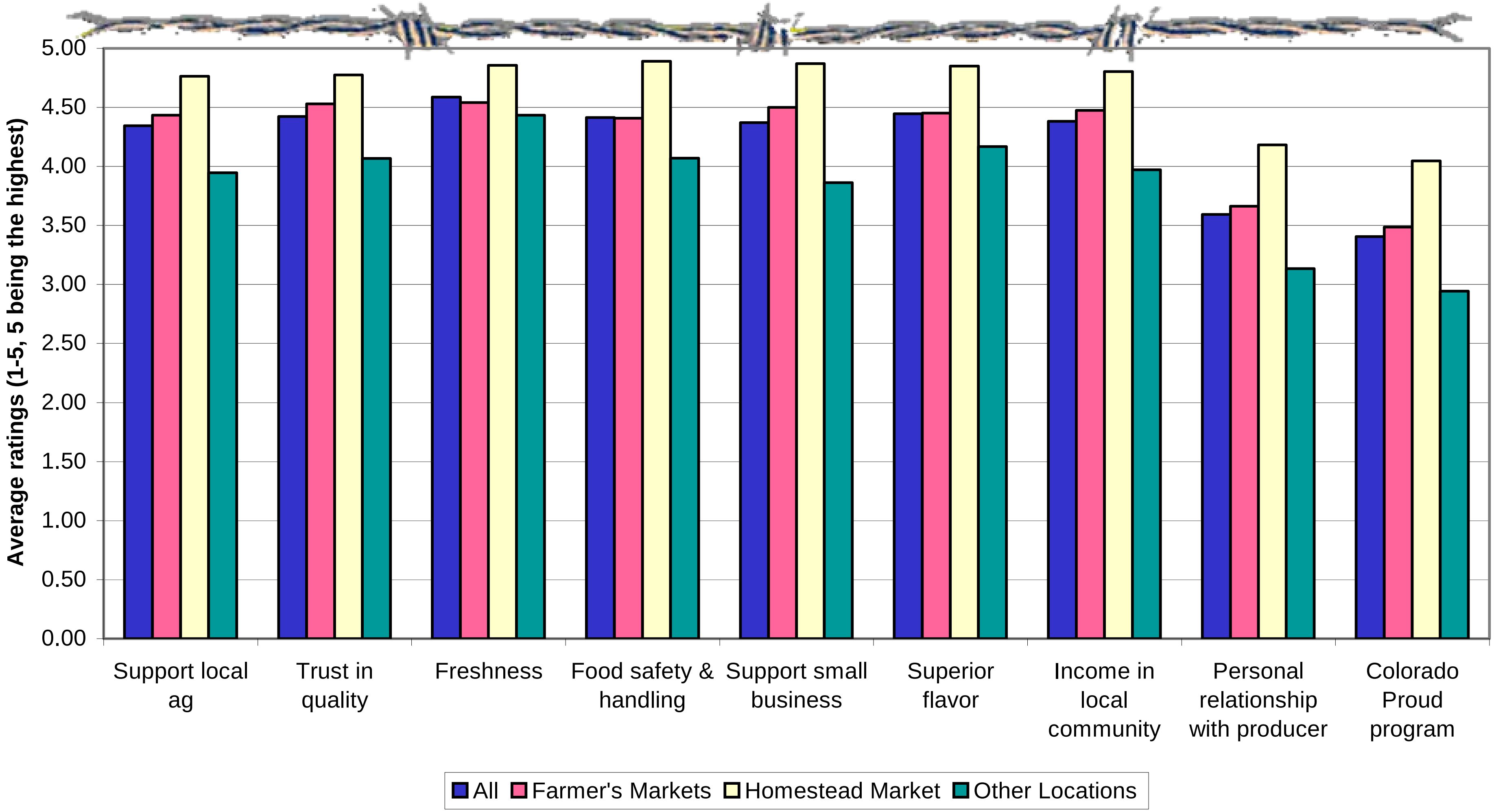
Source: Taste Panel Ratings: Domestic Corn-Fed vs. Australian Grass-Fed. Umberger et. al. *Agribusiness: An International Journal*. 18(Autumn 2002): p. 491-504.

Figure 10: Consumers Willingness-To-Pay For Tastes (U.S. vs. Canadian)



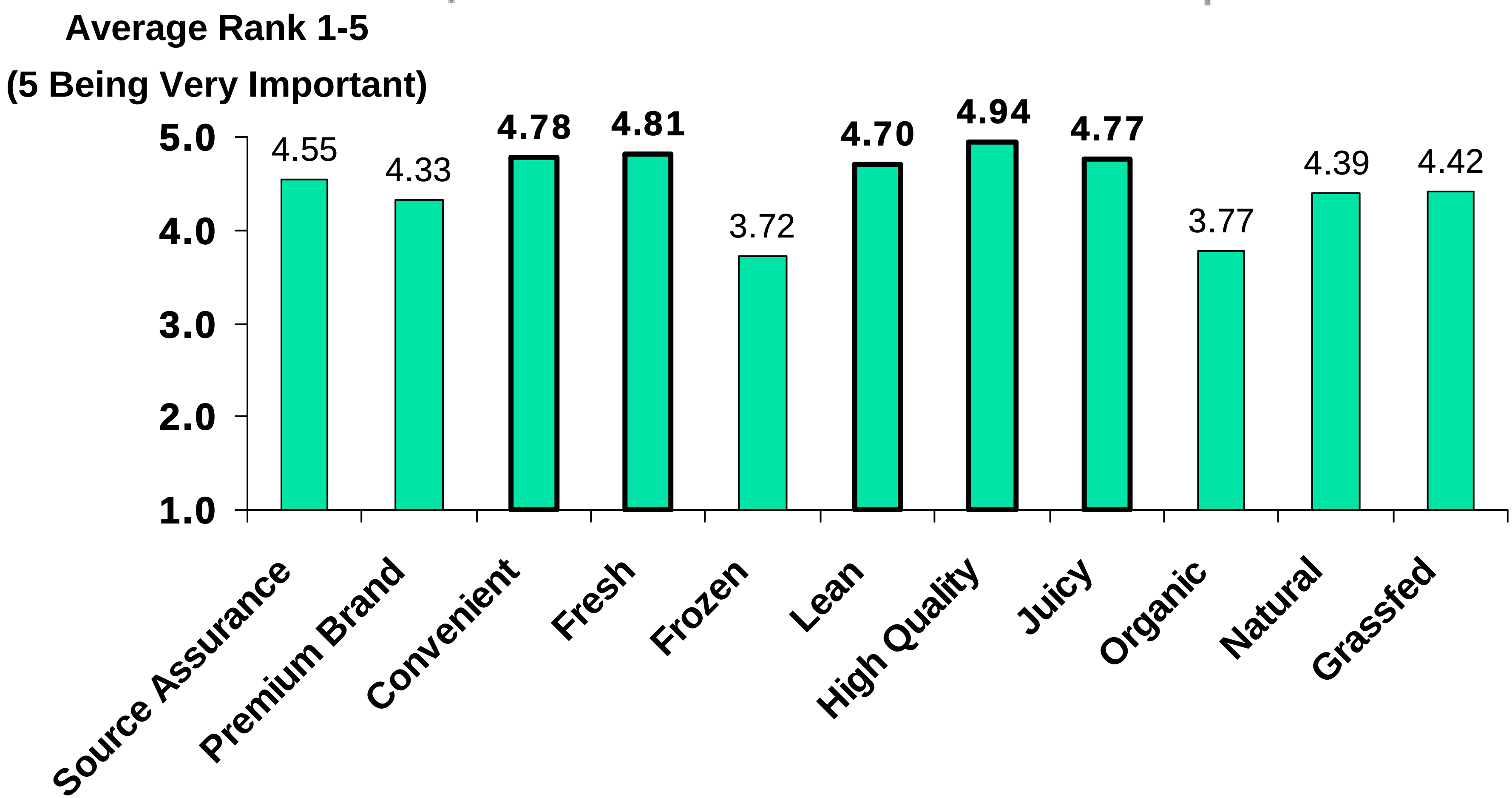
Source: Taste Panel Ratings: Domestic Corn-Fed vs. Canadian Barley-Fed Umberger et. al. *Agribusiness: An International Journal*. 18(Autumn 2002): p. 491-504.

Figure 11:
Local Purchase Motivators For CHR Consumers



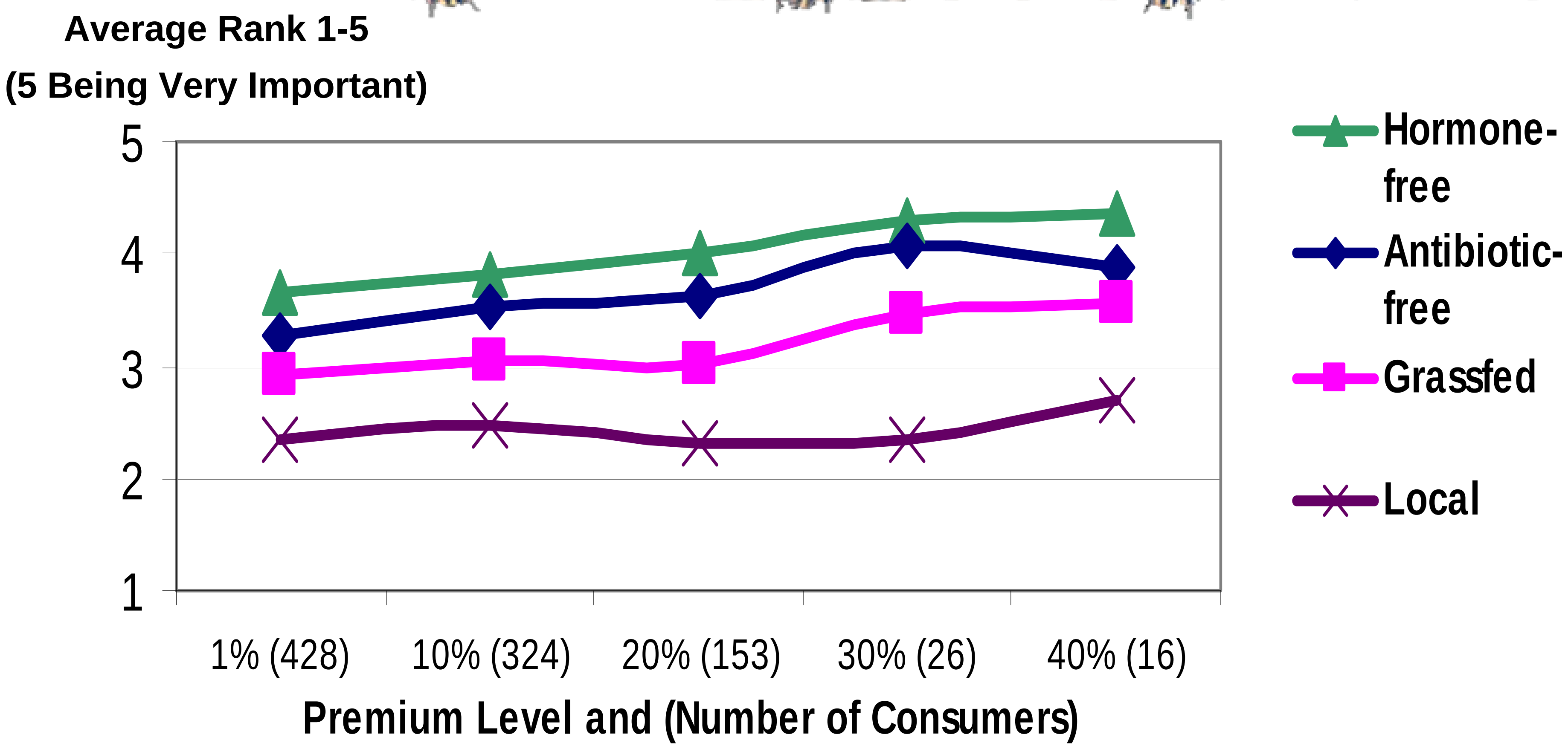
Source: Kamina Rosenstiel, Dawn Thilmany, Wendy Umberger, and Marcia Bugbee. 2002. "Colorado Homestead Ranches: Value Added Beef Products and the Local Commodity Market".

Figure 12:
CHR Consumer Ranking Of Beef Attributes



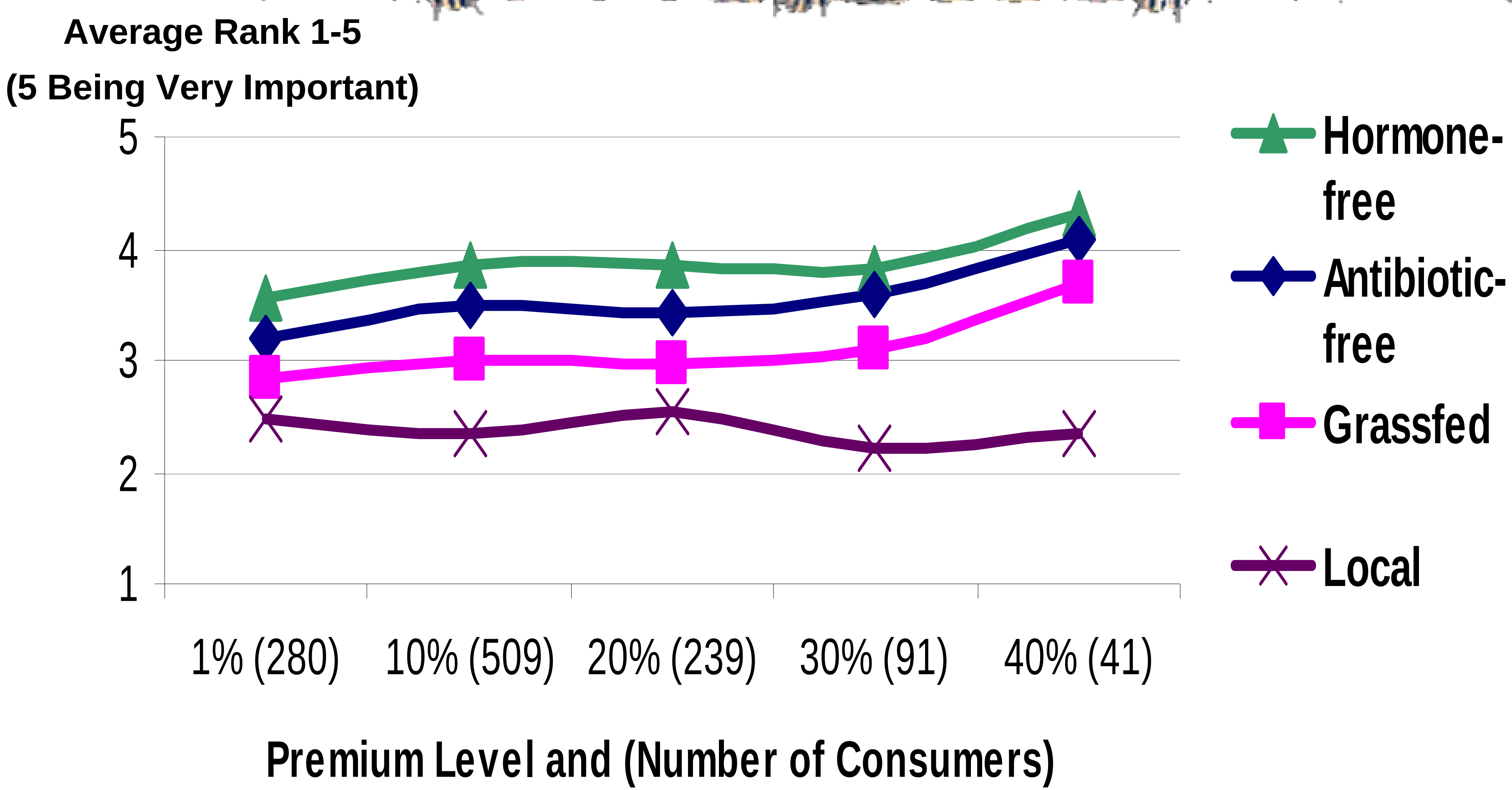
Source: Kamina Rosenstiel, Dawn Thilmany, Wendy Umberger, and Marcia Bugbee. 2002. "Colorado Homestead Ranches: Value Added Beef Products and the Local Commodity Market".

Figure 13:
Natural Steak Attribute Ranks At Different Price Premiums



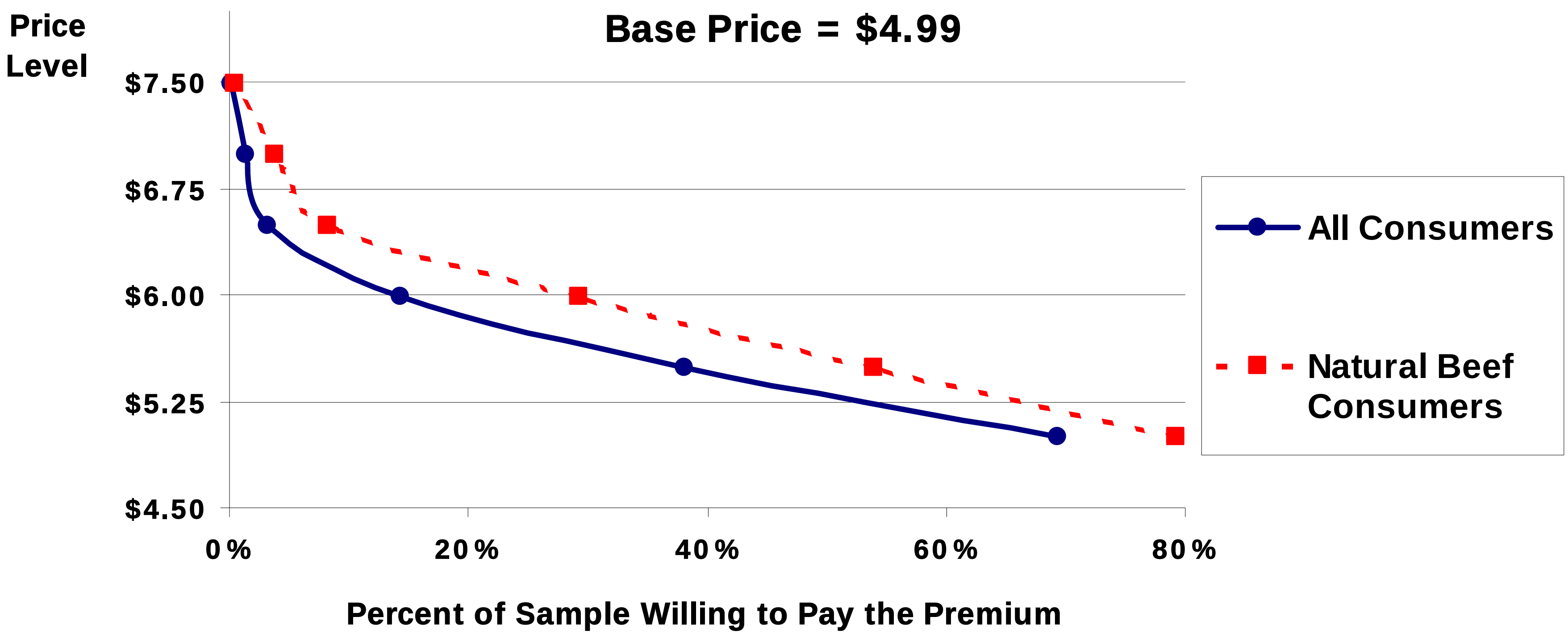
Source: Ed Sparling, Jennifer Grannis and Dawn Thilmany. 2003. "Final Report: Panel Study of Natural Meats Demand".

Figure 14
Natural Ground Beef Attribute Ranks At Different Price Premiums



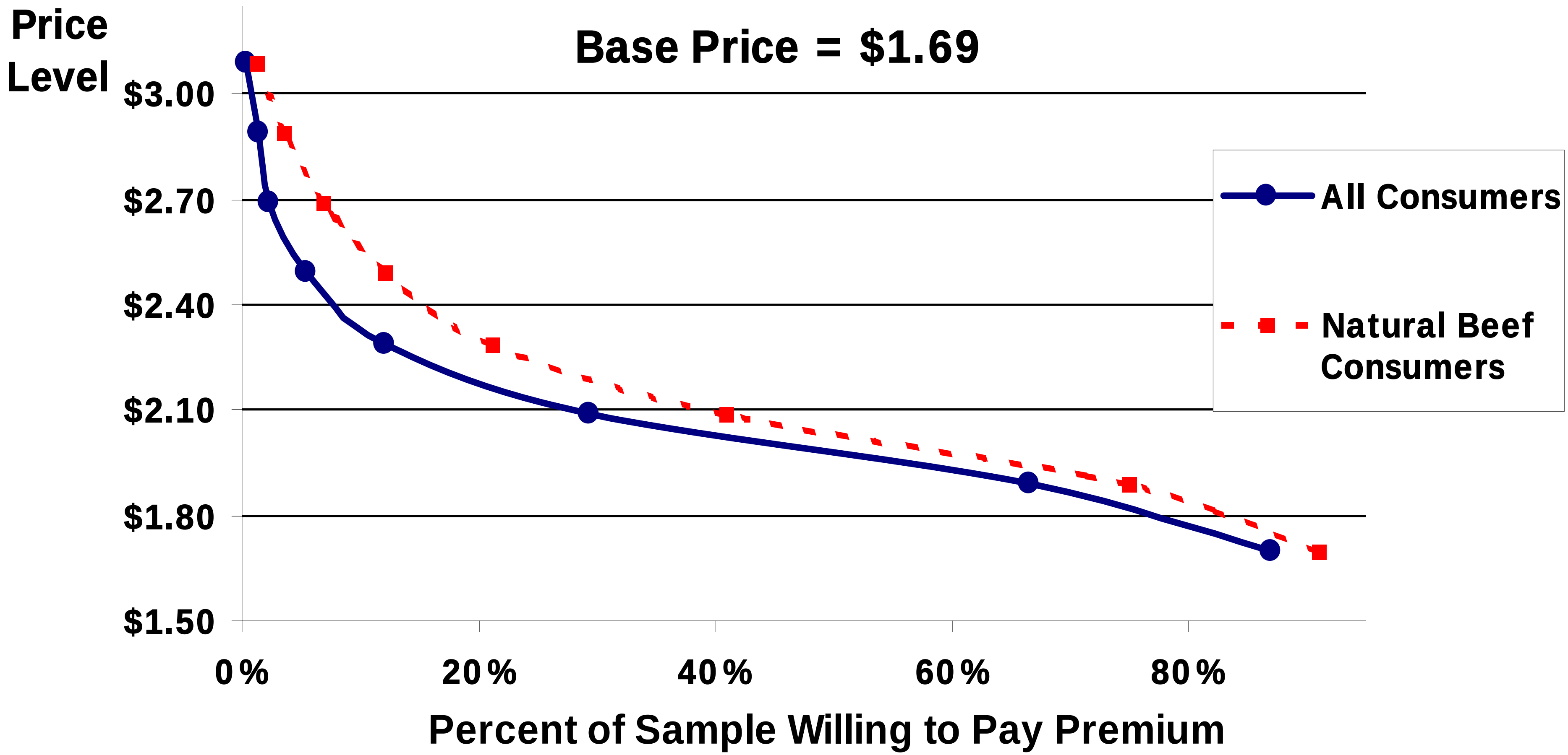
Source: Ed Sparling, Jennifer Grannis and Dawn Thilmany. 2003. "Final Report: Panel Study of Natural Meats Demand".

Figure 15: Willingness To Pay For Natural Steak



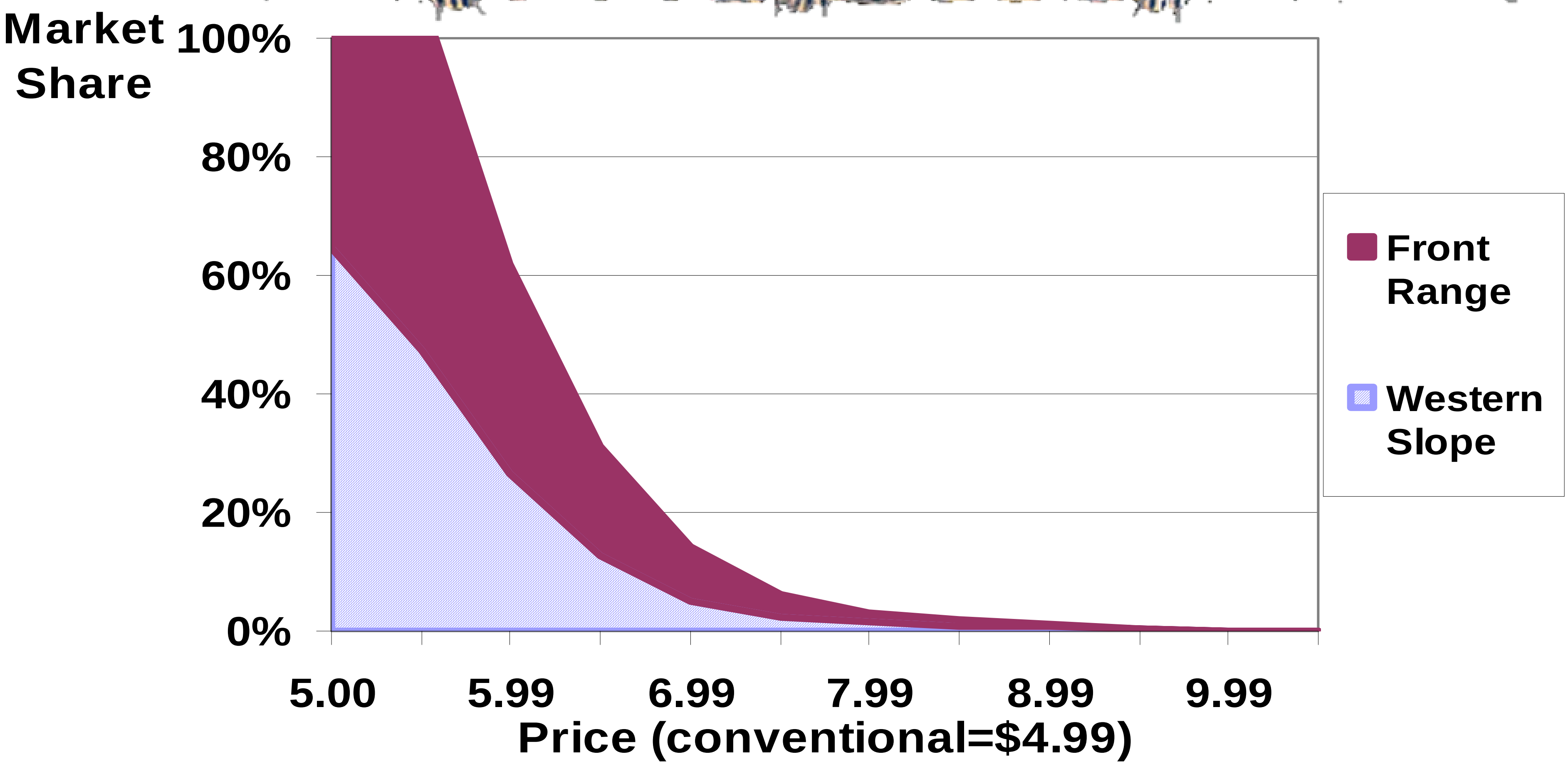
Source: Ed Sparling, Jennifer Grannis, and Dawn Thilmany. 1998. "Regional Demand for Natural Beef Products: Urban vs. Rural Willingness to Pay and Target Consumers".

Figure 16:
Willingness To Pay For Natural Ground Beef



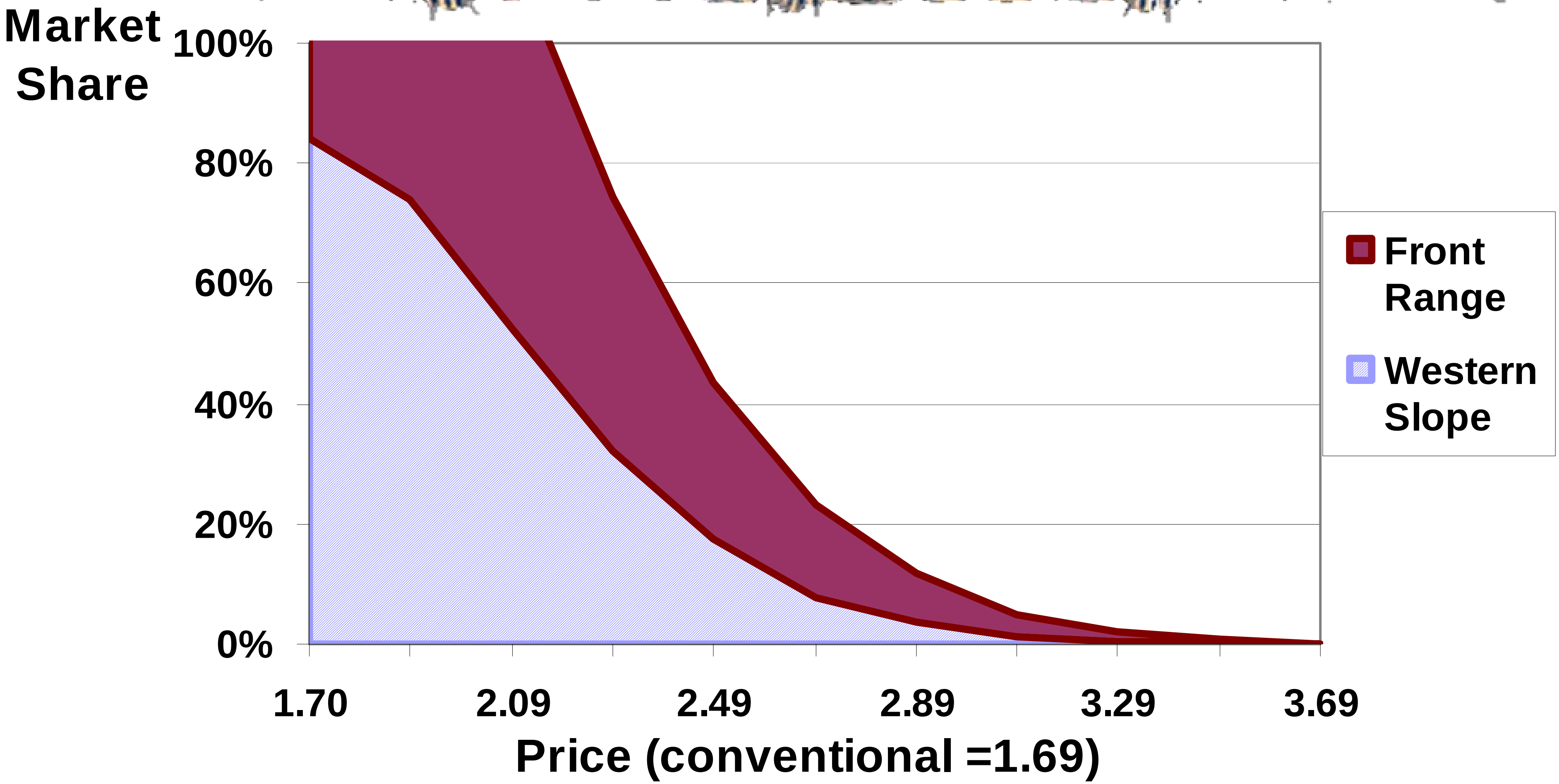
Source: Ed Sparling, Jennifer Grannis, and Dawn Thilmany. 1998. "Regional Demand for Natural Beef Products: Urban vs. Rural Willingness to Pay and Target Consumers".

Figure 17:
Market Share Of Natural Steak As A Function Of Price



Source: Ed Sparling, Jennifer Grannis and Dawn Thilmany. 2003.
"Final Report: Panel Study of Natural Meats Demand".

Figure 18:
Market Share Of Natural Ground Beef As A Function Of Price



Source: Ed Sparling, Jennifer Grannis and Dawn Thilmany. 2003.
"Final Report: Panel Study of Natural Meats Demand".

Table 1:
Regional Meat Purchase Choices

Region **Vendor Type**	**Relative Frequency of Purchase from Vendor** **Percent Respondents**		
Front Range	*Most*	*Some*	*None*
Supermarkets	89.4%	7.3%	3.3%
Natural Foods	1.2%	6.8%	92.0%
Specialty	2.2%	16.2%	81.6%
Producers	3.3%	3.9%	92.8%
Western Slope	*Most*	*Some*	*None*
Supermarkets	80.1%	9.6%	10.3%
Natural Foods	0.0%	2.1%	97.9%
Specialty	0.0%	6.9%	93.1%
Producers	11.0%	13.4%	75.6%

Source: Ed Sparling, Jennifer Grannis and Dawn Thilmany. 2003.
"Final Report: Panel Study of Natural Meats Demand".

Table 2:
Regional Meat Purchase Choices

(continued)

Region / **Vendor Type**	**Relative Frequency of Purchase from Vendor** / ***Percent Respondents***		
Urban New Mexico	*Most*	*Some*	*None*
Supermarkets	82.50%	7.50%	10.10%
Natural Foods	2.30%	9.20%	88.50%
Specialty Shops	3.20%	15.80%	81.00%
Producers	1.40%	2.90%	95.70%
Four Corners	*Most*	*Some*	*None*
Supermarkets	87.40%	9.20%	3.40%
Natural Foods	0.00%	0.00%	100.00%
Specialty Shops	0.00%	3.40%	96.60%
Producers	9.20%	10.30%	80.50%

Source: Ed Sparling, Jennifer Grannis and Dawn Thilmany. 2003.
"Final Report: Panel Study of Natural Meats Demand".

Table 3: Potential Consumer Purchases Of Freezer Beef

Region	Households with Freezers	Households that Buy from Producers	Households with Hunters	Percent Hunter Households with Freezers	Percent Hunter Households that Buy from Producers
Front Range	347 (54%)	46 (7.2%)	135 (21%)	85.20%	17.80%
Western Slope	218 (77.9%)	71 (24.4%)	130 (46.4%)	93.10%	33.80%
Urban New Mexico	169 (51.5%)	15 (4.3%)	36 (11%)	91.70%	13.90%
Four Corners	64 (73.6%)	17 (19.5%)	42 (48.3%)	90.50%	28.60%

(Figures in parentheses give number as percent respondents from respective regions)

Source: Ed Sparling, Jennifer Grannis and Dawn Thilmany. 2003.
"Final Report: Panel Study of Natural Meats Demand".

References & Additional Resources

- J. Grannis and D. Thilmany. *Marketing Opportunities for Natural Beef Products in the Intermountain West*. AMR 00-02. June 2000. 5 pp. at http://dare.agsci.colostate.edu/extension/beef.pdf

- J. Grannis, D. Thilmany and E. Sparling. *How Consumer Preferences for Meat Attributes relate to Shopping Choices*. AMR 02-01. March 2002. 4 pp. at http://dare.agsci.colostate.edu/extension/amr02-01.pdf

- David E. Davis and Hayden Stewart. *Changing Consumer Demands Created Opportunities for U.S. Food System*. <u>Food Review.</u> Spring 2002. USDA – ERS