A consumer perspective on the South African Red Meat Classification System

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University of Pretoria

Oral presentation at the 12th Meat Symposium:
Relevance of the South African Carcass Classification Systems
Friday, 7 November 2014 (Pretoria)
Living standard segments in South Africa

Marginalised consumers
- 25% of population

Middle class / Emerging consumers
- 51% of population

Wealthy consumers
- 24% of population

% of SA adult population

Average h/h income (R'000/month)

LSM 1 | LSM 2 | LSM 3 | LSM 4 | LSM 5 | LSM 6 | LSM 7 | LSM 8 | LSM 9 | LSM 10

% of SA Adult population

Average monthly income (R'000)

- ▲ Average monthly income (R'000)
LSM 1, 2, 3 & 4: Marginalised consumers

- 25% of the population
- Mostly Rural
- KZN, EC, Limpopo
- Up to 45% unemployment
- R1641–R3355/hh/month
- < 10% of total income
- Food exp ±35% of total exp

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51% of the population
Increasingly urban
Gauteng, KZN, WC, Limpopo
24% - 38% unemployment
R4259-R11244/hh/month
~40% of total income in this sector
Food exp ±22% of total exp
LSM 8, 9 & 10: Established / wealthy consumers

- 24% of the population
- Urban
- Gauteng, WC, KZN
- Insignificant unemployment
- R15736-R31111/hh/month
- ~50% of total income
- Food exp ±7% of total exp

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Class mobility in South Africa

**Marginalise consumers**
-56% ↓ 2004 to 2013
8.3 million adults 2013
-9%/annum over last 5 years

**Emerging consumers**
+57% ↑ 2004 to 2013
19.5 million adults 2013
+4%/annum over last 5 years

**Established consumers**
+57% ↑ 2004 to 2013
9.4 million adults 2013
+4%/annum over last 5 years
Estimated expenditure contributions (StatsSA IES 2010)

<table>
<thead>
<tr>
<th>Food Group</th>
<th>Poor</th>
<th>Middle</th>
<th>Wealthy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food-away-from-home</td>
<td>5%</td>
<td>34%</td>
<td>60%</td>
</tr>
<tr>
<td>Fruit</td>
<td>8%</td>
<td>38%</td>
<td>54%</td>
</tr>
<tr>
<td>Dairy &amp; eggs</td>
<td>11%</td>
<td>48%</td>
<td>41%</td>
</tr>
<tr>
<td>Hot beverages</td>
<td>13%</td>
<td>48%</td>
<td>39%</td>
</tr>
<tr>
<td>Fish</td>
<td>14%</td>
<td>47%</td>
<td>39%</td>
</tr>
<tr>
<td>Meat</td>
<td>12%</td>
<td>51%</td>
<td>37%</td>
</tr>
<tr>
<td>Vegetables</td>
<td>16%</td>
<td>51%</td>
<td>33%</td>
</tr>
<tr>
<td>Sugary foods</td>
<td>15%</td>
<td>53%</td>
<td>32%</td>
</tr>
<tr>
<td>Oils and fats</td>
<td>17%</td>
<td>56%</td>
<td>28%</td>
</tr>
<tr>
<td>Bread and cereals</td>
<td>19%</td>
<td>58%</td>
<td>23%</td>
</tr>
</tbody>
</table>
Estimated meat expenditure contributions:  
*(Estimated from StatsSA IES 2010/11)*

% contribution of socio-economic sub-group to total expenditure on meat type

- Poor segment
- Middle segment
- Wealthy segment

**Estimated meat expenditure contributions:**

- Mutton & Lamb
- Pork
- Beef
- Processed pork
- Beef sausage
- Poultry

*(Estimated from StatsSA IES 2010/11)*
REAL changes in meat expenditure 2005 – 2010

“According to SAMIC, meat classification provides for a sound basis for:
The use of variety in the market for optimum consumer satisfaction”

So...
It’s about RM classification info used by consumers towards positive quality perceptions
Quality...

The ‘totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs’

(Kotler, 2000)
Research questions:

• Do South African consumers across the socio-economic spectrum understand the Carcass Classification System when purchasing red meat?
• Do South African consumers across the socio-economic spectrum take note of the Carcass Classification System when purchasing red meat?
• Are the quality signals (i.e. labeling information) in place to facilitate informed decision making regarding carcass classification?
**Objectives:**

<table>
<thead>
<tr>
<th>Consumer perspective:</th>
<th>Product perspective:</th>
</tr>
</thead>
<tbody>
<tr>
<td>To investigate SA red meat consumers’ knowledge, usage and perceptions regarding beef and sheep meat classification and related quality parameters.</td>
<td>To investigate the communication of carcass classification to consumers through fresh red meat product labels.</td>
</tr>
</tbody>
</table>

*(RMRD funded projects)*
Consumer perspective: Methodology overview

- Three separate surveys (2012 & 2013):
  - Low LSM 1-4 (n=166), Middle LSM 5-8 (n=171), High LSM 9-10 (n=249)
- Quota sampling (LSM, ethnicity, age)
- Gauteng focus
- Professional recruitment agency
- Survey questionnaire (about 20 pages)
- Personal interview by professional facilitators (about 90 to 120 minutes per interview)
- Data capturing and cleaning
- Statistical analyses (SPSS): descriptive, sub-group comparisons, clustering, etc.
- Ongoing project – ‘GAP analysis’ phase 2014/15
## Consumer perspective:

### Knowledge & usage of RM classification

<table>
<thead>
<tr>
<th>Have RM class knowledge?</th>
<th>Poor segment (LSM 1-4) (n=165)</th>
<th>Middle segment (LSM 5-8) (n=171)</th>
<th>Wealthy segment (LSM 9-10) (n=249)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always</td>
<td>4.2% (red meat)</td>
<td>9.9% (beef)</td>
<td>14.9% (beef)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.8% (sheep)</td>
<td>12.5% (sheep)</td>
</tr>
<tr>
<td>Sometimes</td>
<td>5.4% (red meat)</td>
<td>32.7% (beef)</td>
<td>14.1% (beef)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>28.1% (sheep)</td>
<td>12.6% (sheep)</td>
</tr>
<tr>
<td>Always or Sometimes</td>
<td>13.6% (red meat)</td>
<td>23.5% (beef)</td>
<td>44.0% (beef)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>19.9% (sheep)</td>
<td>43.9% (sheep)</td>
</tr>
<tr>
<td>Always or Sometimes</td>
<td>19.0% (red meat)</td>
<td>56.2% (beef)</td>
<td>58.1% (beef)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>48.0% (sheep)</td>
<td>56.5% (sheep)</td>
</tr>
</tbody>
</table>
Understanding RM classification

Consumer perspective:

Middle LSM sample:
- Indication of quality standard
- Indication of best quality
- Grade A is best quality
- First grade is best quality
- Higher grades more expensive
- Indicated by meat grade stamp

High LSM sample:
- To do with fat on meat
- Different colours different grading
- To do with animal age
- Product certification
- There are A and B grades
- Green or purple stamp mentioned
- First grade is best
- A-AB means animal age
- 0-6 means fat classification
- Marbling colour
- Based on fat and quality
- Higher grades more expensive
- Stamp on meat
Consumers’ concerns regarding red meat
Share of sample with no concerns mentioned (%)
Consumers’ concerns regarding red meat (%)

- Marginalised: 45% Health, 40% Affordability, 2% Quality
  - Health: 2, Affordability: 7, Quality: 2
- Emerging: 18% Health, 5% Affordability, 1% Quality
  - Health: 2, Affordability: 5, Quality: 2
- Established: 36% Health, 5% Affordability, 10% Quality
  - Health: 2, Affordability: 6, Quality: 2

*convenience vs. resource use
## Defining RM quality (open question):

### Consumer perspective:

<table>
<thead>
<tr>
<th>Poor (LSM 1-4) (n=165)</th>
<th>Middle income (LSM 5-8) (n=171)</th>
<th>Wealthy (LSM 9-10) (n=249)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Freshness (40% of sample)</td>
<td>• Meat colour (25% of sample)</td>
<td>• Colour red/pink/uniform (40% of sample)</td>
</tr>
<tr>
<td>• Meat colour red (21%)</td>
<td>• Freshness (21%)</td>
<td>• Freshness (27%)</td>
</tr>
<tr>
<td>• Clean meat (12%)</td>
<td>• Appearance (19%)</td>
<td>• Leanness (16%)</td>
</tr>
<tr>
<td>• Appearance (5%)</td>
<td>• Clean meat (11%)</td>
<td>• Smell good (14%)</td>
</tr>
<tr>
<td>• Grading (4%)</td>
<td>• Grading (8%)</td>
<td>• Clean (11%)</td>
</tr>
<tr>
<td>• Price (3%)</td>
<td>• Smell (8%)</td>
<td>• Grading (11%)</td>
</tr>
<tr>
<td>• Nutritional value, shelf life, smell, tenderness, taste (2%)</td>
<td><strong>Table continued...</strong></td>
<td><strong>Table continued...</strong></td>
</tr>
</tbody>
</table>

- **Freshness**
- **Meat colour red**
- **Clean meat**
- **Appearance**
- **Grading**
- **Price**
- **Nutritional value, shelf life, smell, tenderness, taste**
- **Meat colour**
- **Freshness**
- **Appearance**
- **Clean meat**
- **Grading**
- **Smell**
- **Colour red/pink/uniform**
- **Freshness**
- **Leanness**
- **Smell good**
- **Clean**
- **Grading**
- **Tenderness**
- **Appearance**
- **Good cut**
- **Taste**
Mentioned RM classification when defining RM quality & RM safety?

<table>
<thead>
<tr>
<th></th>
<th>Low LSM:</th>
<th>Middle LSM:</th>
<th>High LSM:</th>
</tr>
</thead>
<tbody>
<tr>
<td>RM quality*</td>
<td>4%</td>
<td>8%</td>
<td>11%</td>
</tr>
<tr>
<td>RM safety</td>
<td>5%</td>
<td>14%</td>
<td>19%</td>
</tr>
</tbody>
</table>
Beef steak decision factors:
**Beef decision factors (top 20):**

<table>
<thead>
<tr>
<th>LSM 1-4 (n=165) (Beef)</th>
<th>LSM 5-8 (n=171) (Steak)</th>
<th>LSM 9-10 (n=249) (Steak)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Price</strong></td>
<td>Expiry date</td>
<td><strong>Food safety</strong></td>
</tr>
<tr>
<td>Appearance</td>
<td>Price</td>
<td>Expiry date</td>
</tr>
<tr>
<td>Cleanliness</td>
<td>Meat colour</td>
<td>Quality guarantee</td>
</tr>
<tr>
<td>Meat colour</td>
<td>Appearance</td>
<td>Taste</td>
</tr>
<tr>
<td>Quality guarantee</td>
<td>Clean meat</td>
<td>Appearance</td>
</tr>
<tr>
<td>Convenience</td>
<td>Food safety</td>
<td>Meat colour</td>
</tr>
<tr>
<td>Tenderness</td>
<td>Taste</td>
<td>Clean meat</td>
</tr>
<tr>
<td>Expiry date</td>
<td>Quality guarantee</td>
<td>Flavour</td>
</tr>
<tr>
<td>Bone-to-meat-ratio</td>
<td>Easy to prepare</td>
<td>Visual appeal</td>
</tr>
<tr>
<td>Eaten by all</td>
<td>Flavour</td>
<td>Price</td>
</tr>
<tr>
<td>Easy to prepare</td>
<td>Tenderness</td>
<td>Tenderness</td>
</tr>
<tr>
<td>Fat-to-meat-ratio</td>
<td>Eaten by all in family</td>
<td>Eaten by all in family</td>
</tr>
<tr>
<td>Packaging size</td>
<td>Fat-to-meat-ratio</td>
<td>Store where you buy</td>
</tr>
<tr>
<td>Fat colour</td>
<td>Freshness</td>
<td>Keepability</td>
</tr>
<tr>
<td>Preparation time</td>
<td>Store where you buy meat</td>
<td>Nutritional value</td>
</tr>
<tr>
<td>Freshness</td>
<td>Visual appeal</td>
<td>Succulence</td>
</tr>
<tr>
<td>Taste</td>
<td>Brand/Product reputation</td>
<td>Fat-to-meat-ratio</td>
</tr>
<tr>
<td>Juiciness</td>
<td>Packaging size</td>
<td>Household preferences</td>
</tr>
<tr>
<td>Packaging type</td>
<td>Preparation time</td>
<td>Fresh (not frozen) meat</td>
</tr>
<tr>
<td>Flavour</td>
<td>Convenience</td>
<td>Brand / product reputation</td>
</tr>
</tbody>
</table>
Mutton/lamb chops decision factors:
# Mutton/lamb decision factors (top 20):

<table>
<thead>
<tr>
<th>LSM 1-4 (n=165) (Mutton/lamb)</th>
<th>LSM 5-8 (n=171) (Chops)</th>
<th>LSM 9-10 (n=249) (Chops)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price</td>
<td>Price</td>
<td>Food safety</td>
</tr>
<tr>
<td>Meat colour</td>
<td>Appearance</td>
<td>Expiry date</td>
</tr>
<tr>
<td>Appearance</td>
<td>Expiry date</td>
<td>Taste</td>
</tr>
<tr>
<td>Easy to prepare</td>
<td>Taste</td>
<td>Meat colour</td>
</tr>
<tr>
<td>Clean meat (e.g. no blood)</td>
<td>Food safety</td>
<td>Appearance</td>
</tr>
<tr>
<td>Tenderness</td>
<td>Flavour</td>
<td>Flavour</td>
</tr>
<tr>
<td>Amount of meat per package</td>
<td>Meat colour</td>
<td>Price</td>
</tr>
<tr>
<td>Quality guarantee</td>
<td>Clean meat</td>
<td>Clean meat</td>
</tr>
<tr>
<td>Bone-to-meat ratio</td>
<td>Quality guarantee</td>
<td>Visual appeal</td>
</tr>
<tr>
<td>Expiry date</td>
<td>Juiciness</td>
<td>Tenderness</td>
</tr>
<tr>
<td>Convenience</td>
<td>Store where you buy meat</td>
<td>Quality guarantee</td>
</tr>
<tr>
<td>Fat colour</td>
<td>Easy to prepare</td>
<td>Eaten by all in family</td>
</tr>
<tr>
<td>Fat-to-meat-ratio</td>
<td>Tenderness</td>
<td>Amount of fat</td>
</tr>
<tr>
<td>Packaging size</td>
<td>Eaten by all in family</td>
<td>Keepability</td>
</tr>
<tr>
<td>Fresh (not frozen)</td>
<td>Amount of fat</td>
<td>Juiciness</td>
</tr>
<tr>
<td>Eaten by all in family</td>
<td>Freshness</td>
<td>Nutritional value</td>
</tr>
<tr>
<td>Juiciness</td>
<td>Lean / low fat meat</td>
<td>Store where you buy meat</td>
</tr>
<tr>
<td>Taste</td>
<td>Brand Product Reputation</td>
<td>Natural</td>
</tr>
<tr>
<td>Preparation time</td>
<td>Packaging size</td>
<td>Freshness</td>
</tr>
<tr>
<td>Packaging</td>
<td>Convenience</td>
<td>Personal preferences</td>
</tr>
</tbody>
</table>
## Beef decision factors (top 5):

<table>
<thead>
<tr>
<th>LSM 1-4 (n=165) (Beef)</th>
<th>LSM 5-8 (n=171) (Steak)</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Price</td>
<td>Expiry date</td>
<td>Food safety</td>
</tr>
<tr>
<td>Appearance</td>
<td>Price</td>
<td>Expiry date</td>
</tr>
<tr>
<td>Cleanliness</td>
<td>Meat colour</td>
<td>Quality guarantee</td>
</tr>
<tr>
<td>Meat colour</td>
<td>Appearance</td>
<td>Taste</td>
</tr>
<tr>
<td>Quality guarantee</td>
<td>Clean meat</td>
<td>Appearance</td>
</tr>
</tbody>
</table>

## Mutton/lamb decision factors (top 5):

<table>
<thead>
<tr>
<th>LSM 1-4 (n=165) (Mutton/lamb)</th>
<th>LSM 5-8 (n=171) (Chops)</th>
<th>LSM 9-10 (n=249) (Chops)</th>
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</thead>
<tbody>
<tr>
<td>Price</td>
<td>Price</td>
<td>Food safety</td>
</tr>
<tr>
<td>Meat colour</td>
<td>Appearance</td>
<td>Expiry date</td>
</tr>
<tr>
<td>Appearance</td>
<td>Expiry date</td>
<td>Taste</td>
</tr>
<tr>
<td>Easy to prepare</td>
<td>Taste</td>
<td>Meat colour</td>
</tr>
<tr>
<td>Clean meat (e.g. no blood)</td>
<td>Food safety</td>
<td>Appearance</td>
</tr>
</tbody>
</table>
But what about fresh red meat labelling information presented to consumers in SA?
Product perspective:
Methodology overview (1)

- In-store observations of product labelling information at meat retail outlets guided by survey questionnaire
- Product focus:
  - ‘Basic’ packaged beef and mutton/lamb meat cuts as well as value-added products such as vacuum packaging, modified atmospheric packaging, meat with added condiments such as marinades.
  - Sausages, hamburger patties, pre-cooked meat and non-packaged at-counter deli products were excluded from the survey.
- Store focus: Independent butchers, chain butchers, national retail chains
- Field workers: final year students in consumer science at UP
- September 2013
- Observations captured & analysed with Microsoft Office Excel 2007
Product perspective:
Methodology overview (2)

- Broad range of labeling claims were considered, e.g.:
  - Price/affordability, branding, red meat classification, date information, fat content/leaness, palatability, post-purchase handling and usage, origin, manufacturing practices, processing status, production system, quality assurance/guarantee

- Butcher sample:
  - n=37
  - Representing a range of geographical locations in South Africa (e.g. Pretoria and Johannesburg areas, Barberton, Boksburg, Bronkhorstspruit, Heidelberg, Hermanus, Kimberley, Secunda)

- Retailers sample:
  - Observations at ‘hyper’ and smaller outlets of national retailers in SA (e.g. Pick ‘n Pay, Woolworths, Checkers, Spar, Food Lovers Market, Food Co at Game)
  - Gauteng & Cape Town
Fresh red meat label information observed at butchers (n=37): (1)

- Product pricing: 100%
- Branding: store brand 100%
- Packaging date: 92%
- Classification: lamb vs mutton 43%
- Branding: unique product brand: 32%
- Sell-by date: 32%
- Home storage instructions: 24%
- Tender: 22%
- Quality guaranteed: 22%
Fresh red meat label information observed at butchers (n=37): (2)

- Flavour added (e.g. marinade, spices): 30%
- Country-of-origin (SA): 16%
- Expiry date: 14%
- Cooking recommendations: 14%
- Additives (MSG, salt, SO2): 14%
- Fat-related: lean (mince): 11%
- Recipe, cooking instructions: 11%
- ‘Tasty’: 8%
- Aged / matured: 8%
Fresh red meat label information observed at butchers (n=37)

Other, observed at 1 or 2 butchers only:

- Cooking time
- Region of origin
- ‘Fresh’
- Affordability claims
- Breed-based branding
- Classification
- Fat to meat ratio
- Juicy, Tender
- Grain-fed
- Allergens
Fresh red meat label information observed at national retailers (1):

- Pricing information (wide application)
- Value for money, e.g. Butcher’s Best Buys
- Branding:
  - Store brand (wide application)
  - Unique product brand, e.g.:
- Classification (rare!):
  - Animal age (some examples)
  - Fat class (no observations)
- Date information:
  - Packaging date (some examples)
  - Sell-by date (wide application)
  - Use-by date (some application)
Fresh red meat label information observed at national retailers (2):

- Fat content: (Some examples)
  - Lean / Extra lean mince
  - Low fat ladies rump

- Palatability: (Some examples)
  - Tender, Tasty, Juicy

- Post-purchase handling and usage (some examples)
  - Storage instructions at home
  - Cooking & Serving suggestions
Fresh red meat label information observed at national retailers (3):

• Origin of meat (limited application):
  – Karoo lamb

• Hygiene / food safety practices (e.g. ISO, HACCP): No observations

• Traceability (limited application):
  – ‘Can be traced back to its farm of origin’

• Meat processing status (some applications):
  – Meat maturation
  – Sauces / marinades / herbs / spices added
  – Deboned

• Nutritional value (limited application)
  – Nutritional composition mince label
  – Wide application at 1 retailer in particular
Fresh red meat label information observed at national retailers (4):

- Production systems (selected niche applications):
  - Grain-fed beef
  - Free range lamb
    * Raised in free range environment
    * No added hormones / growth stimulants
    * No (chronic) antibiotics
    * No animal by-products feeding
    * Produced under strict standards
    * Traceable back to farm of origin
    * Microbiologically safe
    * Ecological farm audits
‘Typical’ beef mince label in USA
(Photos from Molly K. McAdams)

‘Typical’ beef mince label in South Africa
Conclusions & recommendations

• From a consumer perspective:
  – Limited understanding of RM classification
  – Up to 50% check it sometimes / often (wealthier consumers)
  – RM classification not a prominent RM concern
  – RM classification not strongly linked to RM quality and safety, but somewhat more with RM safety
  – BUT related aspects very prominent (e.g. fat content, tenderness, colour)
  – RM classification not among top 20 decision factors for RM, BUT related factors are important

• From a fresh red meat labelling perspective:
  – Bulk of SA fresh red meat has no/limited label claims (Why?)
  – Classification information limited (<5% of butchers), but somewhat more prominent at national retailers

• Definite need for consumer education on RM classification system

• Front-of-pack labeling system?