Meat Quality & Market Outlets for Grass-Finished Cattle

C. Chad Carr
University of Florida
What is Quality?

- Consumption Quality
- Technological Quality
- Hygienic Quality
- Nutritional Quality
- Ethical Quality

(Andersen, Oksbjerg, and Therkildsen, 2005) - Livestock Production Science
Consumers’ Quality Categories

Consumption Quality
- Appearance
- Flavor
- Tenderness
- Juiciness

(Andersen, Oksbjerg, and Therkildsen, 2005)
Consumers’ Quality Categories

**Technological Quality**
- Warner-Bratzler Shear Force
- pH
- Collagen solubility
- Water-holding capacity

(Andersen, Oksbjerg, and Therkildsen, 2005)
Consumers’ Quality Categories

**Hygienic Quality**

- Microbial Plate Count
- Pathogens
- Presence of “harmful substance” residues
- Presence of “pollutants”

(Andersen, Oksbjerg, and Therkildsen, 2005)
Consumers’ Quality Categories

**Nutritional Quality**
- Protein
- Fat & Fatty Acid Profile
- Minerals
- Vitamins

(Andersen, Oksbjerg, and Therkildsen, 2005)
Consumers’ Quality Categories
(Andersen, Oksbjerg, and Therkildsen, 2005) - Livestock Production Science

**Ethical Quality**

- Welfare
  - Certified Humane, American Humane
- Production method
  - Grass-Fed Beef or Outdoor pork production
- Organic/ Naturally-raised/ Natural

(Andersen, Oksbjerg, and Therkildsen, 2005)
Post-weaning ruminants-

- **Only** forage from pasture or harvested forage
- Continuous access to pasture during the growing season
- Any grain consumption must be documented explicitly
American Grassfed Roughage

- Any feed high (over 20%) in crude fiber and low (under 60%) in total digestible nutrients, on an air-dry basis
  - Cottonseed, Peanut, Rice, or Oat Hulls or Hull Pellets
  - Alfalfa Cubes or Pellets (17% Protein)
  - Corn Cobs
  - Oat Silage (dough stage)
  - Corn silage (no grain)
## UF Trial

<table>
<thead>
<tr>
<th>Trait</th>
<th>Grain-fed</th>
<th>Grass-fed</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of animals</td>
<td>12</td>
<td>12</td>
<td>---</td>
</tr>
<tr>
<td>Adj. 12\textsuperscript{th} rib fat thickness, in</td>
<td>0.48 ± .03</td>
<td>0.33 ± .03</td>
<td>0.09</td>
</tr>
<tr>
<td>Ribeye area, in\textsuperscript{2}</td>
<td>12.13 ± .43</td>
<td>11.05 ± .43</td>
<td>0.22</td>
</tr>
<tr>
<td>Hot carcass wt, lbs</td>
<td>654 ± 12</td>
<td>614.8 ± 12</td>
<td>0.15</td>
</tr>
<tr>
<td>KPH, %</td>
<td>2.3 ± 0.2</td>
<td>1.9 ± 0.2</td>
<td>0.31</td>
</tr>
<tr>
<td>USDA yield grade</td>
<td>2.8 ± .2</td>
<td>2.6 ± .2</td>
<td>0.40</td>
</tr>
<tr>
<td>Marbling score</td>
<td>Slight 92 ± 21</td>
<td>Slight 87 ± 21</td>
<td>0.88</td>
</tr>
<tr>
<td>USDA Choice, %</td>
<td>42</td>
<td>33</td>
<td>---</td>
</tr>
</tbody>
</table>
## UF Trial

<table>
<thead>
<tr>
<th>Trait</th>
<th>Dietary treatment</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of animals</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Ribeye lightness (L*)</td>
<td>36.7 ± .7</td>
<td>30.1 ± .7</td>
</tr>
<tr>
<td>Ribeye redness (a*)</td>
<td>23.4 ± 1.0</td>
<td>24.8 ± 1.0</td>
</tr>
<tr>
<td>Fat lightness (L*)</td>
<td>77.2 ± 1.1</td>
<td>72.1 ± 1.1</td>
</tr>
<tr>
<td>Fat yellowness (b*)</td>
<td>18.6 ± 0.8</td>
<td>23.7 ± 0.8</td>
</tr>
<tr>
<td>Warner-Bratzler Shear, lbs</td>
<td>8.6 ± 0.7</td>
<td>10.1 ± 0.7</td>
</tr>
</tbody>
</table>

\(^a\)L* = measure of darkness to lightness (larger value indicates a lighter color); \(a^*\) = a measure of redness (larger value indicates a redder color); \(b^*\) = a measure of yellowness (larger value indicates a more yellow color).
Grain-Fed  Grass-Fed
Grain-Fed vs. Grass-Fed

- Grass-fed is:
  - Leaner externally, internally, and within the muscle
  - Lighter weight, lighter muscled, lower dressing percentage
  - More “off-flavors” & tends to be tougher & less juicy

Than Grain-fed

(Bowling et al., 1977; Hedrick et al., 1983; Schaake et al., 1993)
## Fatty Acid Profile

<table>
<thead>
<tr>
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<th></th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Grain-fed</td>
<td>Grass-fed(^a)</td>
<td></td>
</tr>
<tr>
<td>Saturated- Steak</td>
<td>45.1</td>
<td>48.8</td>
<td>0.002</td>
</tr>
<tr>
<td>MonoUFA- Steak</td>
<td>46.2</td>
<td>42.5</td>
<td>0.023</td>
</tr>
<tr>
<td>PolyUFA- Steak</td>
<td>2.77</td>
<td>3.41</td>
<td>0.129</td>
</tr>
<tr>
<td>Saturated- Ground</td>
<td>44.5</td>
<td>50.9</td>
<td>0.001</td>
</tr>
<tr>
<td>MonoUFA- Ground</td>
<td>47.0</td>
<td>39.2</td>
<td>0.001</td>
</tr>
<tr>
<td>PolyUFA- Ground</td>
<td>2.7</td>
<td>2.44</td>
<td>0.276</td>
</tr>
</tbody>
</table>

\(^a\)Composite samples from 13 states

(Leheska et al., 2008 – J. Anim. Sci.)
# Fatty Acid Profile

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<tr>
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<th>Dietary treatment</th>
<th>Grass-fed $^a$</th>
<th>$P$-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Omega-3- Steak</td>
<td>0.19</td>
<td>1.07</td>
<td>0.002</td>
</tr>
<tr>
<td>CLA- Steak</td>
<td>0.48</td>
<td>0.85</td>
<td>0.001</td>
</tr>
<tr>
<td>Omega-3- Ground</td>
<td>0.24</td>
<td>0.88</td>
<td>0.002</td>
</tr>
<tr>
<td>CLA- Ground</td>
<td>0.60</td>
<td>1.03</td>
<td>0.001</td>
</tr>
</tbody>
</table>

$^a$Composite samples from 13 states

(Leheska et al., 2008 – J. Anim. Sci.)
Grain-Fed vs. Grass-Fed

- Grass-fed has:
  - Two reports suggest between 1/5 to 1/3 American consumers prefer grass-fed over grain-fed beef (Umberger et al., 2002; Cox et al., 2006)
Quality: Perception is Reality

- Identification of a customer willing to pay for these definitions of quality constitutes a value-added opportunity for the beef production chain
Quality: Perception is Reality

- Identification of a customer willing to pay for these definitions of quality constitutes a value-added opportunity for the beef production chain
Market Outlets

- Market through established program

OR

- Start your own program
Start Your Own Program

Freezer beef

- Opportunity to add value using local trustworthy USDA Custom slaughter facility
- Sell the live animal as carcass, side, or quarter
- < 30 freezer beef annually
Found: 1 Displaying: 1 - 1

Mar 30 - BLACK ANGUS ALL NATURAL BEEF - $4 - (Westville, FL) pic fam & garden

Few LOCAL results found. Here are some from NEARBY areas...

Apr 11 - Want old freezer burned meat for pet food - items wanted

Apr 5 - ALL NATURAL ANGUS BEEF - (SOUTHSIDE JAX) pic fam & garden

Apr 4 - Black Angus Beef - $4 - (Westville, FL) pic fam & garden

Mar 24 - BLACK ANGUS ORGANIC BEEF - $4 - (Westville, FL) pic fam & garden

Sort by: most recent best match low price high price

Found: 1 Displaying: 1 - 1

Copyright © 2010 craigslist, inc.
BLACK ANGUS ALL NATURAL BEEF - $4 (Westville, Fl.)

Date: 2010-03-30, 9:23PM EDT
Reply to: sale-swmqh-1669425095@craigslist.org

E & K RANCH All Natural BLACK ANGUS BEEF $4. a pound, cut, wrapped and ready for your Freezer. Beef Sold by 1/4, 1/2 side or Whole Beef.
We require a $100. deposit on each quarter ordered, balance due at time of pick up or delivery. (Delivery Extra)
Take advantage of our EASY PAY ADVANCE PROGRAM. (No Interest)
If you have any questions, Please Contact Ed Smith 850-373-8914 or e-mail.

- Location: Westville, Fl.
- it's NOT ok to contact this poster with services or other commercial interests
If you aspire greater than freezer beef...

Prepare for a long haul
Starting a Niche Meat Program

http://www.nichemeatprocessing.org/
Starting a Niche Meat Program

Adding Value to Livestock with Niche Meat Marketing Programs

Chad Carr, Larry Eubanks, and Ryan Dijkhuis

The profitability of meat-animal production has declined due to increasing feed, fuel, and fertilizer costs. Therefore, several producers who want to gain a greater portion of the available profit margin are trying to become meat marketers, rather than just livestock marketers. Many of these producers are trying to develop a “niche” or specialty market for their products by socially or emotionally appealing to their target consumers, through some type of “buzz-word” production method (Honeyman et al., 2006). Some of these production methods include, but are not limited to, “organic,” “natural,” “grass-fed,” and...

Existing Niche Meat Marketing Programs

Producers who want to add value to their animals via niche markets can decide between one of two options:

- Market their animals through an established niche market

  OR

- Producers can start their own program
Starting a Niche Meat Program

USDA Inspected Livestock Slaughter Facilities in Florida

Chad Carr, Larry Eubanks, and Ryan Dijkhuin

Several livestock producers are trying to gain a greater portion of the available profit margin by becoming meat marketers, rather than just livestock marketers. Additionally, many Florida consumers aspire to buy locally raised products. The following is a comprehensive list of USDA inspected meat animal slaughter facilities in the State of Florida. Contact these processors help to meet the
Starting a Niche Meat Program

- Determining the target audience
- Product quality relative to the demographics of the target audience
Starting a Niche Meat Program
Starting a Niche Meat Program

- Cost Analysis
Meet the Ranchers

Panorama Organic Grass-Fed Beef™ is produced by family ranchers in California, Oregon, Washington and Wyoming who raise English cattle breeds on 100 percent Certified Organic grasses and range forage.

Ranchers who raise Panorama cattle treat the animals humanely in low-stress environments and employ pasture rotation and land-management practices that promote animal health and protect delicate rangeland ecosystems. Their ranching and animal-handling practices are verified through regular third-party audits by Western Ranchers Beef Cooperative, an association that promotes sustainable ranching practices.

Darrell & Callie Wood
Vina, CA

Peters Valley Cattle
Winters, CA

Wood Cattle, Inc.
Susanville, CA

Double BRC Ranch
Fort Jones, CA

Martinez Ranch
Red Bluff, CA

Tabbott Ranch
Lakeview, OR

Balin Ranch
Klamath Falls, OR

Luscombe Farms
Tulelake, CA

Paul & Delone Olson
Chehalis, WA
Life on the Ranch

The Arapaho Ranch and the Northern Arapaho Tribe make an important decision to sell directly into the Whole Foods stores in the Rocky Mountain Region.

The Arapaho Ranch has begun the process that will allow it to sell directly into the Whole Foods’ stores in the Rocky Mountain Region. In order to provide the highest quality, most transparent and the most verifiable product possible, the Arapaho Ranch has made the decision to begin selling under its own label. Prior to this decision, the ranch sold to Panorama Meats, Inc. of Vina, California that, in turn, distributed into the Whole Foods’ stores in Northern California, the Pacific Northwest and the Rocky Mountain Region. The ranch was the sole supplier of the cattle that provided the entire product to the Rocky Mountain Region, but the program was set up whereby the ranch sold carcasses to Panorama and it, in turn, handled processing and distribution.

During our many cooking demonstrations and promotional events in many of the Whole Foods’ stores in the Rocky Mountain Region, we encountered many customers who were confused by our relationship with Panorama. It was frequently asked why we didn’t sell directly into Whole Foods? A lot of things have gone into this decision. But, ultimately, we needed to take this step to satisfy the needs of our loyal customers. Whole Foods does a wonderful job of presenting our product in the best...
Welcome to the home of America’s finest 100% grass-fed beef!

The grass-fed beef revolution is here, and Tallgrass Beef Company is leading the way. If you’re new here, we invite you to explore our site to learn the benefits of grass-fed beef, and why we believe our grass-fed beef is healthier, tastier, more environmentally responsible, and more humanely raised than any grass-fed beef available anywhere. And if you’re one of our many loyal customers, welcome back. As a Tallgrass revolutionary, you already know that when it comes to 100% grass-fed beef, Tallgrass Beef sets the standard.

Why Tallgrass Beef Is Better For...

For Mom And You!
Get steaks for Mother’s Day and favorites for grilling. Order Now.

One bite turns the skeptics into believers.
Newman Farm Agri-Culinary Tour

Newman Farm University

"INSIDE OUT" 2010

Have you ever wondered EXACTLY how the delicious pork you get from Newman Farm Heritage Berkshire Pork makes it all the way to your plate (and stomach)? If so, then our 2010 "INSIDE OUT" dinner and farm experience is just right for you! This year we want to help you understand and explore the entire pig, from beginning to end, inside and out.

Gastronomy defined is "the study of the relationship between culture and food". We want to share with you our culture as a farming family who is involved in the production of every piece of pork we sell.
Questions

Because the Cattle Business isn’t Black & White

www.edis.ifas.ufl.edu
Verified Beef, LLC
209 South 19th Street
Suite 3
Bozeman, MT 59718
Phone: (406) 922-2333
Email: pvp@verifiedbeef.net
- Source Verified
- Age Verified
- Grass Fed
- Non-Hormone Treated Verified
Beef Cattle (NHTC)

IMI Global, Inc.
221 Wilcox Street, Suite A
Castle Rock, CO 80104
Phone: (303) 895-3002
FAX: (720) 221-0411
Email: info@imiglobal.com
Contact: Leann Saunders