



9-12

Marketing Beef in the U.S. Past, Present and Future

Francis L. Fluharty

Research Professor

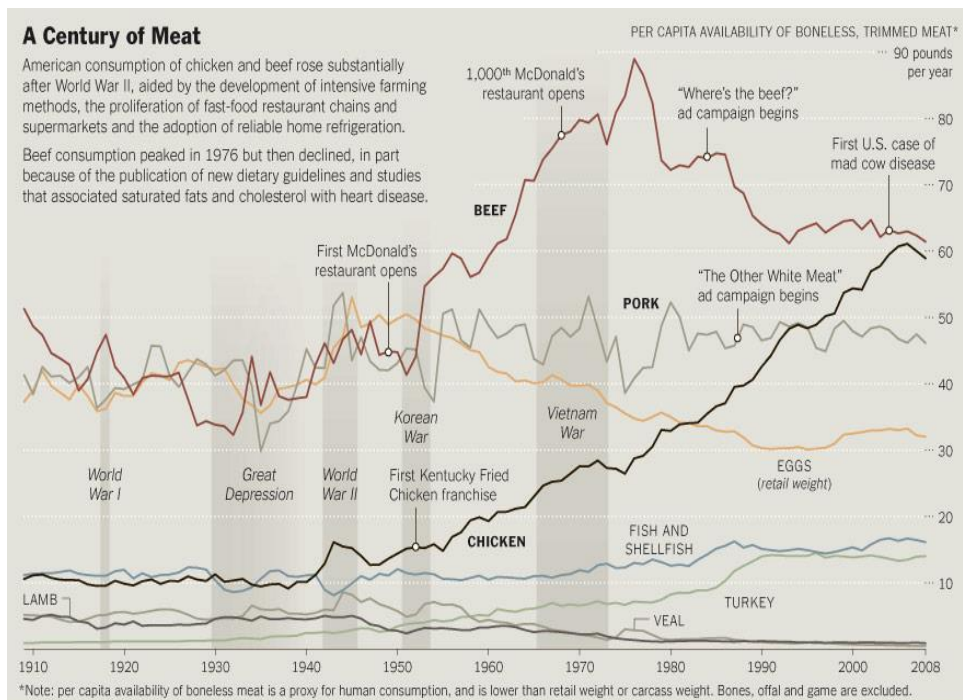
Department of Animal Sciences

The Ohio State University



THE OHIO STATE UNIVERSITY

COLLEGE OF FOOD, AGRICULTURAL,
AND ENVIRONMENTAL SCIENCES



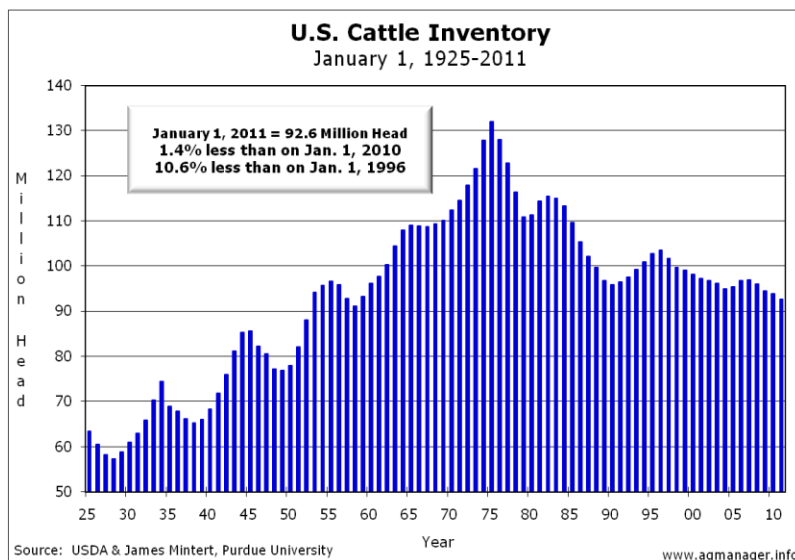


U.S. Beef Industry

9-7-14

- 2014 Cattle inventory (as of July 1, 2014): 95 million, 3% down from July 2012. Economic impact: \$44 billion in farm gate receipts (USDA NASS) Number of beef cow operations: 729,000 Number of cattle & calf operations: 915,000 29.0 million beef cows (down 1%)
- 33.9 million head calf crop (2013)
- The average cow herd size: 40 head
- 2014 U.S. total beef exports: 5.6 billion pounds Top export markets: Canada, Japan, Mexico, South Korea and Hong Kong
- - See more at:
<http://www.beefusa.org/beefindustrystatistics.aspx#sthash.Ll0Pfsu3.dpuf>

The U.S. Beef Inventory is at the Lowest Level in the Last 50 Years



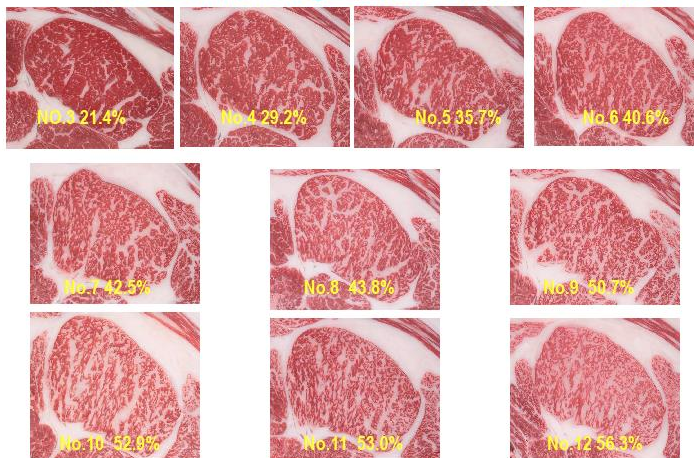
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In the U.S., Beef is Marketed Based on Red Meat Yield, Physiological Maturity, and Marbling, and the Highest Priced Beef Has the Highest Marbling



The Japanese Black (Wagyu) Breed has the Most Marbling and is the Highest Priced Meat

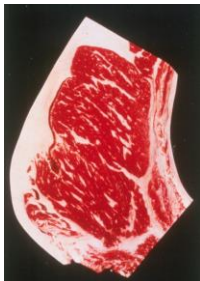
New Beef Marbling Standard from 2008 - JMGA



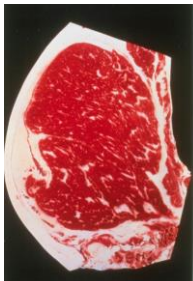
Each marbling chip shows the **minimum IMF%** required to achieve each BMS number

g.p.c.

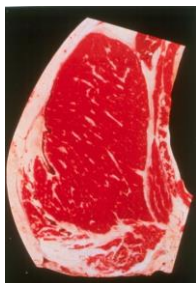
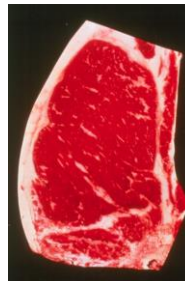
Moderately Abundant
Prime ⁰



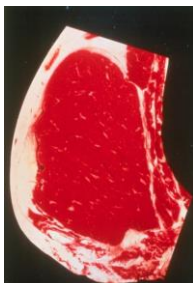
Slightly Abundant
Prime -



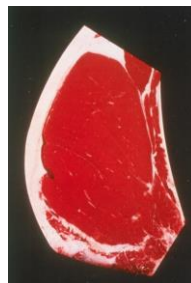
Moderate
Choice +



Modest
Choice ⁰



Small
Choice -



Slight
Select

USDA Prime vs. Grade 10 Wagyu Steaks



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Intramuscular Fat and Palatability

Percent of loin steaks receiving undesirable overall palatability ratings

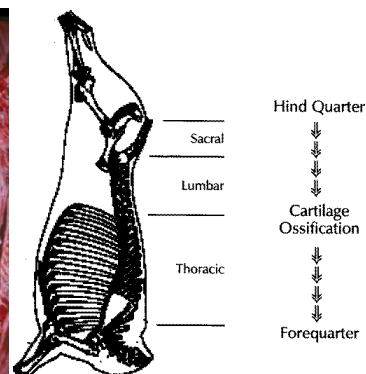
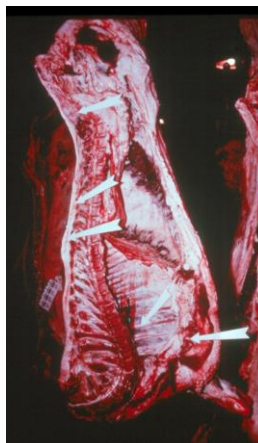
USDA Prime	USDA Choice	USDA Select	USDA Standard
5.6%	10.8%	26.4%	59.1%

Source: Dr. Gary Smith, Colorado State University

Quality Grades

- Maturity (physiological)
 - Skeletal maturity of beef

- Vertebrae
- Ribs

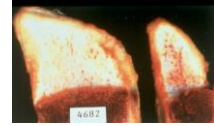


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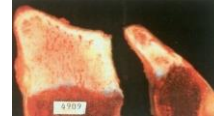
Skeletal maturity



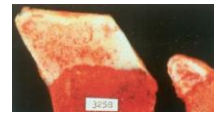
A



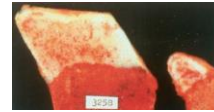
B



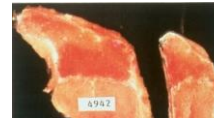
C



D

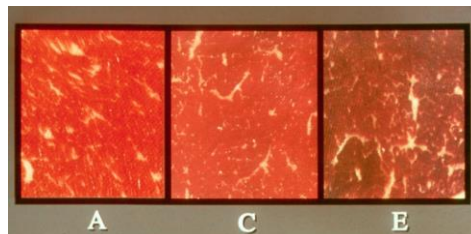


E



USDA Quality Grade

Lean Maturity Partially Determined by Color:
Bright Red Preferred





Carcasses are stratified into five maturity groups, based on the estimated age of the live animal skeletal ossification: **B and above must be sold boneless**

Carcass Maturity Approximate Live Age

A	9 - 30 mos.
B	30 - 42 mos.
C	42 - 72 mos.
D	72 - 96 mos.
E	> 96 mos.

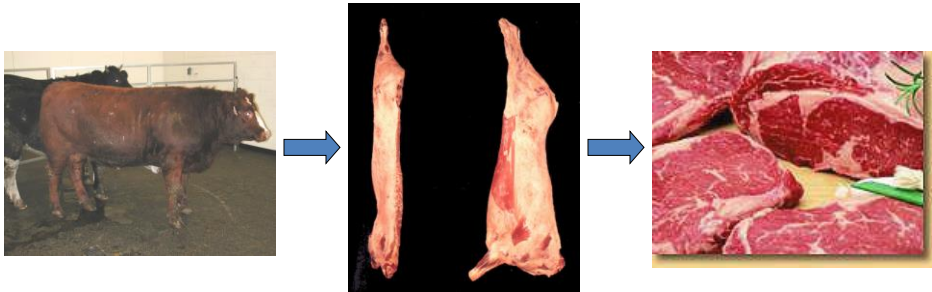
Quality Grades:

Issue With Grass Fed is that Dark Color Meat May Have C Maturity and is Not Eligible for Choice

Degrees of Marbling	Maturity ¹				
	A ³	B	C	D	E
Slightly Abundant	PRIME				
Moderate			COMMERCIAL		
Modest	CHOICE				
Small					
Slight	SELECT		UTILITY		
Traces					
Practically Devoid	STANDARD			CUTTER	

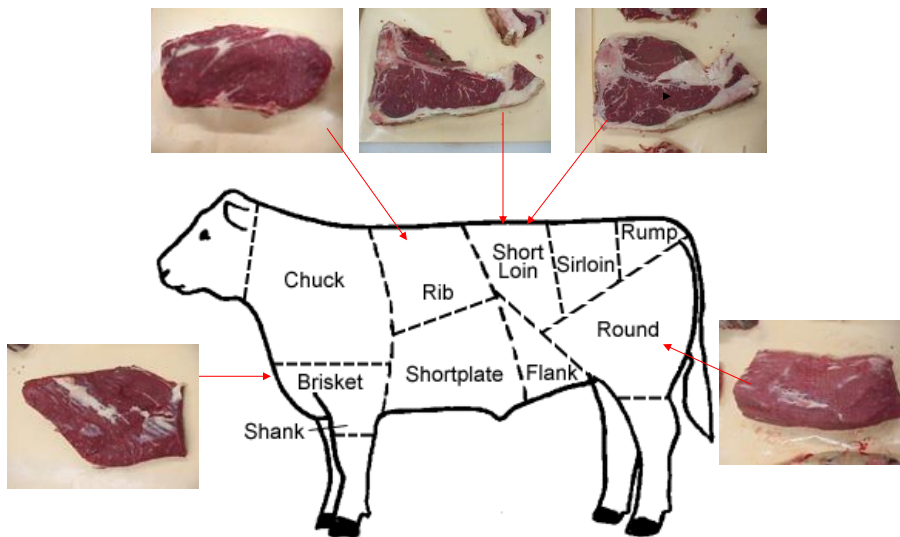
Yield Grades

- Yield grades predict cutability.
- Cutability – the amount of boneless, closely trimmed, retail cuts that can be obtained from a carcass.



Wholesale Cuts of Beef and Exports

Middle Meats are 23-25%, but End Meats are 75-77% of Volume



USDA Yield Grade

- USDA Yield Grade for beef is computed using the following criteria:
 1. subcutaneous fat thickness at the 12th rib (BF)
 2. ribeye area (REA)
 3. hot carcass weight (HCW)
 4. and kidney, pelvic, and heart fat (KPH)



Carcass Value Due to Yield Grade Reflects the Percent of Carcasses in Closely Trimmed, Boneless Retail Cuts from the Round, Loin, Rib, and Chuck (Cutability)

Yield Grade	% Cutability
1	> 52.3%
2	50 to 52.3%
3	47.7 to 50%
4	45.4 to 47.7%
5	< 45.4%

Grass Versus Grain Feeding:

- Grass fed cattle grow slower, deposit less marbling, and tend to have less tender meat due to the slow rate of growth and older age at slaughter.
- Grain fed cattle grow faster, deposit more marbling, reach a market weight at a younger age, and tend to have more tender meat due to faster collagen turnover.

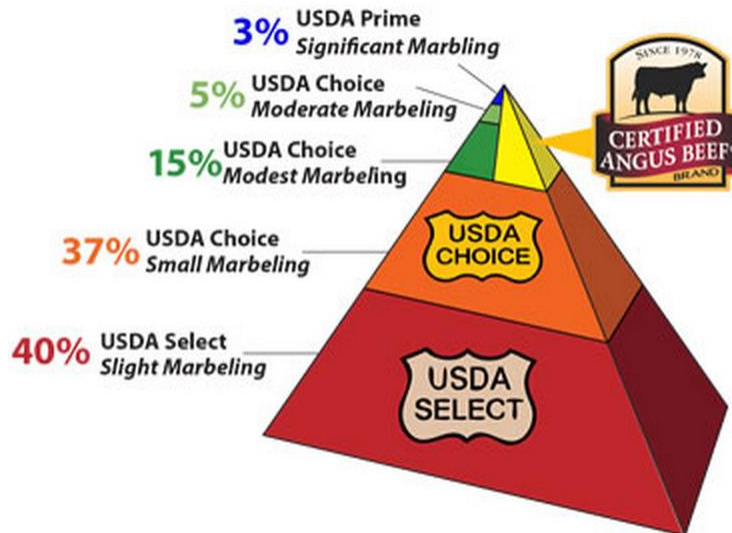


Steaks from Grass Fed (Dark) and Grain Fed (Bright Red) Cattle



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Percentage of Graded Cattle in the U.S.



Angus and Wagyu Have High Marbling:
 Use Artificial Insemination With U.S. and
 Australian Genetics to Improve the Cow Herd

Grass Fed High Marbling Angus



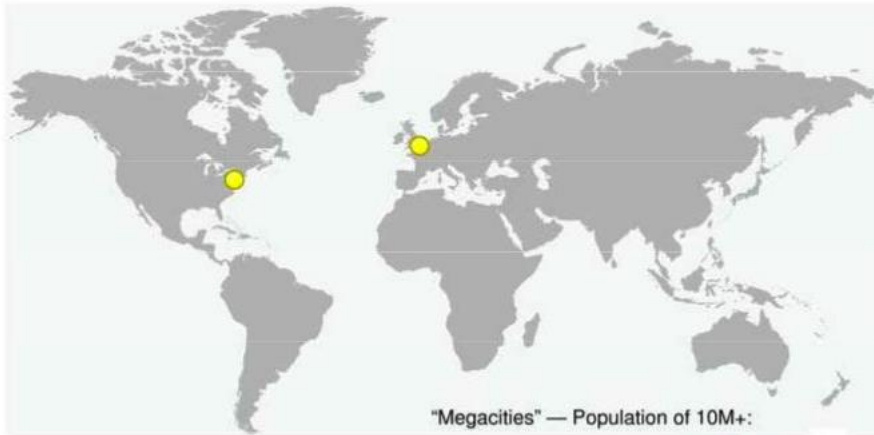
Grass Fed High Marbling Wagyu



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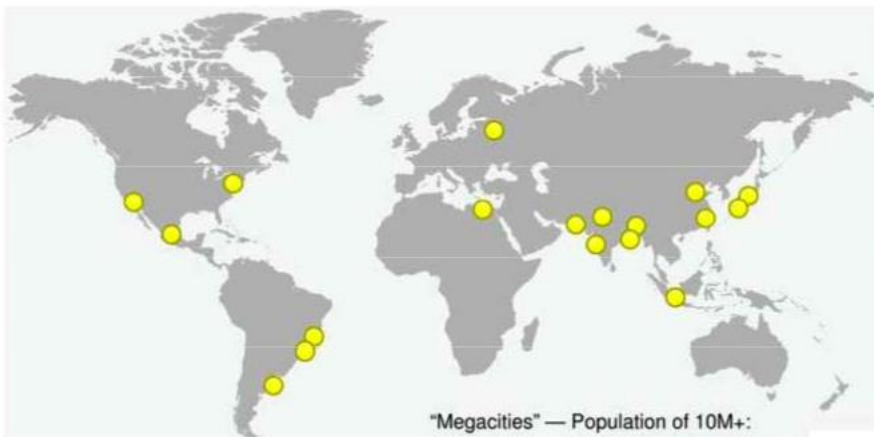
Where are the Markets?

2 Megacities in the World in 1950



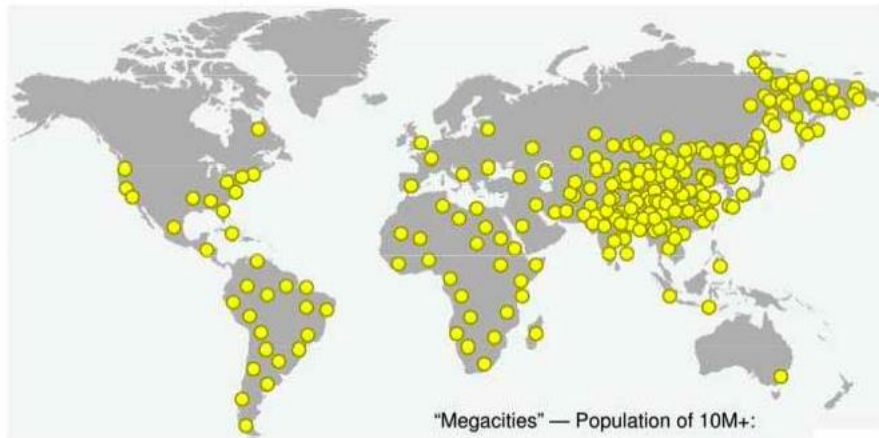
Where are the Markets?

18 Megacities in the World Today

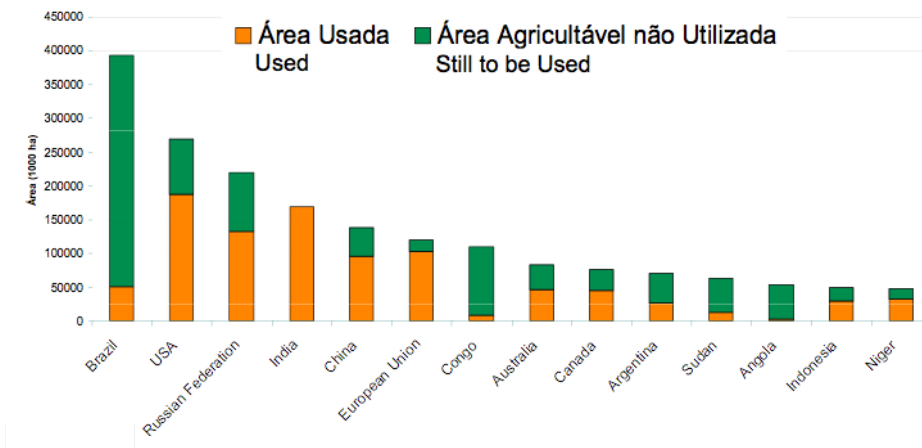


Where are the Markets?

Over 400 Megacities in the World by 2050



Where Can Agricultural Expansion Come From?



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Total Cattle Selected Countries (Millions) 2012

India	320
Brazil	190
China	104
United States	92
European Union	87
Argentina	48
Colombia	32
Australia	28
Mexico	17
Canada	13

Per Capita Beef and Veal Consumption

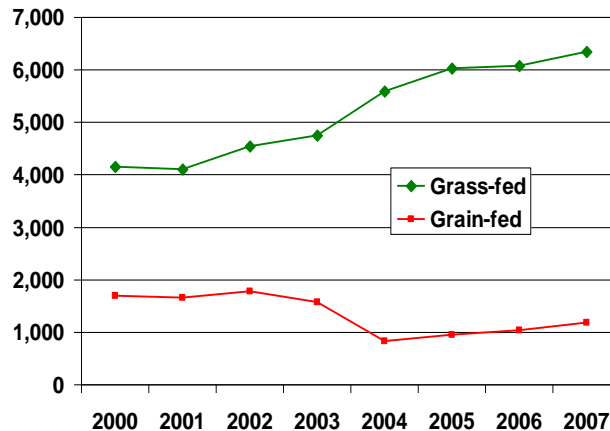
- Uruguay 134 lbs.
- Argentina 117 lbs.
- Brazil 84 lbs.
- United States 83 lbs.
- Hong Kong 52 lbs.
- South Korea 30 lbs.
- China 9 lbs.
- India 3.5 lbs.



Source: http://www.fas.usda.gov/dlp/circular/2011/livestock_poultry.pdf

Global Beef Exports:

As Grain Prices Rise, More Grass Fed Cattle are Exported (From ALL Exporting Countries)



Source: USDA, carcass weight equivalent, thousand MT; USMEF est.

Message

- World population will double in the next 50 years.
- We are going from 750 Million to 3.3 Billion middle-class consumers in the next 50 years, adding 51 Million middle-class consumers PER YEAR!
- South America has more non-desert, non-arctic land, not already under intensive production, capable of providing food than any other continent.
- The best opportunity for grass-fed beef is high-marbling.



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Table 7—Food expenditures by families and individuals as a share of disposable personal income

Year	Disposable personal income	Expenditures for food					
		At home ¹		Away from home ²		Total ³	
		Billion dollars	Percent	Billion dollars	Percent	Billion dollars	Percent
1930	74.7	15.8	21.2	2.3	3.1	18.1	24.2
1940	76.8	13.5	17.6	2.4	3.1	15.9	20.7
1950	210.1	35.7	17.0	7.6	3.6	43.3	20.6
1960	365.4	51.5	14.1	12.6	3.4	64.0	17.5
1970	735.7	75.5	10.3	26.4	3.6	102.0	13.9
1980	2,009.0	180.8	9.0	85.2	4.2	266.0	13.2
1990	4,285.8	314.5	7.3	175.2	4.1	489.6	11.4
2000	7,327.2	433.0	5.9	288.8	3.9	721.9	9.9
2010	11,379.9	630.1	5.5	443.9	3.9	1,074.0	9.4

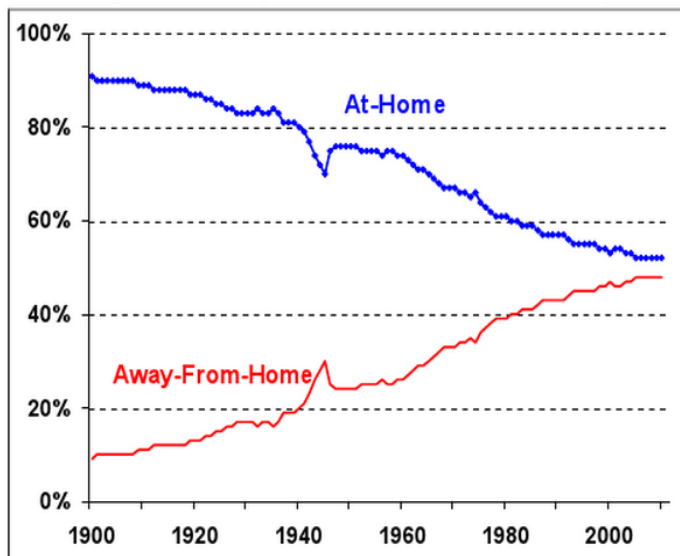
¹Food-at-home includes cash purchases from grocery stores and other retail outlets, including purchases with food stamps and WIC vouchers and food produced and consumed on farms (valued at farm prices), but excludes government-donated foods.

²Food-away-from-home includes meals and snacks purchased by families and individuals and food furnished to employees, but excludes food paid for by government and business, such as donated foods to schools, meals in prisons and other institutions, and expense-account meals.

³Total may not add due to rounding.

<http://www.ers.usda.gov/briefing/cpi/foodandexpenditures/data/2010/2010table7.xls>
 Accessed: 3/22/2012

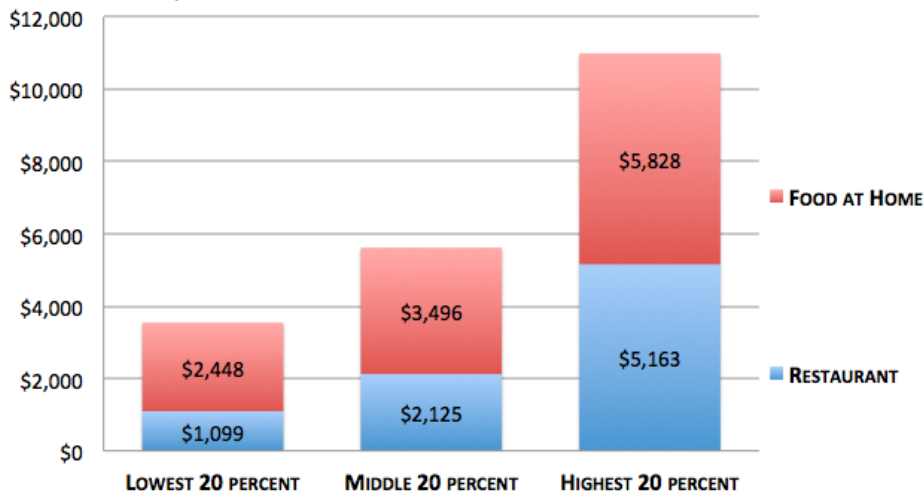
Percentage of Food Expenditures in the U.S.: 1900 to 2000



Source: <http://www.theatlantic.com/business/print/2013/03/cheap-eats-how-america-spends-money-on-food/273811/>

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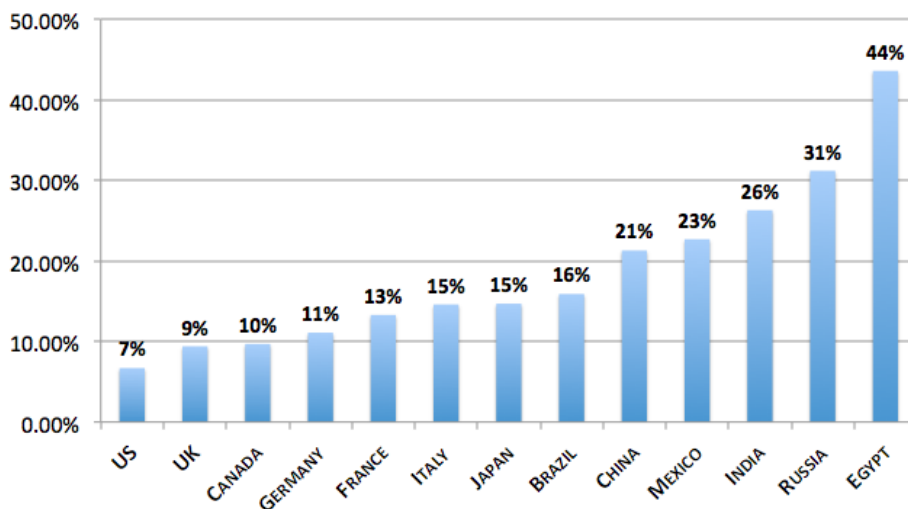
Where Shall We Eat? 2011 Annual Food Spending: At Home and Away



The richest quintile spends about 4X as much as the poorest in general-- but it spends 6X on alcohol, 5X on dining out, and 3X on food. The most important difference between rich families and poor families when it comes to food spending isn't really what they eat, but where they spend their food money. Poorer families eat much more at home. Richer families spend more money (but a similar share of their income) dining out.

Source: <http://www.theatlantic.com/business/print/2013/03/cheap-eats-how-america-spends-money-on-food/273811/>

How Much of the Typical Family Budget Is Spent on Food at Home?



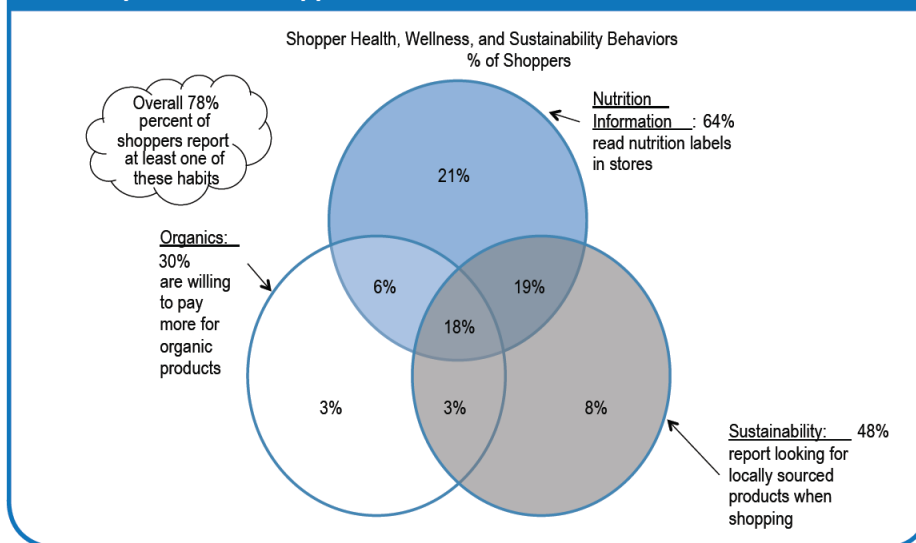
Source: <http://www.theatlantic.com/business/print/2013/03/cheap-eats-how-america-spends-money-on-food/273811/>

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What are Consumers Telling Us?



Some element of health and wellness is important to more than three quarters of shoppers



Source: Booz & Company analysis

http://www.icn-net.com/docs/12086_FMIN_Trends2012_v5.pdf

2015 Culinary Forecast



2015 Culinary Forecast

CULINARY THEMES

1. Environmental sustainability
2. Natural ingredients/minimally processed food
3. Hyper-local sourcing
4. Food waste reduction/management
5. Gluten-free cuisine

2015 Culinary Forecast

MAIN DISHES/CENTER OF THE PLATE

1. Locally sourced meats and seafood
2. New cuts of meat
3. Sustainable seafood
4. Non-traditional fish
5. Grass-fed beef

Both Men and Women Shop for Groceries in the U.S.

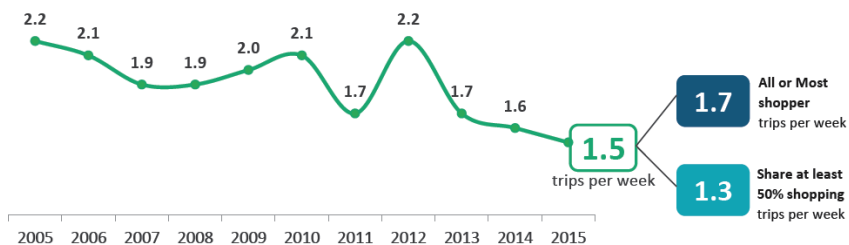


U.S. GROCERY SHOPPER TRENDS 2015

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Fewer Trips to the Grocery Store Means That Meat Must Be Case Ready

CHART E.4: AVERAGE WEEKLY SHOPPING TRIPS TO GROCERY STORE BY PRIMARY SHOPPER



Source: FMI U.S. Grocery Shopper Trends, 2005-2015. n=2,265-2015. n=2116-2014; n=1548-2013; n=1401-2012; n=2046-2011; n=2003-2010

U . S . G R O C E R Y S H O P P E R T R E N D S 2 0 1 5

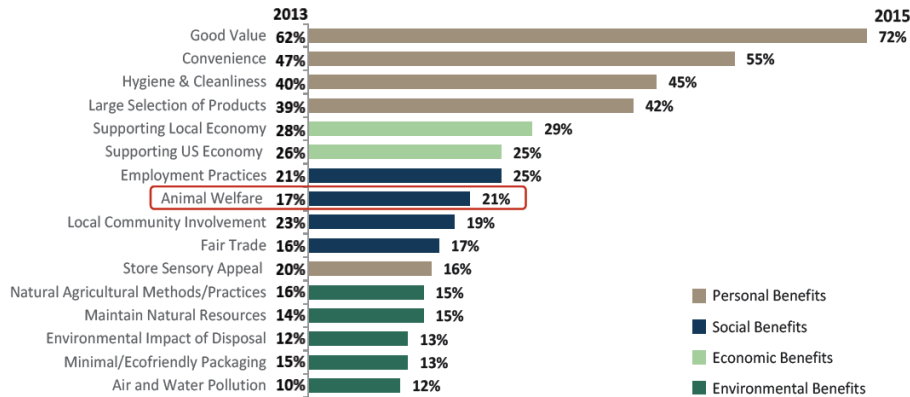
Beef Must be Boxed and Case Ready





Animal Welfare Now Ranks Above All-Natural and Sustainability for U.S. Retail Meat Shoppers

CHART E.16: MOST IMPORTANT RETAILER ATTRIBUTES, BY BENEFIT ZONES



Source: The Hartman Group, Transparency. n=1,701-2015, n=1,673-2013.

U . S . G R O C E R Y S H O P P E R T R E N D S 2 0 1 5

Consumers Determine What Retail Grocery Stores, and Restaurants Buy From Processors!!!

When Head Meets Heart in the Grocery Cart: Emerging Consumer Values Regarding Food Safety, Health and Wellness, and Animal Welfare

Wednesday, October 14, 2015 (2pm - 3pm US/Eastern)
FMI Webinar

[Add to Calendar](#)
[My Meetings](#)

Registration is now full. A recording of this webinar will be available by October 19th. For more information and to access the recording please visit: www.fmi.org/grocerytrends

This webinar will highlight findings from the FMI 2015 U.S. Grocery Shopper Trends Report, conducted by the Hartman Group. Participants will gain insights into:

- Updates to shopper values and trends, including food safety, animal welfare and the convergence of personal health and community wellness ideals.

This is the last in a series of three webinars delving into findings from the Trends research. To view previous recordings visit www.fmi.org/grocerytrends.

Registration Fees:

These fees are available through 10/14/2015

Name	Price
Member/Non-Member	\$0.00

Two Distinct Markets:

- Grass-Fed markets to health conscious consumers concerned about animal welfare, environmental sustainability, and their own health.
- Highly-marbled beef markets to consumers concerned with palatability and eating experience



PROBLEM: These Are Great, But NOT Marketable

In My Opinion, You Must Market the Image of the Patagoniaian Region of Chile

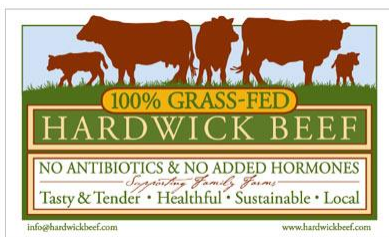
However, Your Production Must Match the EXPECTATIONS of Your Consumers



Meat Must Be Case Ready For Today's Consumers



Consumers Demanding Grass-Fed Beef also Demand Production Practices Deemed Humane



* Meets the Humane Farm Animal Care Program standards, which include nutritious diet without antibiotics, or hormones, animals raised with shelter, resting areas, sufficient space and the ability to engage in natural behaviors.



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Most Grass-Fed Beef is Sold as Ground Beef:

The Dark Color of Grass-Fed Beef is a Negative: Remember, 99% of U.S. consumers are NOT from farms, and 3 generations removed from agriculture.



Highly Marbled Meat Demands the Highest Price Premium



Marbled shoulder roast from cattle grown in Hyogo Prefecture

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For U.S. Consumers, Price is Determined by Cut and Use:

High Price



Low Price



The Rib and Loin Have the Highest Value Cuts

[Large Version](#)

Wholesale Pricing: Choice Grade Beef Primals
Week ending: October 02, 2015

RIB				
IMPS #	Description	Curr Week Price	Prev Week Price	Prev Year Price
109E	Rib, Ribeye, Lip-On, Bone In	5.94	5.81	6.17
112A	Rib, Ribeye Roll, Lip-On, Boneless Heavy	6.57	6.70	6.85
112A	Rib, Ribeye Roll, Lip-On, Boneless Light	7.33	7.35	7.36

CHUCK				
IMPS #	Description	Curr Week Price	Prev Week Price	Prev Year Price
113C	Chuck, Square-Cut, N...	2.35	2.45	2.67
114	Chuck, Shoulder, Bon...	2.05	2.19	2.82
114A	Chuck, Shoulder, Bon...	2.15	2.33	2.99
114E	Chuck, Shoulder, Arm...	2.71	2.92	3.45
114F	Chuck, Shoulder, Tend...	3.73	3.98	3.77
115	Chuck, Square-Cut, B...	2.91	2.95	2.01
116A	Chuck, Roll, Boneles...	2.90	3.04	3.22
116B	Chuck, Tender, Bone...	2.51	2.71	3.08
130	Chuck, Short Ribs B...	2.59	2.58	3.51

LOIN				
IMPS #	Description	Curr Week Price	Prev Week Price	Prev Year Price
174	Loin, Short Loin, Ox1...	5.01	5.20	4.95
174	Loin, Short Loin, 2x3...	4.56	4.91	4.79
175	Loin, Strip Loin, 1x1...	4.14	4.34	4.01
180	Loin, Strip Loin, Ox1...	5.31	5.36	4.88
180	Loin, Strip Loin, 1x1...	4.75	4.81	4.51
184	Loin, Top Sirloin Butt...	3.90	3.99	3.26
184	Loin, Top Sirloin Butt...	3.83	4.24	3.09
185A	Loin, Bottom Sirloin, ...	4.41	4.59	4.18
185B	Loin, Bottom Sirloin, ...	2.56	2.70	3.37
185C	Loin, Bottom Sirloin, ...	2.56	2.72	3.48
185D	Loin, Bottom Sirloin, ...	3.68	3.94	4.98
189A	Loin, Tenderloin, Full...	11.01	11.53	12.11
191A	Loin, Tenderloin Butt...	11.12	11.56	11.48

Chuck

Rib

Loin

Brisket

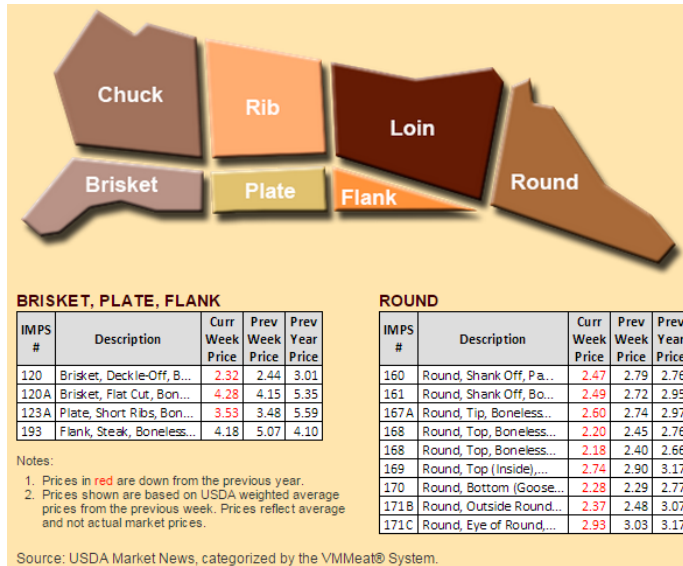
Plate

Flank

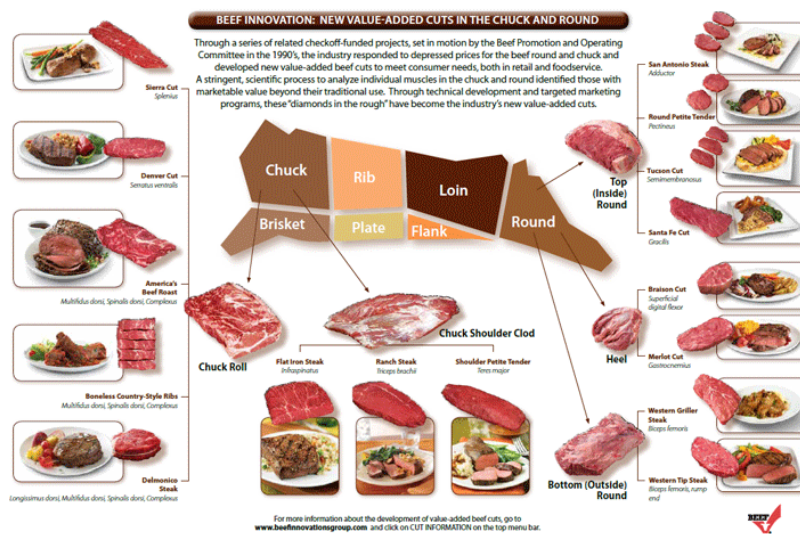
Round

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The Round Has the Lowest Value Cuts



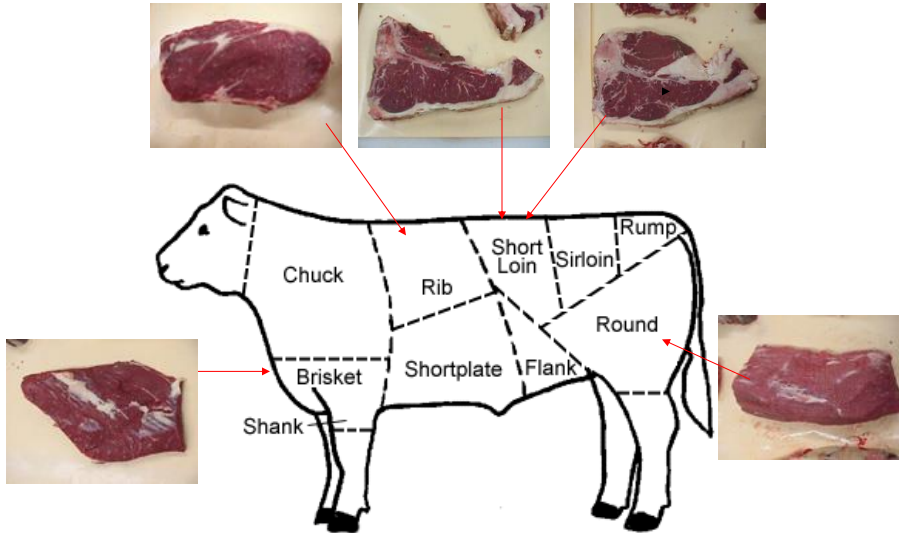
Meat Cutting for Added Value Cuts is CRITICAL



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Wholesale Cuts of Beef and Exports

Middle Meats are 23-25%, but End Meats are 75-77% of Volume



Opportunities

- Due to an increasing consumer demand, the value of differentiated products is greater than the supply in many areas. This creates a limited high-value market.
- Highly differentiated products, such as high-quality, grass fed cattle have a market, but they **require innovative production and marketing.**





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Reality

- Processing Plants **MAKE THEIR MONEY ON BYPRODUCTS, NOT MEAT!**

USDA BY-PRODUCT DROP VALUE (STEER) FOB CENTRAL U.S.

The hide and offal value from a typical slaughter steer(1)

for today was estimated at 15.44 per cwt live, down

-0.05 when compared to Friday's value.

FOB CENTRAL U.S.

TODAY'S CALCULATIONS FOR BY-PRODUCT VALUE (STEER)

	Lbs	Price	Change	Value
			Prv/Dy	
Steer hide, butt brand/Pc	5.03	102.50	-	7.45
Tallow, edible (2)	1.20	30.25	-	0.36
Tallow, packer bleachable	4.50	27.25	-	1.23
Tongues, Swiss #1 0-3%.exp	0.24	400.00	-	0.96
Cheek meat, trmd	0.32	220.00	5.25	0.70
Head meat	0.13	136.00	-	0.18
Oxtail, selected	0.24	400.00	-	0.96
Hearts, reg. bone out	0.38	89.00	-	0.34
Lips, unsalted	0.13	215.00	-	0.28
Livers, slctd, export	0.96	60.00	-	0.58
Tripe, scalded edible	0.65	110.00	-	0.72
Tripe, honeycomb bleached	0.15	325.00	-	0.49
Lungs, inedible	0.47	6.00	-	0.03
Melts	0.14	6.50	-	0.01
Meat & bone ml 50% blk/ton	3.70	393.00	-32.00	0.73
Blood meal 85% blk/ton pnh	0.60	1400.00	-	0.42
Totals:	18.84			15.44
Dressed equivalent basis (63% dress):	24.51			

(1) Typical slaughter steer weighs 1,375 pounds

(2) May include Technical Animal Fat as both meet the same AFOA specifications

Dressed equivalent basis (63% dress): 19.68 (1) **Typical slaughter steer weighs 1,374 pounds.** ****HIDE WEIGHT ADJUSTED TO REFLECT SEASONAL CHANGE****

This comes to \$212.15 per animal in large processing plants, but small plants pay renderers to take the most of this away!!!! THIS IS WHERE LARGE PACKING PLANTS MAKE THEIR MONEY!

9.7.24

In the U.S. the Beef Industry Funds Research and Education

- Food Service:
<http://www.beeffoodservice.com>
- Bovine Myology
<http://bovine.unl.edu/>
- Beef Safety
<http://www.beefusa.org/beefsafety.aspx>

There are TREMENDOUS Opportunities, but the
Processing Must Be Modern to be Competitive!!!

