



**First,
Let me set the stage for
the North American Beef
Industry:**

Opportunities

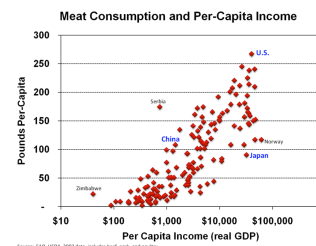


One Projection:

The next two decades will be the best in the history of the beef industry. There will be more people, they will have more money and they will want more beef.

Correlation: Salary and Consumption

As per-capita income increases, meat consumption increases.



More Beef Consumption--

World spending on meat by income level

Income level	Median income, USD	Meat, \$	Pct
Very low	500	19	3.8%
Low	2,000	170	8.5%
Low middle	4,000	240	6.0%
Upper middle	9,925	397	4.0%
High	24,615	640	2.6%

Source: HSBC Global Research

Note: by 2050, three billion people will move from very low to Low middle, Upper middle or High

Megatrend – Ethnic Changes

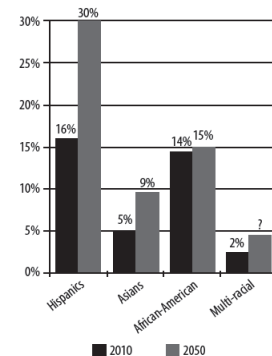
From 2010 to 2050:

- Hispanics are anticipated to grow from 16% to 30% of households
- Asians from 5% to 9%
- African Americans from 14% to 15%
- The newest ethnic trend is "multi-racial" ... only 2% of population in 2010, but it is a sign of the time for millennials

What this means for beef:

- Beef must work to maintain and broaden its appeal to all ethnic groups
- Culinary tastes will shift

Source: 2010
Bureau of Labor Statistics



For the Love of Beef

Overall, 69% of consumers would order beef to celebrate their birthday and 79% of men would do so.

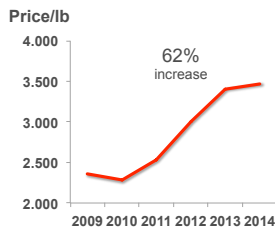
Source: Foodservice Factoids, December, 2008

Ground Beef Nation

- Demand for all beef has increased but especially ground beef
- An increasing proportion of the carcass is being ground



How has the price of hamburger changed since 2009?



July 4th, 2014 Weekend

- \$193 mil spent on hamburger patties
- 155 mil hotdogs consumed
- 68 million cases of beer purchased

Trends, 2014



How many consumers say a ground beef burger tastes better than a ground turkey burger?

- A. 2 to 1
- B. 5 to 1
- C. 10 to 1 ✓

Lundeen, 2015

What type of information would the consumer like to see on meat packaging?

Consumers are interested in meat packaging providing the following information:



Q. What type of additional information would you like to see on meat packaging in order to better inform your decision?

"Why are you a vegetarian?"

• "I quit eating meat when I realized it came from animals."

• "I really cut back on meat consumption since learning that the all the flavor in meat comes from the urine it is soaked in during processing." -- a 6th grade teacher from Arizona,

by Trent Loos on 4/1/03 for www.meatingplace.com

Freedom to operate: Consumers

- They will pay a premium for stuff that they really want – iPhones, Starbucks, etc.
- Through social media, consumers can organize rapidly around a cause
- The customer is always right. But, the customer is often not-
 - Scientifically literate
 - Interested in the truth
 - Concerned about our well-being
- Logic and science are not enough to change their minds

(Anderson, 2015)



What's Wrong?



How has the population of the North American cow herd changed?

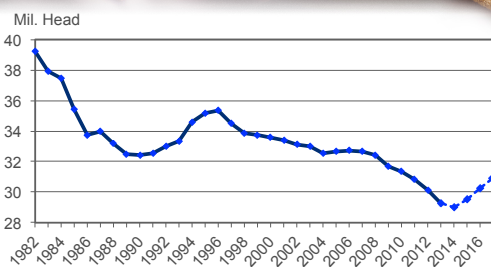


Cow Herd Questions

- How did we get here?
- Where?
- How much rebuilding is needed?
- How long will it take?



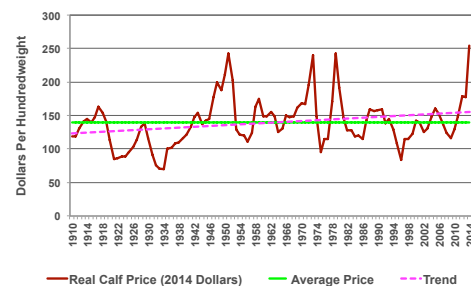
Beef Cow Inventory and Projected Changes



Analysis by Derrell Peel
Data Source: USDA-NASS

C-N-02
01/29/12

Real Beef Calf Prices (Brester, 2015)



Source: Livestock Marketing Information Center (2014+100)

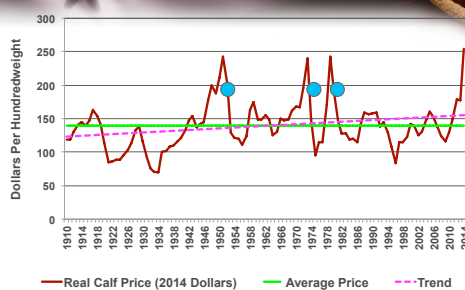
Déjà vu All Over Again?

1. If demand is not impacted by disease scares or lower incomes
 - a. Cattle prices will remain strong until beef supplies increase
2. We have seen these types of prices on 3 occasions

Previous Price Spikes

1. Real price spikes occurred in 1951, 1973, 1979
 - a. All were years of low cattle numbers
 - Followed herd liquidation
 - Start of herd expansion

Real Beef Calf Prices



1951 (\$243/cwt)

1. Initiation of the Korean War
 - a. Concerns of food security following terrible supply disruptions during World War II
 - b. Potential for a new World War
2. By 1954, calf prices were below the long run average of \$139/cwt

1973 (\$240/cwt)

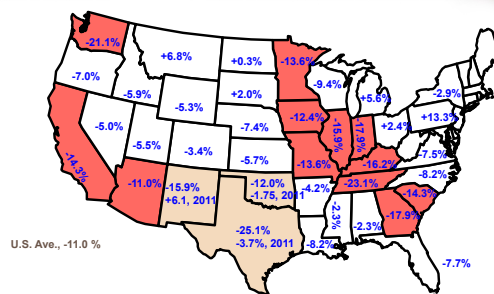
1. 1972 Russian grain deal
2. Reductions in Peruvian fish meal
3. Declines in world production of other food and feed grains
4. Beef sector was expanding
 - a. Hog sector had contracted
 - b. OPEC quadrupled oil prices
5. High prices were short-lived as demand declined
 - a. By 1975, prices were only \$95/cwt
 - b. Rebuilding peaked in 1975

1979 (\$243/cwt)

1. 20 million head decline in cattle inventory (15%) between 1975 and 1978
2. 1979 OPEC oil shock increased costs and hurt demand
3. Rebuilding lasted only two years before liquidation occurred

The Recent Decline in Cow Numbers (2005-2014)

Change in Beef Cow Inventory, January 1, 2007-2014

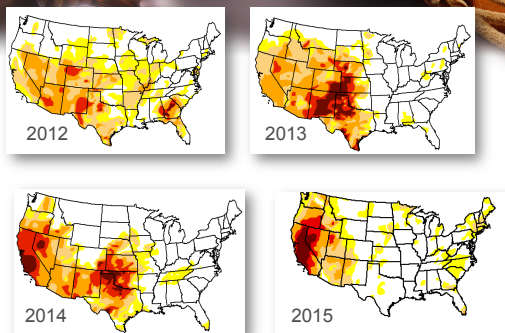


Why Have Cow Herd Numbers Declined?

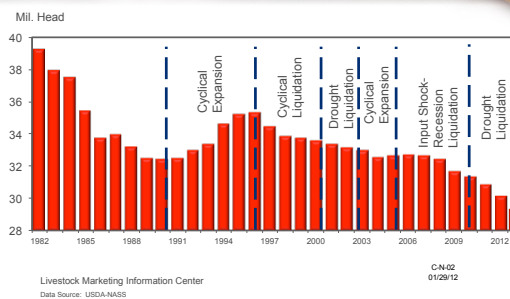
What are causes of the change in cow numbers?

1. Drought
2. High Feed Prices
3. High Operating Costs
4. Age of the Producer
5. Competition with crop production for better income
6. Unbelievable prices for calves, heifers and cows

Drought Conditions the First of June (2012-15)



Changes in Beef Cow Numbers and Causes of Change

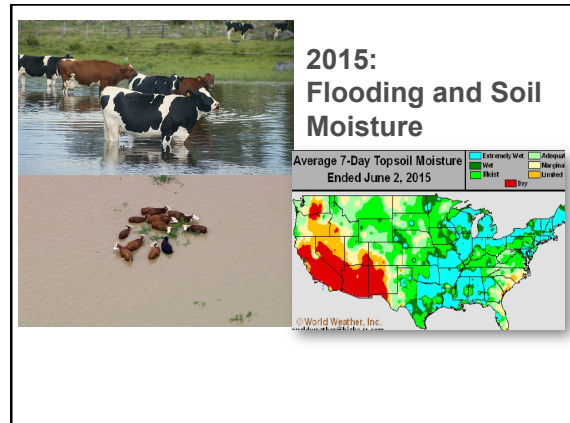




Texas drought shrinks state cow herd

California heads into dry season already parched

New Mexico is the driest of the dry



2015: Flooding and Soil Moisture

Average 7-Day Topsoil Moisture Ended June 2, 2015

Legend: Extremely Wet, Wet, Moist, Dry, Extremely Dry, Marginal, Very Dry, Very Dry

© World Weather, Inc.

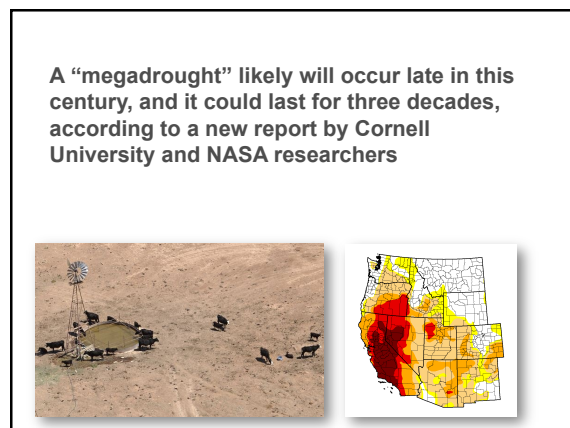


NASA Scientist Warns "California Has One Year Of Water Left"

By Tyler Durden

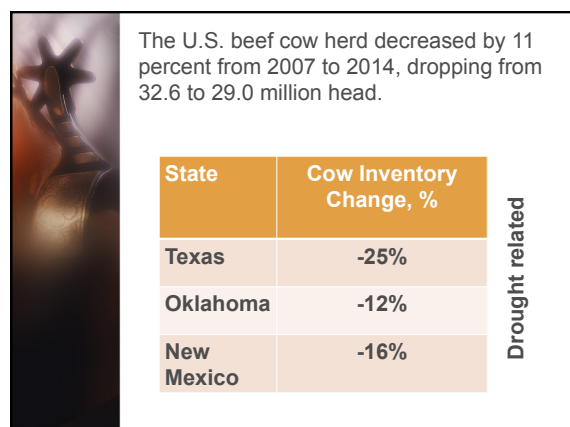
"California has no contingency plan for a persistent drought (let alone a 20-plus-year mega-drought), except, apparently, staying in emergency mode and praying for rain."

A "megadrought" likely will occur late in this century, and it could last for three decades, according to a new report by Cornell University and NASA researchers




Because of drought there have been two management options:

- 1. Find a way to keep the cows but lose equity.**
- 2. Sell the cows, preserve equity, and be precluded from participating in the golden era of cow production**

The U.S. beef cow herd decreased by 11 percent from 2007 to 2014, dropping from 32.6 to 29.0 million head.

State	Cow Inventory Change, %
Texas	-25%
Oklahoma	-12%
New Mexico	-16%

Drought related

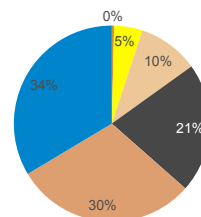
Change in the Number of Farms by Age of Principle Operator (2007 vs 2012; Speer, 2014)

Age of Operator	2007	2012	Change, 2012/2007
Under 25	2,585	2,582	99.9%
25-34	20,233	21,196	105%
35-54	131,440	107,396	81.7%
55-64	110,949	108,917	98.2%
+ 65	170,803	170,072	99.6%

Net loss of ~ 24,000

Beef Cows by Producer Age

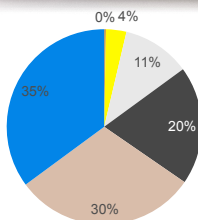
64% of cows owned by producers older than 55



Total Cows: 28.96 Million Cows
Source: 2012 Census of Agriculture

Pasture Acres by Producer Age

65% of pastures owned by producers older than 55



Total: 456.1 million Acres
Source: 2012 Census of Agriculture

What has been the result of the decline in cow numbers?

What happens when the calf crop shrinks?

1. Prices go up
2. Feedyards close
3. Packing plants close
4. Weights go up

Anderson, 2015

What happens when cattle numbers go down? The feedlot response:

1. Increased use of more aggressive implant programs
2. Increased use of beta-agonists
3. Industry transition from selling live weight to carcass weight
4. **Improved genetic capability of cattle**

(Anderson, 2014)



Midwest PMS LLC

Fed cattle plant closings:

- Tyson, Emporia, KS 2008
- Cargill, Plainview, TX 2013
- National Beef, Brawley, CA 2014
- Next?
- Overcapacity remains

And, when expressed on a return per acre---

One challenge facing cow herd expansion; especially in the eastern corn belt.

- Returns per acre:**
 - \$120 for corn
 - \$ 8 for cattle

Rick Funston, (2014 BIF Conference)

Average Net Returns Per Acre for Various Crops (Ringwall, 2014, Drovers)	
Crop	Avg. Net Return/Ac, \$
Wheat, Corn, Soybeans, Sunflowers	\$65.22
Alfalfa-Grass Hay	\$36.73
Cow-calf	\$16.27 (need 15 ac/cow)

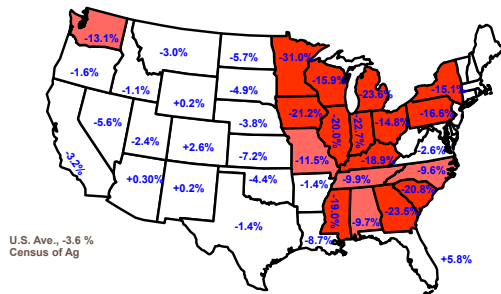
Loss of Pastureland in US

- Peel (2014) notes cropland used for pasture declined 64% from 35.8 million acres to 12.8 million acres. (2007-present)
- One obvious reason is the economic incentive farmers had to till every possible acre in order to exploit high grain prices.

The loss of grazing land has resulted in a decline in cow inventory

State	Cow Inventory Change, %
Iowa	-12%
Illinois	-12%
Indiana	-18%
Missouri	-14%
Kentucky	-16%
Tennessee	-23%
Minnesota	-14%

Percent Change in Pasture Acreage, 2007-2012



Two-thirds (74%) of men say they would order a strip steak over a chicken breast or a pork chop to make sure their date didn't think they were a wimp.



wimp.

Source: FoodSource Factoids, December 2008

What are predictions for the future and where will the cow herd be concentrated?

What to do in times of prosperity?

Are producers going to add 100 cows and invest \$300,000 to do it? Or will they use that money to pay off debt, upgrade the tractor, and remodel the kitchen?



Troy Marshall, 2014, BEEF

Why are you optimistic in rebuilding the cowherd?

1. Supply/demand fundamentals
2. Increasing international demand
3. Available feed and forage
4. Less volatility in input costs

http://beefmagazine.com/cattle-industry-structure/beef-survey-shows-producer-optimism-skyrocketing?NL=BEEF-02&issue=BEEF-02_20140609_BEEF-02_639_COPY3&YM_RID=jpaterson@beef.org&YM_MID=1470951&shvoitenews=42&inarticle_1_1

What would cause you to be pessimistic about the future?

1. Government regulations and oversight
2. Increased input costs
3. Consumer demand
4. Industry consolidation and concentration
5. Credit availability

(Randy Blach, **CattleFax**)



"The beef cowherd must expand in the next 1-4 years.

If it doesn't, don't kid yourself; we'll have a smaller industry and move beef from the center of the plate to more of a specialty item."

Peel, 2014 Oklahoma State

"...If beef cow herd expansion does start in 2014, it will likely to take until 2017 to recover drought liquidation since 2011,



Interesting Observation

Chandler Keyes:
"The Industry's Future Is Positive But Partly Cloudy"

- "Seventy percent of our beef comes from 30% of our producers,

(Jun 17, 2014, BEEF)

Chandler Keyes, continued..

- "If you've got 200 mother cows, I think you're in the business and will try to find ways to expand.
- If you've got less than 200 cows and you do it by yourself, I'm not so sure you're going to run out there and try to find pasture, buy cattle and find a hired hand"

Editorial Comment from BEEF Magazine Concerning Enthusiasm for Rebuilding

From Burke
BEEF Magazine

"When I think about what it costs to rent pasture, I have to think we are at or near our national carrying capacity. Unless some acreage moves from farm back to pasture, I don't see big changes in cow numbers unless it rains everywhere."

Present Cattle Highlights

- Beef herd expanding faster than expected (+2.1 %)
 - 72 % of growth in S. Plains (KS, OK and TX)
 - No drought liquidation in CA and OR
 - Lack of expansion in Northern Plains (NE, SD and ND)
- More beef replacement heifers (+4.1 %)
 - S. Plains up 12.2 % (66 % of increase)
- 2014 calf crop up 0.5 percent
 - Decrease expected
 - Increased calving percentage (highest since 2006)

What does the future look like?

The cattle industry *must* produce big, high value cattle to maximize revenue per unit. This is already well underway.

The beef industry *must* facilitate this by exporting some of our premium product and importing low cost, lean trim for grinding.

Opinion by Dr. Pete Anderson, 2015

The Future

North America *must* get in, stay in and dominate the world high quality beef market. Exports are a key.

1. No other countries can do that as well
2. Best use of our resources
3. A more profitable way to export grains

Opinion by Dr. Pete Anderson, 2015

Let me give you one final example as to what I mean---

For the Love of Beef

True or False?

Six of ten women (61%) say they are less likely to think their date is a wimp if he orders a strip steak rather than chicken breast or pork chops.

Source: Foodservice Factoids, December, 2008

The Psychology of the Cattle Business

“Cattle producers thrive on adversity but sometimes they seem ill-equipped to handle prosperity.”

D. Peel, July, 7, 2014 from LMIC

Thank you for allowing me to be a part of your conference.

JP

