Economic Considerations in Beef Production

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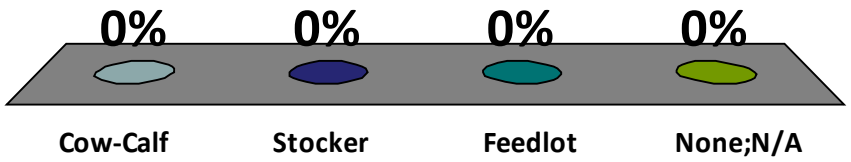
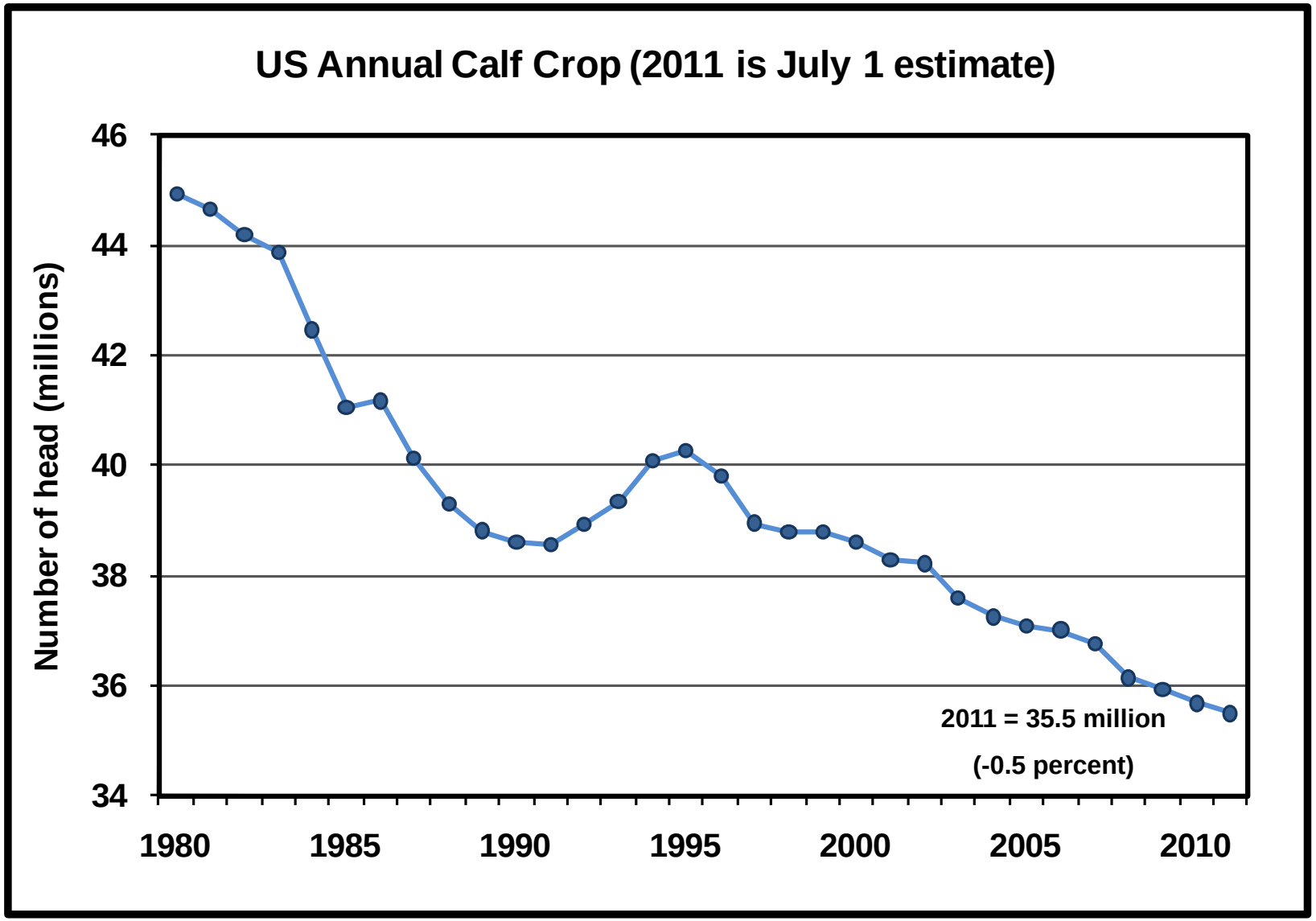
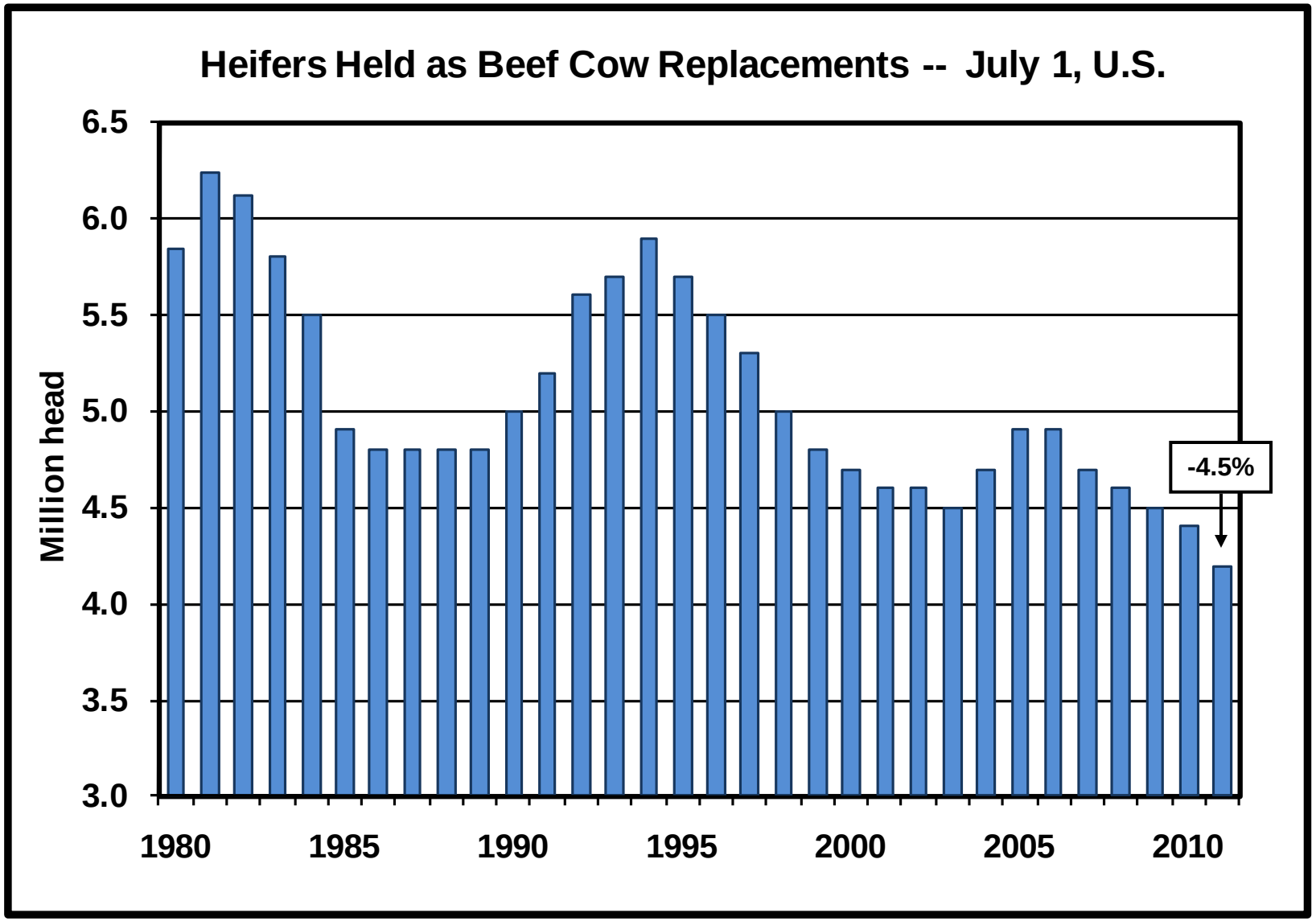
Which industry segment do you work most closely with?

1. Cow-calf
2. Backgrounder/Stocker
3. Feedlot
4. None of the above; N/A





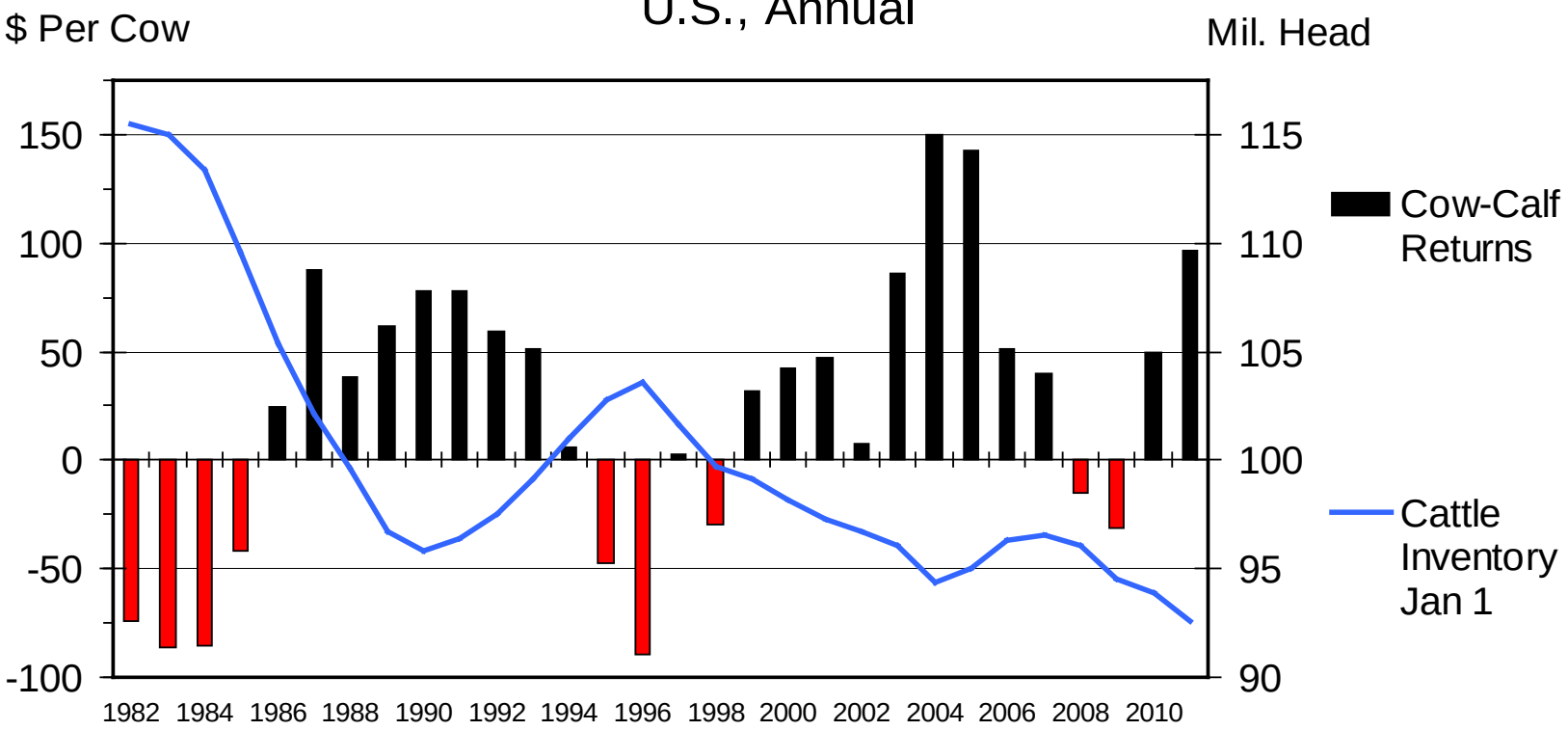
Data source: USDA-NASS



Data source: USDA-NASS

COW-CALF RETURNS AND CATTLE INVENTORY

U.S., Annual

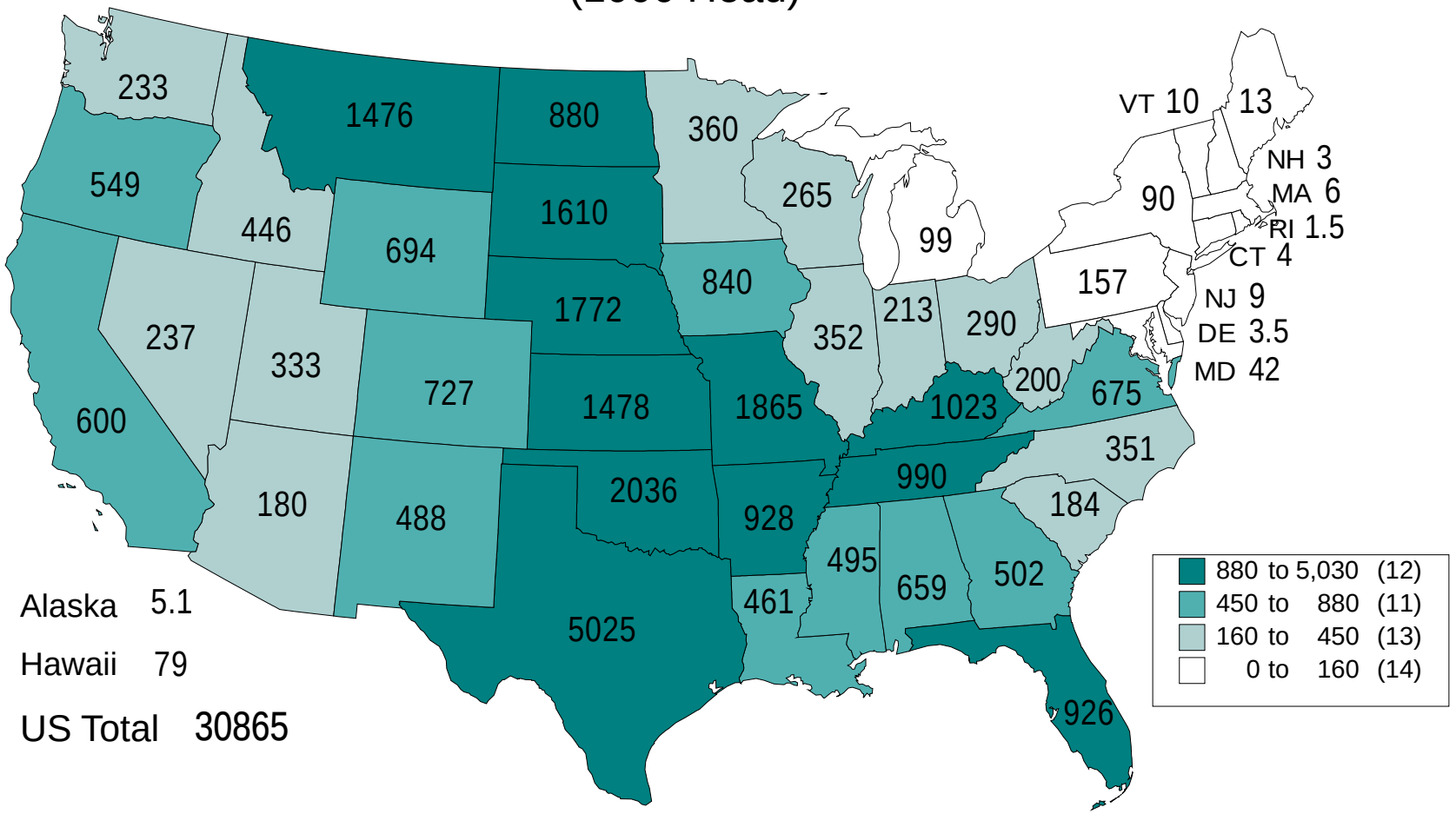


Livestock Marketing Information Center

Data Source: USDA-AMS & USDA-NASS, Compiled & Analysis by LMIC

C-P-67
07/26/11

BEEF COWS THAT HAVE CALVED
JANUARY 1, 2011
(1000 Head)



Livestock Marketing Information Center

Data Source: USDA/NASS

C-N-15
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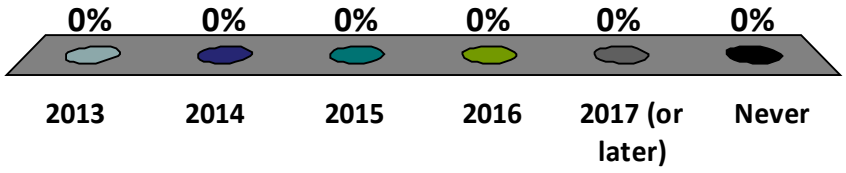
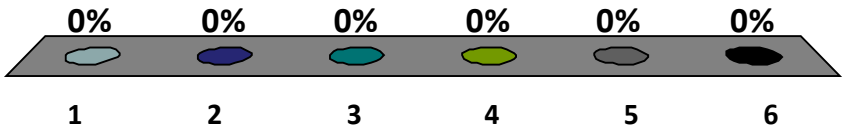
When do you think the national beef cow herd will expand?

1. 2013
2. 2014
3. 2015
4. 2016
5. 2017 or later
6. Never

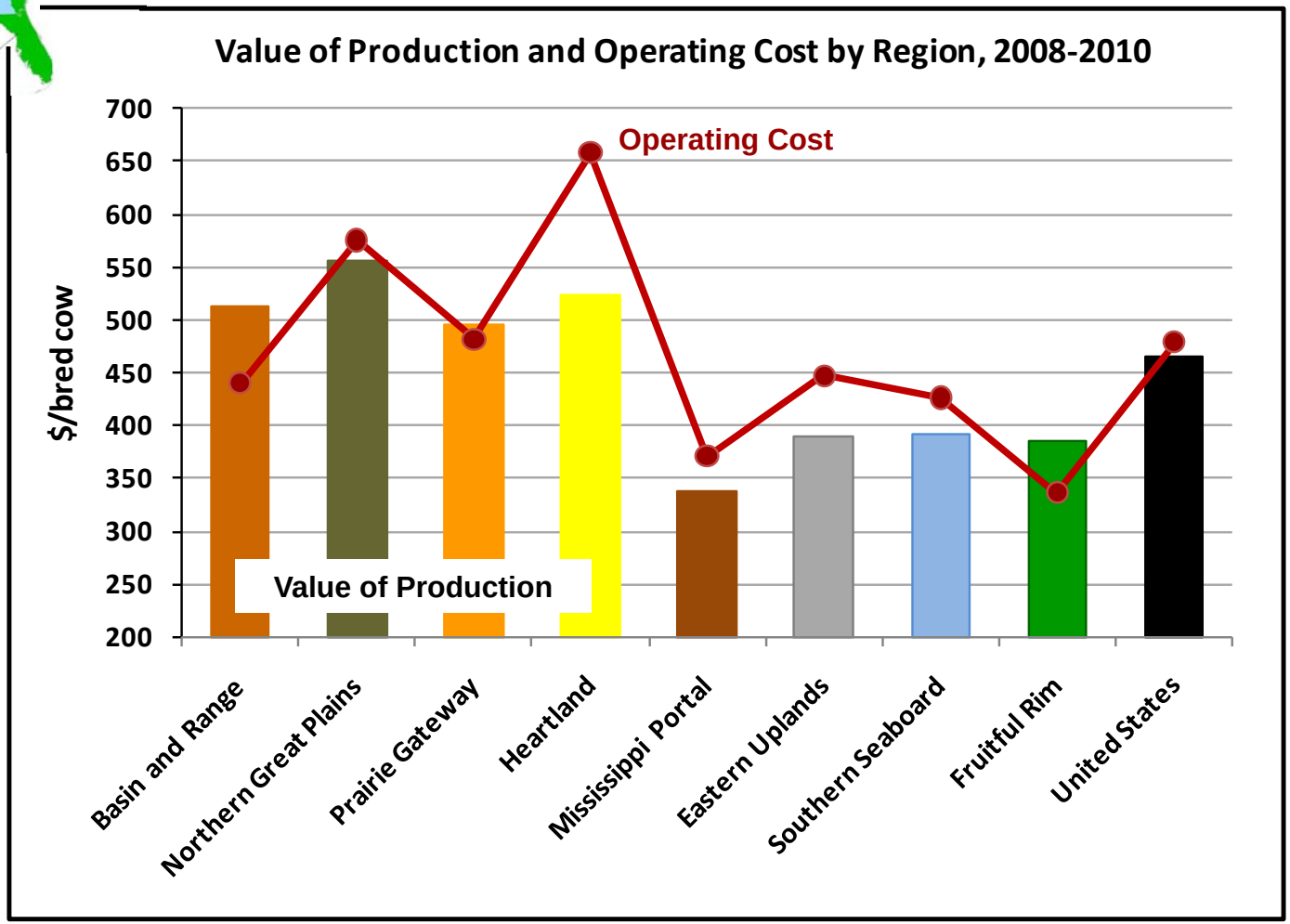


What region do you expect to most expand (as % of current #'s)?

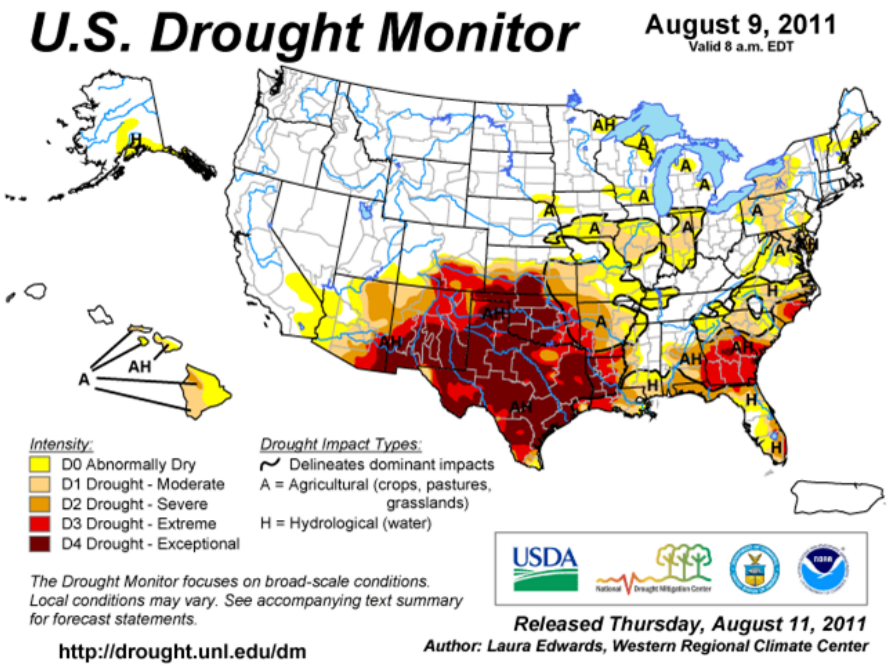
1. West (MT,WY,ID,...)
2. N. Plains (KS, NE, ND, SD)
3. N. Central (MO, IA)
4. S. Plains (TX, OK)
5. Southeast (KY, TN,…)
6. N/A – No expansion

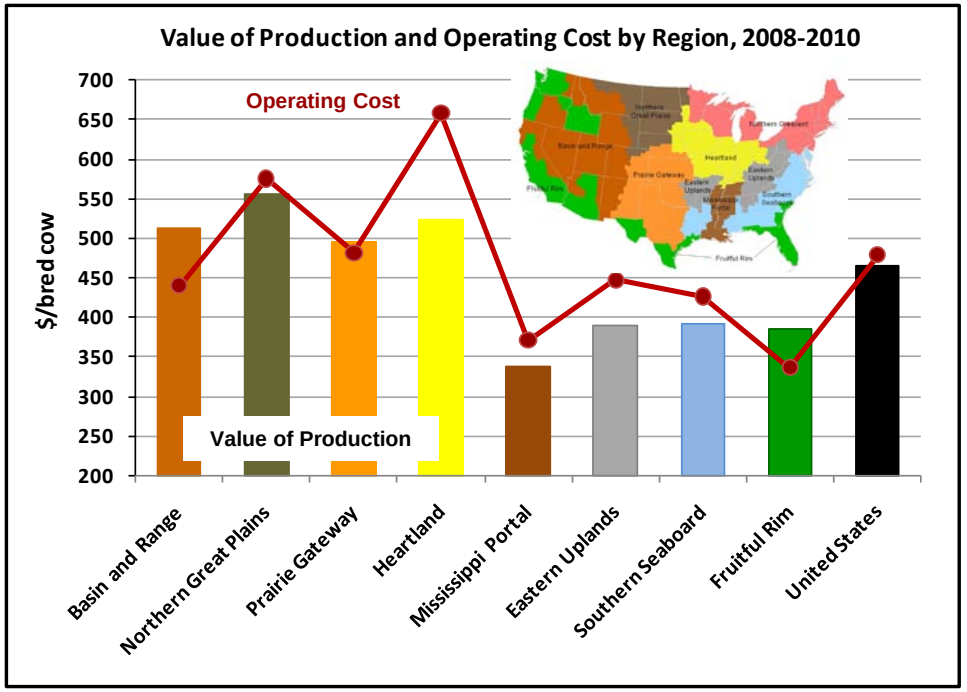


Do some regions have an economic advantage for expansion?



Data source: USDA-ERS



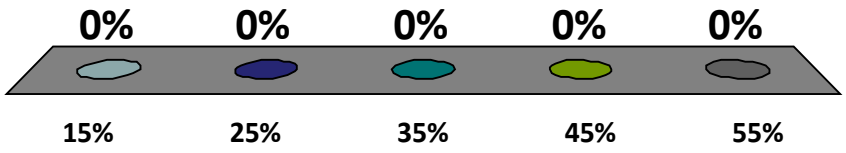


Data source: USDA-ERS

Will current drought impact longer term expansion and where cows are located in the future?

What portion of the 2.2 million farms in the U.S. have a beef cow?

1. 15%
2. 25%
3. 35%
4. 45%
5. 55%



Current U.S. Cow-Calf Industry

(March ’11 ERS Report: http://www.ers.usda.gov/publications/eib73/)

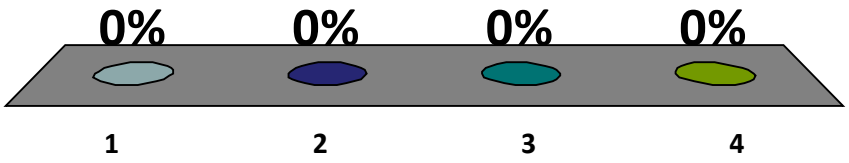
- 35% of 2.2. million farms have a beef cow
  - 50% have fewer than 20 cows

- Cow-calf only, CC/Stocker, & CC/Feedlot comprise 36%, 53%, and 10% of cows…

- Internet use, NAIS familiarity, and host of other issues vary notably across op. sizes..

What characteristic most distinguishes "large" (>500) from "small" (<100) cow-calf operations?

1. Weaning weights
2. Retention of calves after weaning
3. Use of public grazing land
4. Operator age



U.S. Cow-Calf Industry: Size Differences

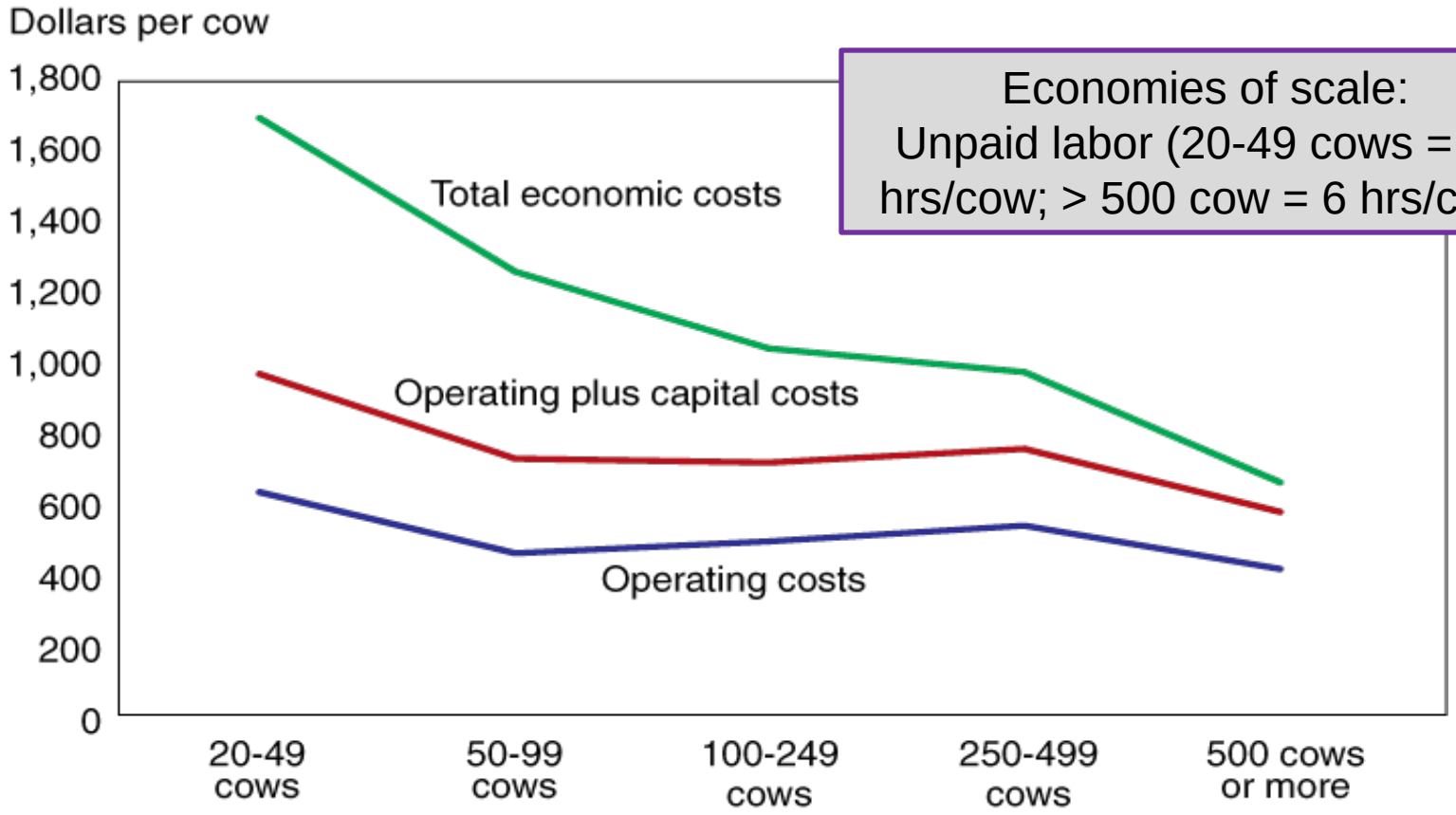
(March '11 ERS Report: http://www.ers.usda.gov/publications/eib73/)

	20-49 cows	50-99 cows	100-249 cows	250-499 cows	500 or more cows
Percent of farms/beef cows	41/13	32/21	21/31	5/15	2/20
Beef cows—average per farm	29	54	116	260	640
Weaning weight (lbs)	494	493	523	538	522
Sold at weaning (%)	63	62	51	49	39
Backgrounded then sold (%)	31	35	43	45	55
Retained until slaughter (%)	6	3	6	6	6
Percent using public grazing land	1	3	8	24	29
Operator:					
Age (percent greater than age 65)	38	40	32	30	22
Completed college (percent)	23	26	27	37	42
Off-farm occupation (percent)	47	37	21	18	10
Exit within 5 years (percent)	26	26	17	10	7

Figure 6

Beef cow-calf cost of production per cow by size, 2008

Economies of size are apparent in beef cow-calf production, particularly for total economic costs.

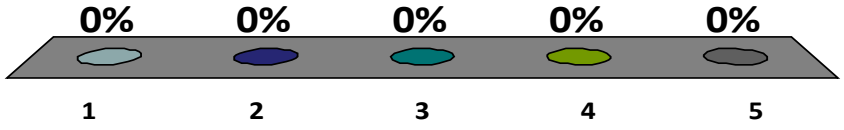


Economies of scale:
Unpaid labor (20-49 cows = 31 hrs/cow; > 500 cow = 6 hrs/cow)

Notes: Production cost estimates for operations with less than 20 beef cows are not available because the ARMS sample is limited to operations with 20 or more beef cows. The number of cows refers to the peak number on the operation at any time during 2008.
Source: USDA, Economic Research Service using USDA's 2008 Agricultural Resource Management Survey (ARMS).

The average hog operation doubled in size between 1997 & 2007. How much did the average beef cow operation size increase?

1. 0% (no change)
2. +3%
3. +13%
4. +23%
5. +33%

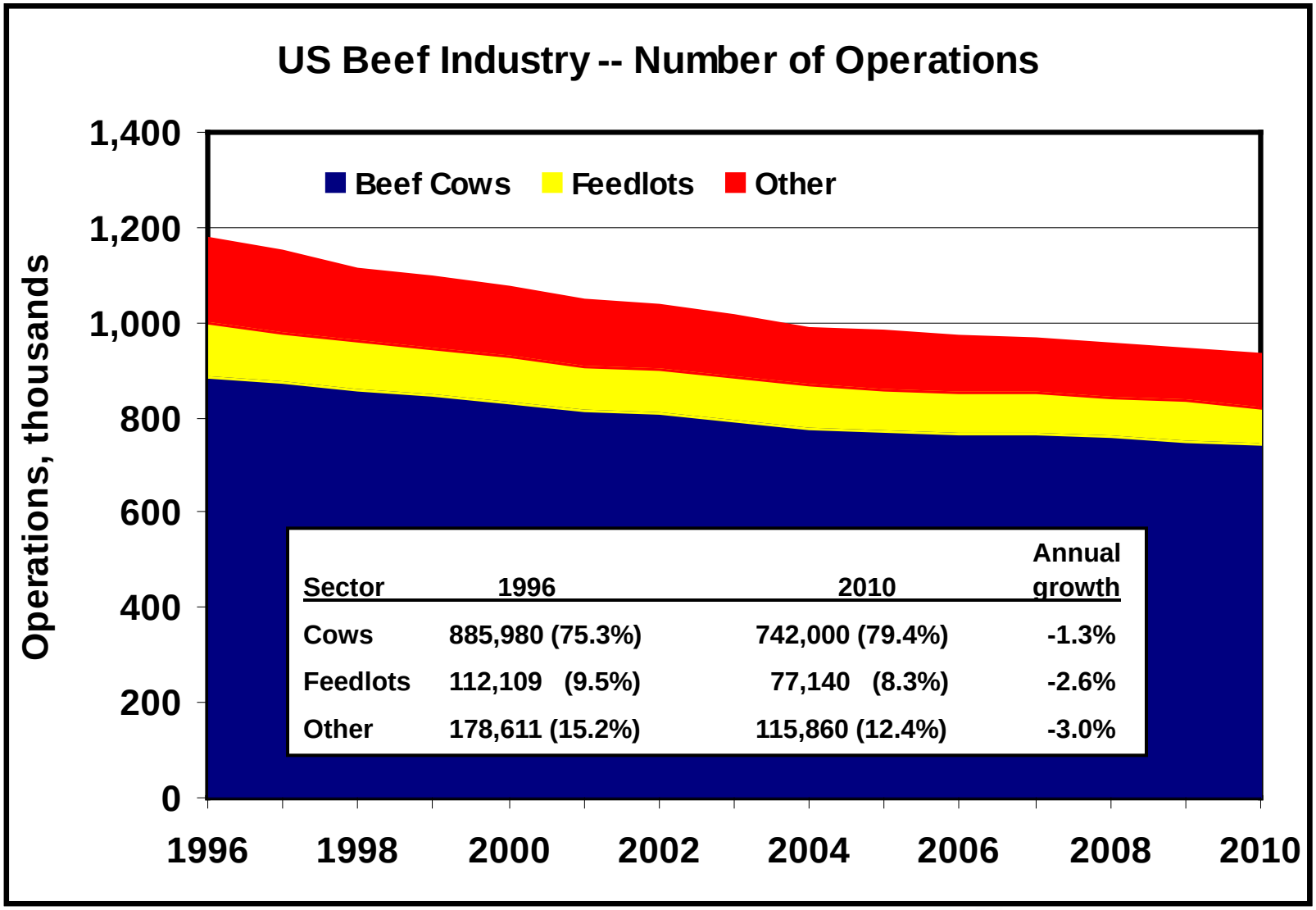


Current U.S. Cow-Calf Industry

(March ’11 ERS Report: http://www.ers.usda.gov/publications/eib73/)

- Hog & Dairy operations (avg size) fell by 40% (doubled) between 1997 & 2007
  - Beef cow operations fell by only 15% and avg. size went from 38 to 43 head (13% increase)
  - Land constraint is different;
    - But is consolidation coming???
      - is it already under-way???

Fewer operations in all sectors in beef industry…



Sector	1996	2010	Annual growth
Cows	885,980 (75.3%)	742,000 (79.4%)	-1.3%
Feedlots	112,109 (9.5%)	77,140 (8.3%)	-2.6%
Other	178,611 (15.2%)	115,860 (12.4%)	-3.0%

Financial importance of cow-calf operation…

Contributions to Income and Labor Input

Reason	Percent of Operations Herd Size (Number of Beef Cows) 1-49	50-99	100-199	200+	All
Primary source of income	5.3	24.1	42.8	65.0	14.3
Supplemental source of income	78.0	68.3	50.9	31.7	71.9
Other	16.7	7.6	6.3	3.3	13.8

Source: USDA NASS APHIS, Beef 2007-08, NAHMS report.

One of the characteristics of the beef cow-calf industry slowing consolidation is that many participants are not necessarily motivated by economics…

Concentration of U.S. animal agriculture in 2010

(production from approximately 10% of operations)

	Size of operation (hd)	Percent of operations	% of I, M, or P*
Beef cows	100+	9.7%	54.6% (I)
1000+ head Feedlots**	24,000+	8.9%	61.7% (M)
Dairy	200+	11.8%	73.7% (P)
Swine	2,000+	12.2%	86.0% (I)

* I = Inventory, M = Marketings, P = Production

** Feedlots with 1000+ head represented 2.8% of all feedlots and accounted for 84.6% of marketings

Source: USDA NASS and K-State

Beef industry changes underway

- Sales value of cull cows is about equal regardless of operation…
  - Those with higher costs, opportunities to row crop, etc. may increasingly exit
  - Expansion almost certainly will not come (in aggregate) from those with higher costs and notable alternative opportunities…

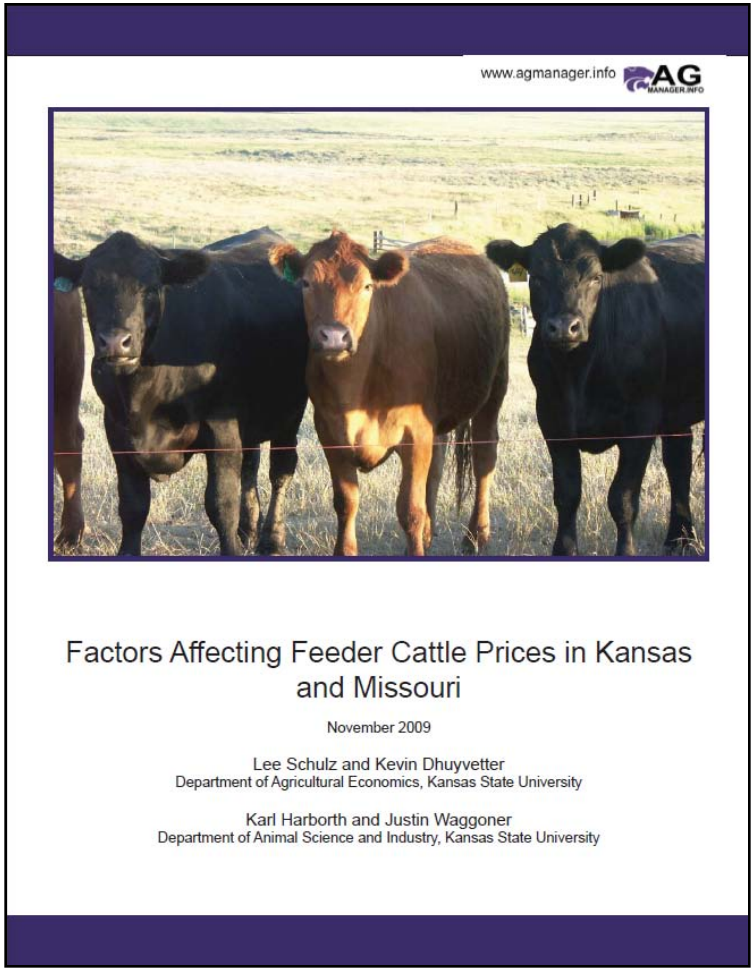
What drives/determines feeder calf prices?

Price

- **Genetic Characteristics**
  - Sex
  - Breed
  - Color
  - Muscling
  - Frame Size
- **Management Characteristics**
  - Weight
  - Health
  - Horns
  - Condition
- **Marketing Characteristics**
  - Lot Size
  - Weight Uniformity
  - Fill
  - Market Location
  - Time of Sale
- **Market Conditions**
  - Fed cattle price
  - Corn price
  - Feeder calf price
  - Current profits

What do premiums/discounts indicate...

- **Lot size and uniformity are very important**
- **Breed/color impact price**
- **Time of sale important**
  (probably hard to manage)
- **Dehorn and castrate early**
- **Market healthy cattle**
- **Stay away from extremes**
  (frame, condition, fill)
- **Results written up in paper on www.agmanager.info**



What about Age & Source Verification programs?

- **Premium of around $1.50-$2.00 per cwt pretty consistently over last several years**

Figure 5.23 - Price Effect and Percentage of ASV Steer Lots, 2004 to 2009

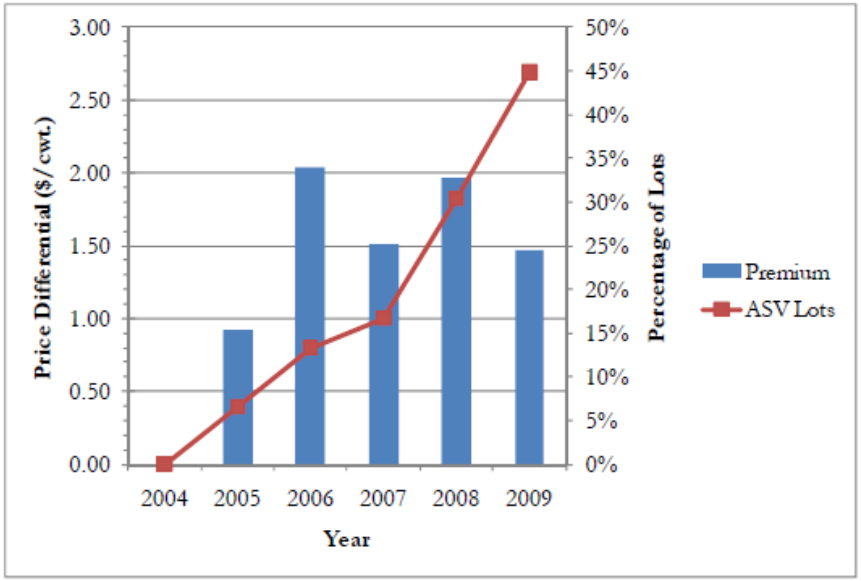
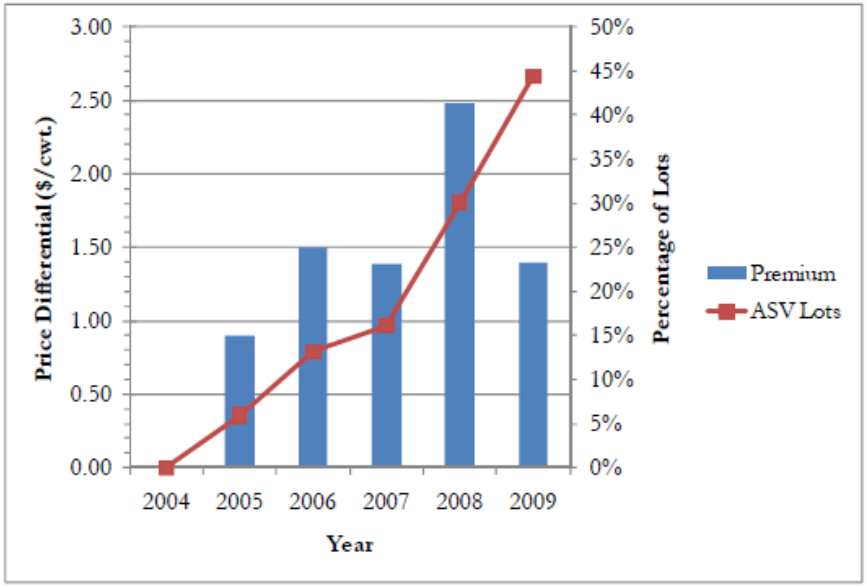


Figure 5.24 - Price Effect and Percentage of ASV Heifer Lots, 2004 to 2009



Source: Factors Influencing the Price of Value-Added Calves at Superior Livestock Auction (Lance Zimmerman MS thesis, 2010 – Kansas State University)

- **Will premium disappear as ASV becomes more common?**

Who is doing "value added" marketing?

Marketing Channels for Calves Produced

Marketing Channel	Percent Operations Herd Size (Number of Beef Cows) 1-49	50-99	100-199	200+	All
Breed-influenced program	11.7	15.9	16.1	28.6	13.6
Age-and source verification program	5.2	11.7	14.9	29.0	8.2
Conventional	60.5	68.7	68.4	67.8	62.8
Natural	28.8	25.3	24.4	30.8	28.0
Certified organic*	1.2	0.2	0.3	1.3	1.0
Other	1.4	0.8	2.6	2.3	1.5

* Operation certified by USDA

Source: USDA NASS APHIS, Beef 2007-08, NAHMS report.

Cow-calf marketing strategies

- Will cow-calf operations start routinely retaining calves to add weight with “low cost” feedstuffs?

- If so, tools are available to help producers analyze the economics of these decisions…

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Current situation (8/11/2011)

- KS producer considering retaining steer calves at weaning (10/27) and backgrounding for 135 days at ADG of 2.25 lbs (projected feed cost of gain = $0.90)
- Price forecast for 550 lb steer calf on Oct 27, 2011 is $1.44/cwt (www.BeefBasis.com)
- BeefBasis.com price forecast for 854 lb feeder steer on Mar 10, 2012 is $133/cwt
- Does retaining calves make sense?
- What is breakeven selling price? How much could I pay if I wanted to buy calves to feed?

KSU "Buy-Sell" Excel spreadsheet and web dashboard (http://www.agmanager.info/Tools/default.asp#LIVESTOCK)

Breakeven Buying Price Worksheet

Selling weight after shrink (pay-weight)	854
Expected selling price ($/cwt)	$133.00
Purchase date (mm/dd/yy)	10/27/11
Average Daily Gain (pay-to-pay)	2.25
Feeding cost of gain ($/cwt)	$90.00
Interest rate on feeder	7.50%
Percent death loss*	1.50%
Costs per head (trucking, vaccines, backgrounding, etc.)**	$15.00
Desired profit per head	$0.00

* Enter ONLY if death loss is NOT included in feeding cost of gain, otherwise enter zero.

** Do not enter any costs included in feeding cost of gain.

KSU "Buy-Sell" Excel spreadsheet and web dashboard (http://www.agmanager.info/Tools/default.asp#LIVESTOCK)

Purchase Weight[1]	Selling Price ($/cwt) $130.00	$131.00	$132.00	$133.00	$134.00	$135.00	$136.00
	Breakeven Purchase Price ($/cwt)[2]						
400	161.54	163.56	165.57	167.59	169.61	171.63	173.65
450	154.24	156.05	157.85	159.65	161.45	163.26	165.06
500	148.45	150.08	151.71	153.34	154.97	156.60	158.23
550	143.76	145.25	146.74	148.22	149.71	151.20	152.69
600	139.89	141.26	142.63	144.00	145.37	146.74	148.11
650	136.64	137.91	139.18	140.46	141.73	143.00	144.27
700	133.90	135.08	136.27	137.45	138.64	139.82	141.01

[1] Enter the minimum purchase weight you are willing to consider.

[2] Based on a feeding cost of gain of $90/cwt.

Expected Sales Price: $133/cwt:

Expected Return: $23.21/head [5.5 * ($148.22 - $144.00]

Demand Side Issues & Trends

- Long run decline in domestic overall meat consumption
  - 2018 poultry consumption > (beef + pork)
    - Poultry grows every year from 2011-2020
- Global growth likely to exceed domestic
  - Heightens industry fragmentation issues such as animal ID/traceability, marketing arrangements,…
    - Non-price factors increasingly important for beef…
      - Prevalence of E-coli vs. irradiation acceptance
      - Incomes, convenience, health information, recalls matter…

Animal Welfare Events Summary

- State-by-State: Ballot initiatives & Legislature
  - FL (’02), AZ (’06), OR (’07), CA & CO (’08), ME & MI (’09)
  - OHIO:
    - *Ohio Livestock Care Standards Board* (’09)
    - Agreement w/ HSUS (June ’10)
      - Phase out gestation stalls by Dec. 2025; no new facilities after Dec. 2010
      - No new permits for new egg facilities with battery cages
      - Downer cattle & humane euthanasia language included…
- Live Trade
  - May ’11: Australia banned live cattle exports to Indonesia because of inhumane treatment
- National Legislation & Labeling?
  - July ’11: UEP & HSUS agreement

Animal Welfare Summary Points:

- No species is immune
- Consumer/resident desires regularly initiate change
  - Perception drives decisions; “knowledge” NOT necessary to be influential
- Ballot voting behavior & regulation impacts all:
  - Product choice set for all is impacted
    - Even if only a minority WTP>MC…
- Dilemma created by voting n.e. purchasing …
- Meat demand impacts do exist
- National housing standards & mandatory labeling discussions picking up...

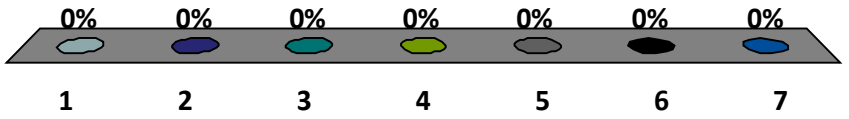
Policy/Regulation Issues & Trends

- GIPSA “fair market” proposed rules / “anti-competition” listening sessions …
  - No timetable on USDA’s benefit-cost assessment…
- environmental regulation concerns
- animal welfare/mandatory labeling???

  - Is overall uncertainty holding back investment throughout supply chain???

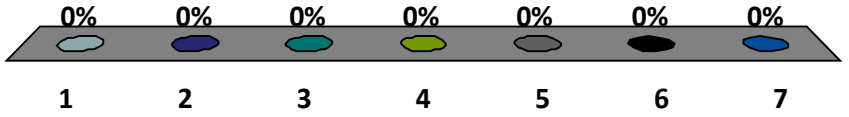
What do you think is the biggest threat/constraint to expansion?

1. Profit potential
2. Credit availability
3. Land availability
4. Market access
5. Regulatory/legal issues
6. Consumer issues
7. Other



What do you think is the biggest opportunity for expansion?

1. Profit potential
2. Value-added programs
3. Land availability
4. Technology (e.g., RFID)
5. Genetic advancements
6. Geographical location
7. Other



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