6. Economics of Beef-Cow Herd Expansion

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Abstract/Summary

There is immense interest among many cow-calf producers in expanding the U.S. beef-cattle herd; yet not all producers are interested or positioned to successfully expand. This session will a) overview the status of expansion efforts, b) present projections of when, where, and how much expansion may occur, and c) summarize existing resources for both producer and lender use in guiding and understanding alternative expansion decisions. The session will include time for informal exchange of thoughts on broader economic issues of herd expansion and corresponding implications for the industry and attending stakeholders – so bring your questions!

Economics of Beef-Cow Herd Expansion

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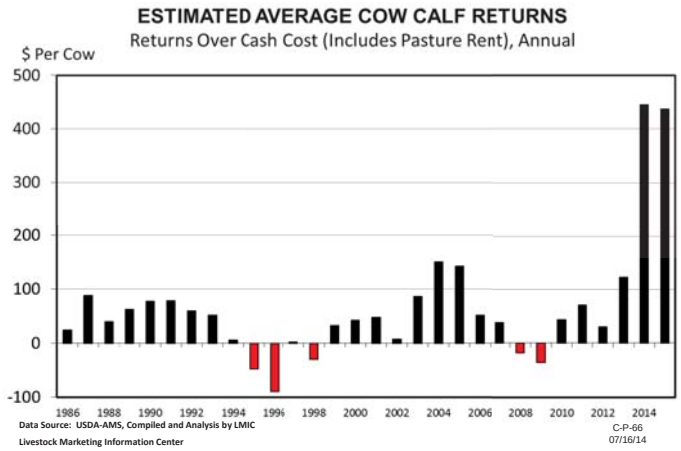

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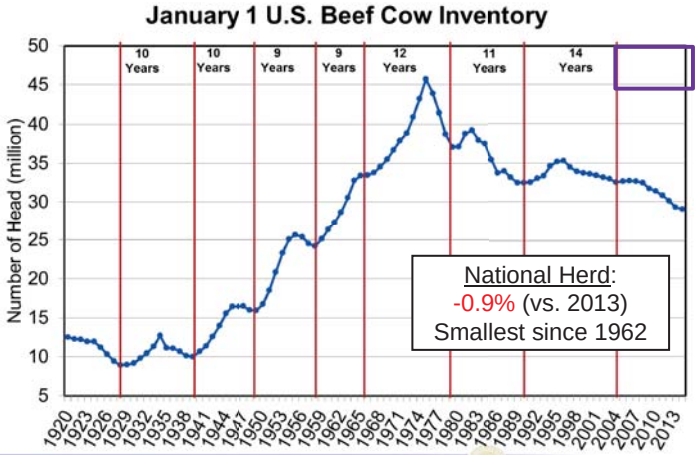
Pending Expansion? – How Fast?, How Large?, How Long?…



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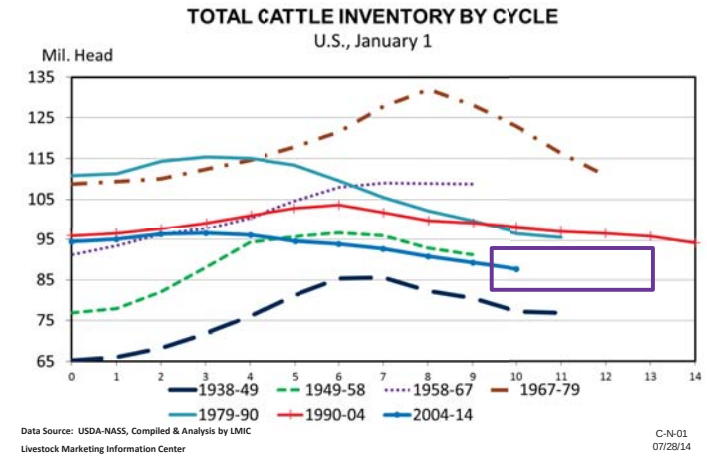
Data Source: USDA/NASS



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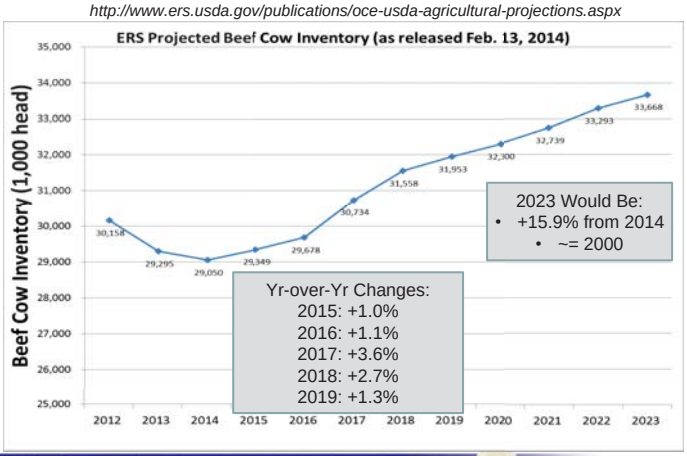
ERS Projects Herd Expansion

http://www.ers.usda.gov/publications/oce-usda-agricultural-projections.aspx



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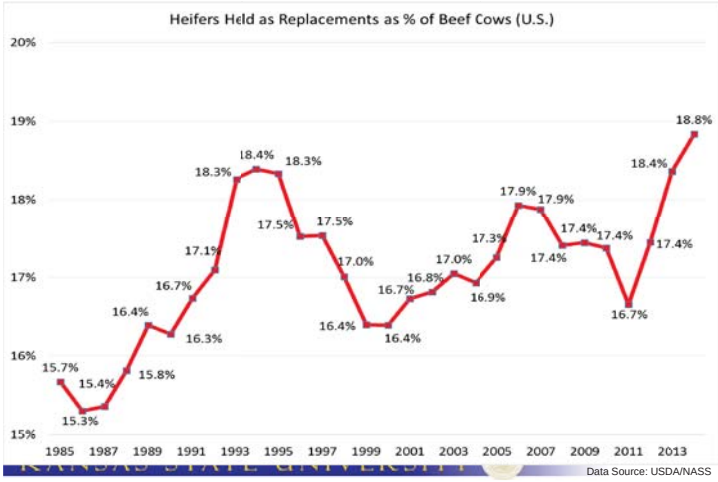
Heifer Retention Patterns – Signal Expansion Interest



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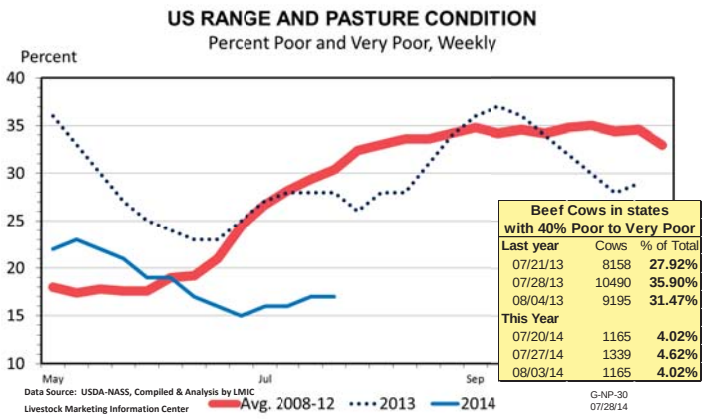
Data Source: USDA/NASS

Nat'l Pasture Conditions – Support Expansion



Beef Cows in states with 40% Poor to Very Poor		
Last year	Cows	% of Total
07/21/13	8158	27.92%
07/28/13	10490	35.90%
08/04/13	9195	31.47%
This Year		
07/20/14	1165	4.02%
07/27/14	1339	4.62%
08/03/14	1165	4.02%

Data Source: USDA-NASS, Compiled & Analysis by LMIC
Livestock Marketing Information Center
G-NP-30
07/28/14

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Heifers as % of Total Placements on Feed, Source: Quarterly USDA NASS COF Reports

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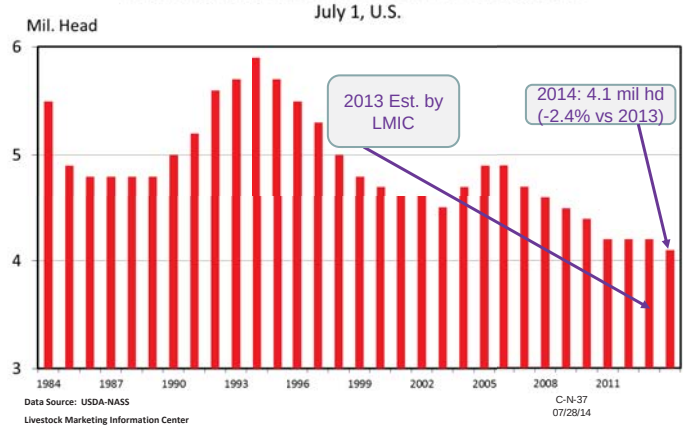
HEIFERS HELD AS BEEF COW REPLACEMENTS

July 1, U.S.



Data Source: USDA-NASS
Livestock Marketing Information Center
C-N-37
07/28/14

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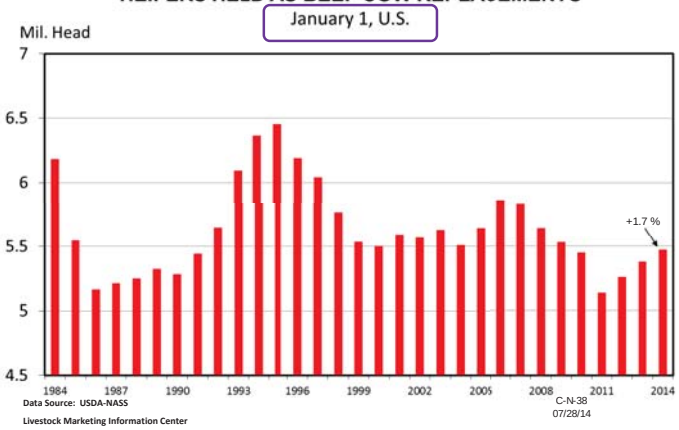
HEIFERS HELD AS BEEF COW REPLACEMENTS

January 1, U.S.



Data Source: USDA-NASS
Livestock Marketing Information Center
C-N-38
07/28/14

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BEEF 2014 Herd Plans

- Final Sample (N) of 1,003
- July 18-Aug 4, 2014 online collection
- Purpose: Examine plans concerning respondent cow herds.
- Focus on marketing plans and interest in herd expansion.

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BEEF 2014 Herd Plans

14. What was your cow herd size at the start of 2014?	All respondents	South Atlantic (VA,GA,NC,FL,SC, MD, WV)	East South Central (KY,TN,AL,MS)	West South Central (TX,OK,AR,LA)	East North Central (IL,OH,IN,MI)	West North Central (MO,KS,NE,IA,SD,MN,WI,ND)	Mountain (MT,CO,WY,ID,NM,AZ,UT,NV)	Pacific (CA,OR,WA,AK,HI)
1 to 50 head	30%	32%	25%	31%	61%	31%	13%	28%
51 to 100 head	23%	30%	26%	28%	19%	23%	16%	18%
101 to 150 head	15%	11%	20%	17%	9%	13%	13%	18%
151 to 200 head	9%	8%	12%	8%	3%	11%	7%	2%
201 to 300 head	9%	9%	10%	5%	7%	9%	16%	6%
301 to 400 head	5%	4%	2%	5%	-	5%	8%	6%
401 to 500 head	4%	1%	4%	4%	-	3%	9%	4%
More than 500 head	6%	6%	2%	2%	2%	5%	19%	18%
Respondent Count	**995**	**106**	**115**	**220**	**59**	**265**	**154**	**50**
Tonsor Calculations:								
Wtd Avg (Using Mid-Points & 550 head)	**148**	**128**	**127**	**124**	**72**	**140**	**255**	**200**

Important to note this summary is not weighted by an operation's current herd size.

2014 Herd Plans

10. What are your plans concerning your cowherd size in 2014/15?	All respondents	South Atlantic (VA,GA,NC,FL,SC, MD, WV)	East South Central (KY,TN,AL,MS)	West South Central (TX,OK,AR,LA)	East North Central (IL,OH,IN,MI)	West North Central (MO,KS,NE,IA,SD,MN,WI,ND)	Mountain (MT,CO,WY,ID,NM,AZ,UT,NV)	Pacific (CA,OR,WA,AK,HI)
Expand by 11% or more	19%	21%	13%	27%	9%	17%	21%	18%
Expand by 1% to 10%	52%	49%	59%	48%	58%	57%	44%	52%
Remain the same but add/grow other enterprises	17%	19%	15%	15%	17%	17%	21%	12%
Contract by 1% to 10%	6%	8%	4%	5%	9%	7%	7%	8%
Contract by 11% or more	3%	1%	5%	4%	2%	2%	4%	8%
Get out of the beef/cattle industry completely (Not retiring)	1%	2%	1%	1%	3%	0%	2%	2%
Retire	1%	1%	3%	1%	3%	1%	1%	-
Respondent Count	**990**	**105**	**115**	**219**	**59**	**262**	**154**	**50**
Tonsor Calculations:								
Expand	71%	70%	72%	74%	66%	74%	64%	70%
Same	17%	19%	15%	15%	17%	17%	21%	12%
Contract	9%	9%	10%	9%	10%	8%	11%	16%
Exit/Retire	2%	3%	4%	2%	7%	1%	3%	0%
Wtd Avg Change (Omitting Retirement and Exits, Using Mid-Points)	4.1%	4.3%	3.6%	4.7%	3.2%	4.2%	3.7%	3.3%

Important to note this summary is not weighted by an operation's current herd size.

2014 Herd Plans

10. What are your plans concerning your cowherd size in 2014/15?	All respondents	1 to 50 head	51 to 100 head	101 to 150 head	151 to 200 head	201 to 300 head	301 to 400 head	401 to 500 head	More than 500 head
Tonsor Calculations:									
Expand	71%	76%	70%	69%	69%	66%	71%	77%	67%
Same	17%	14%	17%	16%	19%	20%	22%	17%	22%
Contract	9%	7%	10%	12%	12%	12%	4%	6%	10%
Exit/Retire	2%	3%	3%	3%	0%	2%	2%	0%	2%
Wtd Avg Change (Omitting Retirement and Exits, Using Mid-Points)	4.1%	4.7%	3.9%	3.7%	3.5%	3.6%	4.7%	4.4%	3.8%
Is Middle "Hollowing Out"?		4.3%		3.6%		3.9%		4.0%	

Important to note this summary is not weighted by an operation's current herd size.

2014 Herd Plans

10a. How will you accomplish your cowherd expansion?	All respondents	South Atlantic (VA,GA,NC,FL,SC, MD, WV)	East South Central (KY,TN,AL,MS)	West South Central (TX,OK,AR,LA)	East North Central (IL,OH,IN,MI)	West North Central (MO,KS,NE,IA,SD,MN,WI,ND)	Mountain (MT,CO,WY,ID,NM,AZ,UT,NV)	Pacific (CA,OR,WA,AK,HI)
Hold back heifers	84%	83%	82%	87%	82%	83%	85%	82%
Buy replacements	37%	40%	42%	44%	46%	35%	24%	21%
Sell fewer cull cows	13%	10%	13%	9%	8%	17%	14%	12%
Lease cattle or run cattle on shares	1%	1%	4%	1%	-	2%	2%	-
Respondent Count	**701**	**72**	**83**	**163**	**39**	**193**	**98**	**34**

Base = Respondents expanding their cowherd; Percents may reflect multiple answers

Important to note this summary is not weighted by an operation's current herd size.

2014 Herd Plans

10c. Why are you planning to reduce your cowherd?	All Respondents
Getting older and want to cut back	53%
Drought	27%
Feed costs too high	9%
Feeder prices too high	7%
Land too expensive	7%
Other	23%
Respondent Count	**93**

Base = Respondents decrease cowherd size; Percents may reflect multiple answers

Others listed:

- Cull don't add back
- Culling some cows (age/Poor production)
- Expanding more of the stocker operation
- Government regulations
- govt regulation environmentalists obstacles
- herd volume to be same
- Limited lease availability
- lack of rentable land
- lack of rental pasture
- less pasture
- losing pasture ground
- lost pasture
- Not enough cows for bull buyers to buy bulls
- overstocked, take advantage of high prices
- Return to normal precipitation in 2015
- run the opposite way of the majority
- scared
- Sell off late calving cows
- selling older/open cows
- take advantage of high prices
- High price of calves, I don't expand during high prices, I expand when prices are low.

Important to note this summary is not weighted by an operation's current herd size.

BEEF 2014 Cow Herd Plans

http://beefmagazine.com/cattle-industry-structure/beef-readers-say-they-re-dedicated-herd-expansion-2014. N=695, Oct 23-Nov 1, 2013 online collection

Different Survey

On average, what do you expect to pay per bred heifer?	
$1,000-$1,500/head	40.00%
$1,501-$2,000/head	45.70%
$2,001 - $2,500/head	11.40%
More than $2,500/head	2.90%
Respondent Count	105
Weighted Average	**$1,636**

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Cow-Calf – Expansion Discussion

- *Expected Profit*
  - *2014 LMIC Forecast > 2X 04' & 13'*
    - *Note same $X/hd = lower ROI than in the past…*
      - *ERS Total Costs/cow: 2002 - $974; 2008 - $1,121; 2012 - $1,317*
- *Profit Risk*
  - *Context on environment of price variability…*
    - *Feedstuff price recovery persistence?*
    - *Concern over retail beef prices?*
    - *"Sky high" replacement prices?*
- *Uncertainty*
  - *Broader political uncertainty*
    - *Farm Bill, MCOOL, Tech Acceptance…*
    - *Global instability…*

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Economic Outlook Overview : Cow-Calf – Expansion Discussion

- *Variation across producers is substantial*
  - *$300 dif in costs of top & bottom 1/3 KFMA producers*
    - Producer w/ $850/cow costs: $1,537/heifer (10 yrs) NPV
    - Producer w/ $700/cow costs: $2,192/heifer (10 yrs) NPV
- *Regionally:*
  - Southern Plains will rebuild some
  - Great/N. Plains & West will resume relative growth
  - SE & Heartland will continue trend of relative decline
    - Unless opportunity costs of labor and/or land are ignored…
- *Nationally:*
  - more intense and/or alternative cow management likely necessary given land constraints…

Key Expansion Questions of Ind. Ranches

- *Should I Expand My Herd?*
- *IF YES*
  - *–What Can/Should I Pay?*
  - *–Should I Raise or Buy Heifers?*
  - *–Should I Consider Buying Cows Instead?*

Should I Expand My Herd?

- Note long-term nature of decision
- Do you agree or disagree with the concept: "a bird in hand is worth two in the bush?"
- Are you comfortable with the ever-changing industry environment?

Cow-Calf – Expansion Discussion

- *What Can I pay for a Replacement?*
  - ***KSU-Beef Replacement*** spreadsheet
  - Two fact sheets and video tutorial also available online:
    - http://www.agmanager.info/livestock/budgets/production/default.asp
  - **Open and give brief overview of spreadsheet**

Should I Raise Replacement Heifers?

- Most common approach to herd growth
  - 83% per 2007-08 USDA APHIS (http://www.aphis.usda.gov/animal_health/nahms/beefcowcalf/downloads/beef0708/Beef0708_dr_PartI_rev.pdf)
- Yes **if**:
  - It truly cost you less to raise than buy
  - Genetic base is acceptable already
    - Calving ease, milk prod, etc. /// also consider meat impact
  - Your environment is stressful for "imported" heifers
    - Climate, feed resources, parasites, etc. vary
  - You are concerned about open-market availability

Should I Buy Replacement Heifers?

- Yes **if**:
  - It truly cost you less to buy than raise
  - You value alternative uses of $ &/or time
  - You value the reduced bull needs
  - Genetic control is valued & worse than desired
  - You want to grow herd faster

Should I Buy or Raise Replacement Heifers?

- Which set of conditions fits you?

- **Must know your situation and comparative advantage!!!**

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Hands-On Examination: Buy instead of Raise

- Likely most common situation:
  - Producer typically raises their own heifers and wants (or should) compare to buying instead.
  - Use Iowa State University resource (B1-73 "*Buying Heifers for Beef Cow Replacement*") to identify changes in returns and costs that follow from buying rather than raising.

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Hands-On Examination: Buy instead of Raise

DRIVERS OF PROS/BENEFITS

- Added Returns
  - Sell a heifer you otherwise would have retained
  - Possible revenue increase from improved genetics
- Reduced Costs
  - Save feed, vet., fixed, etc. costs of NOT raising heifer

DRIVERS OF CONS

- Reduced Returns – Not applicable
- Added Costs
  - Purchase a heifer you otherwise would have raised

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Hands-On Examination: Buy instead of Raise

DEFAULT ISU SITUATION:

- Total Added Returns: $2,003.49/hd
- Total Added Costs: $1,950.00/hd
  - **Net change in returns of $53.49/hd**
    - Any multi-year gain (i.e. genetics) would increase this value.

Open & Demo Spreadsheet Here
(http://www.extension.iastate.edu/agdm/livestock/html/b1-73.html)

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Should I Buy Cows Instead of Heifers?

- Yes **if**:
  - Market encourages that
  - Compare NPV of Replacements Available to Buy

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KSU-Beef Replacement spreadsheet

http://www.agmanager.info/livestock/budgets/production/default.asp

Net Present Value of Beef Replacements

Year	# of Calves	Base Case
2014	1	$1,316
2015	2	$1,502
2016	3	$1,692
2017	4	$1,838
2018	5	$1,943
2019	6	$2,026
2020	7	$2,085
2021	8	$2,130
2022	9	$2,166
2023	10	$2,192

Hypothetical Example #1:
If Bred Heifer available for $2,200 &
4 year-old Bred Cow available for $1,500

>> All else equal, Buy Bred Cow

Hypothetical Example #2:
If Bred Heifer available for $1,900 &
4 year-old Bred Cow available for $1,800

>> All else equal, Buy Bred Heifer

* NPV is Net Present Value of a replacement expected to produce the number of saleable calves listed in the "Number of Calves" column before a cow is culled for age-related reasons.

Wrap-up Summary Thoughts

- Cow-Calf opportunity exists
  - Herd expansion pending – will not occur uniformly…
  - Profitable prospects for sound management
  - Ongoing demand enhancement critical for profitability…
- Current and Potential Threats also persist
  - Uncertainty on many fronts restricts investment
  - Several examples of "infighting" within the industry

What To Do?

- Ask yourself key questions including:
  - Do you regularly utilize available resources?
    - herd expansion tools, these events, etc.
  - Do you know your comparative advantage?
    - Having a favorable cost structure is imperative
    - Be aware of "overpaying" for replacements
    - Recognize opportunity costs of retained heifers
  - How comfortable are you with "the new environment?"
    - Political & regulatory uncertainty
    - Customer/consumer distinction
    - Technology feasibility & acceptance distinction

Decision Aides & Resources to Note

- K-State
  - KSU-Beef Replacements (Excel tool & Video tutorial) http://www.agmanager.info/Tools/default.asp#LIVESTOCK
  - Factsheets: Replacement NPV Regional Analysis & Sensitivity http://www.agmanager.info/livestock/budgets/production/default.asp
  - MF2566 Raising Beef Replacement Heifers http://www.ksre.ksu.edu/bookstore/pubs/mf2566.pdf
  - Updated projections, charts, etc.: http://www.agmanager.info/about/contributors/Presentations/Tonsor/presentations.asp
- Iowa State (Schulz and Gunn, Jan. 2014)
  - B1-73: Buying Heifers & Raising Heifers for Replacements http://www.extension.iastate.edu/agdm/livestock/html/b1-73.html
- Univ. of Nebraska-Lincoln
  - http://www.extension.umn.edu/agriculture/beef/components/homestudy/replesson6.pdf

More information available at:

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webinars

WEBINAR Beef-Cattle Economics

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Series of quarterly webinars on beef-cattle markets and other industry-related issues.

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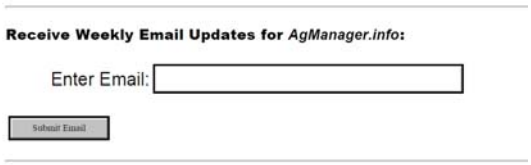

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