
# Economics of Beef-Cow Herd Expansion

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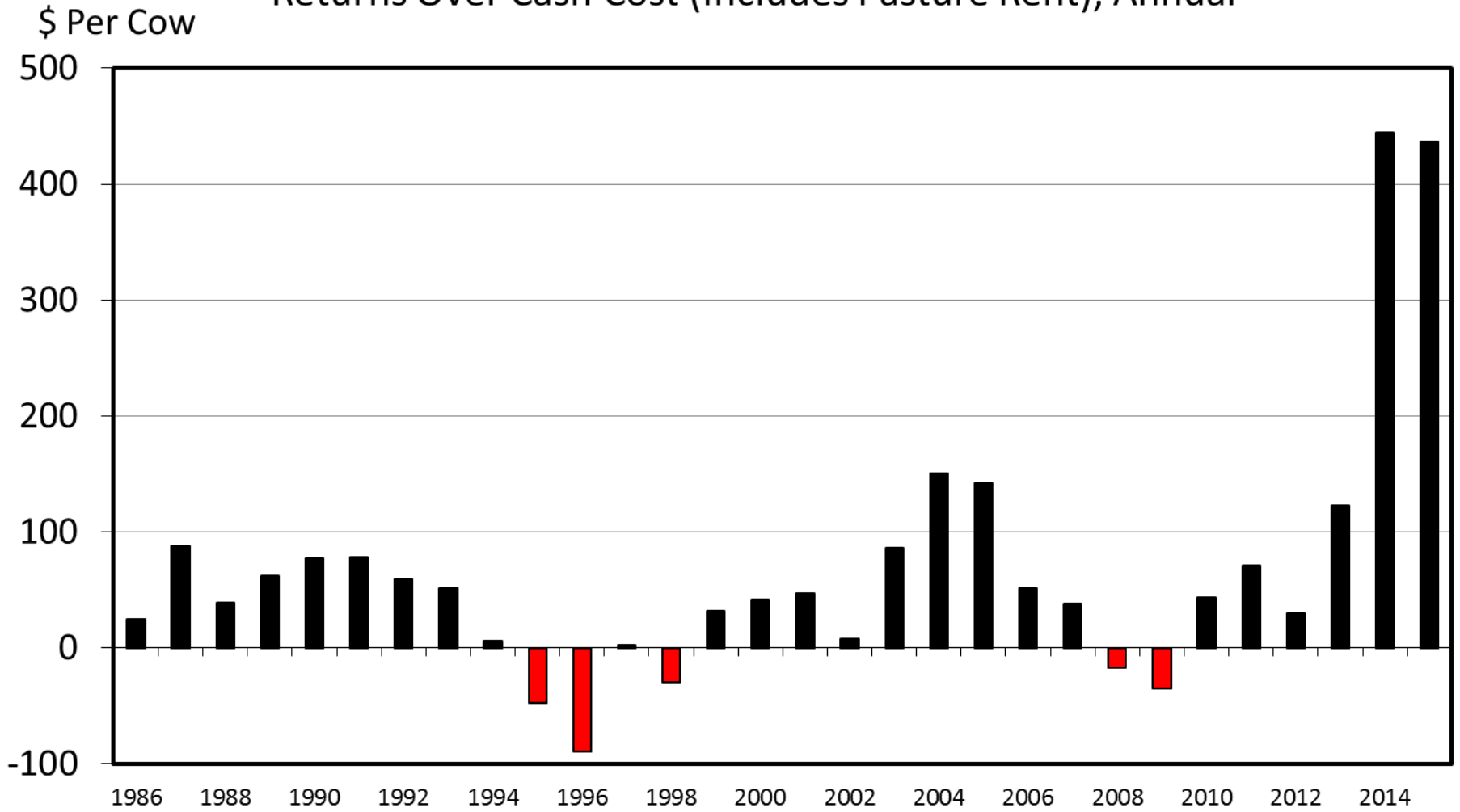
# ESTIMATED AVERAGE COW CALF RETURNS

## Returns Over Cash Cost (Includes Pasture Rent), Annual




**Data Source: USDA-AMS, Compiled and Analysis by LMIC**

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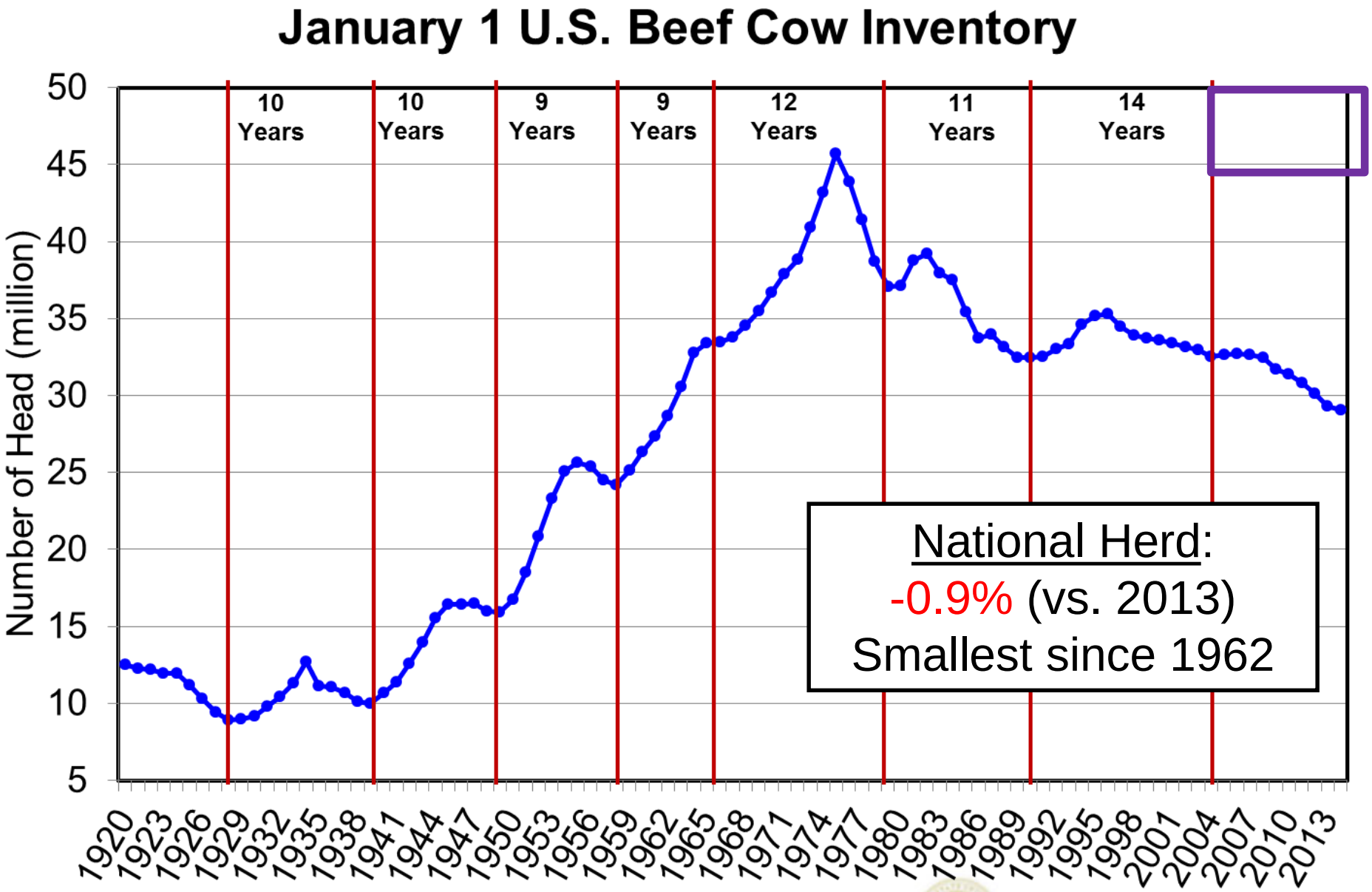
C-P-66
07/16/14

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

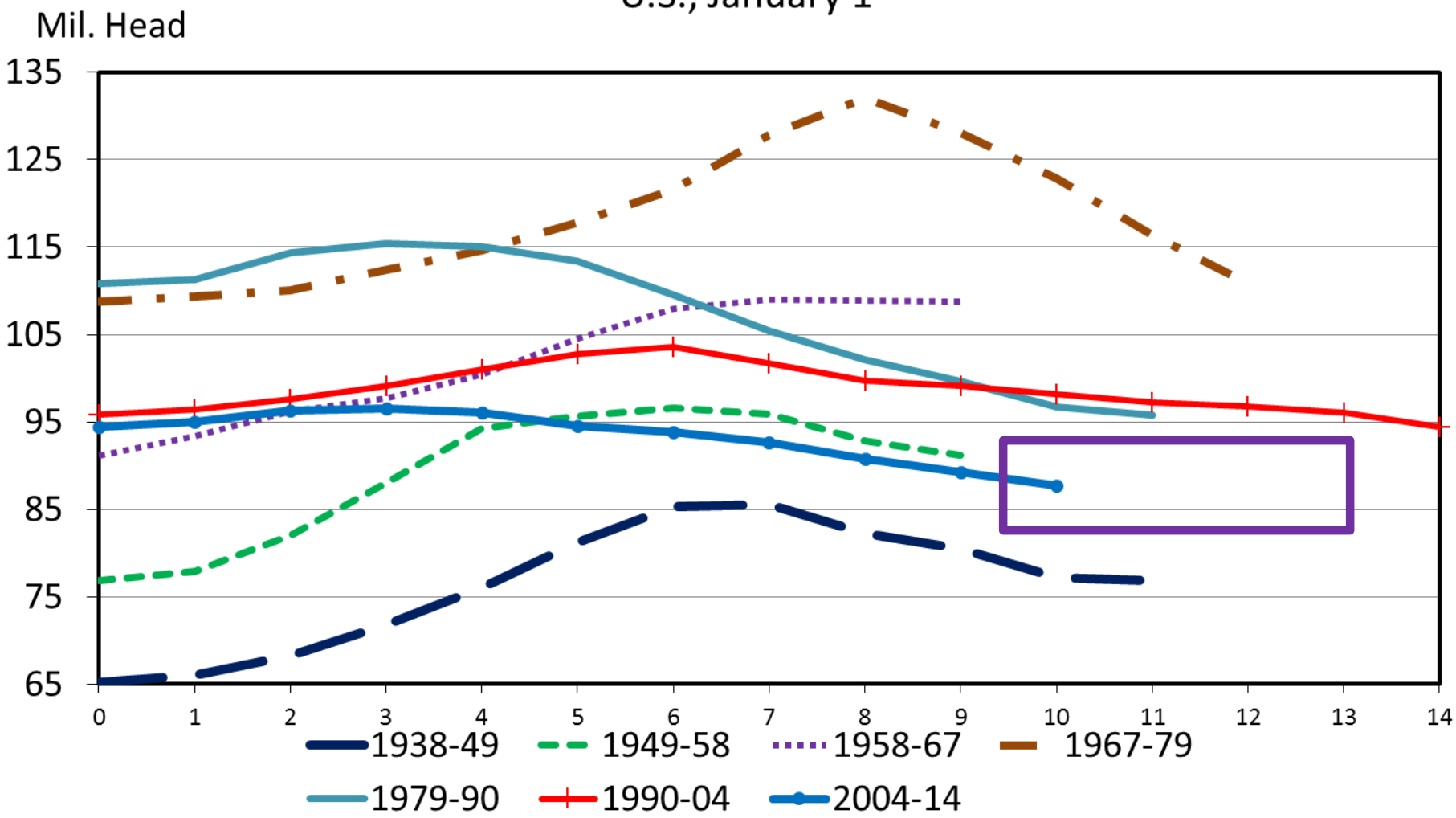





Data Source: USDA/NASS

# TOTAL CATTLE INVENTORY BY CYCLE

U.S., January 1




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

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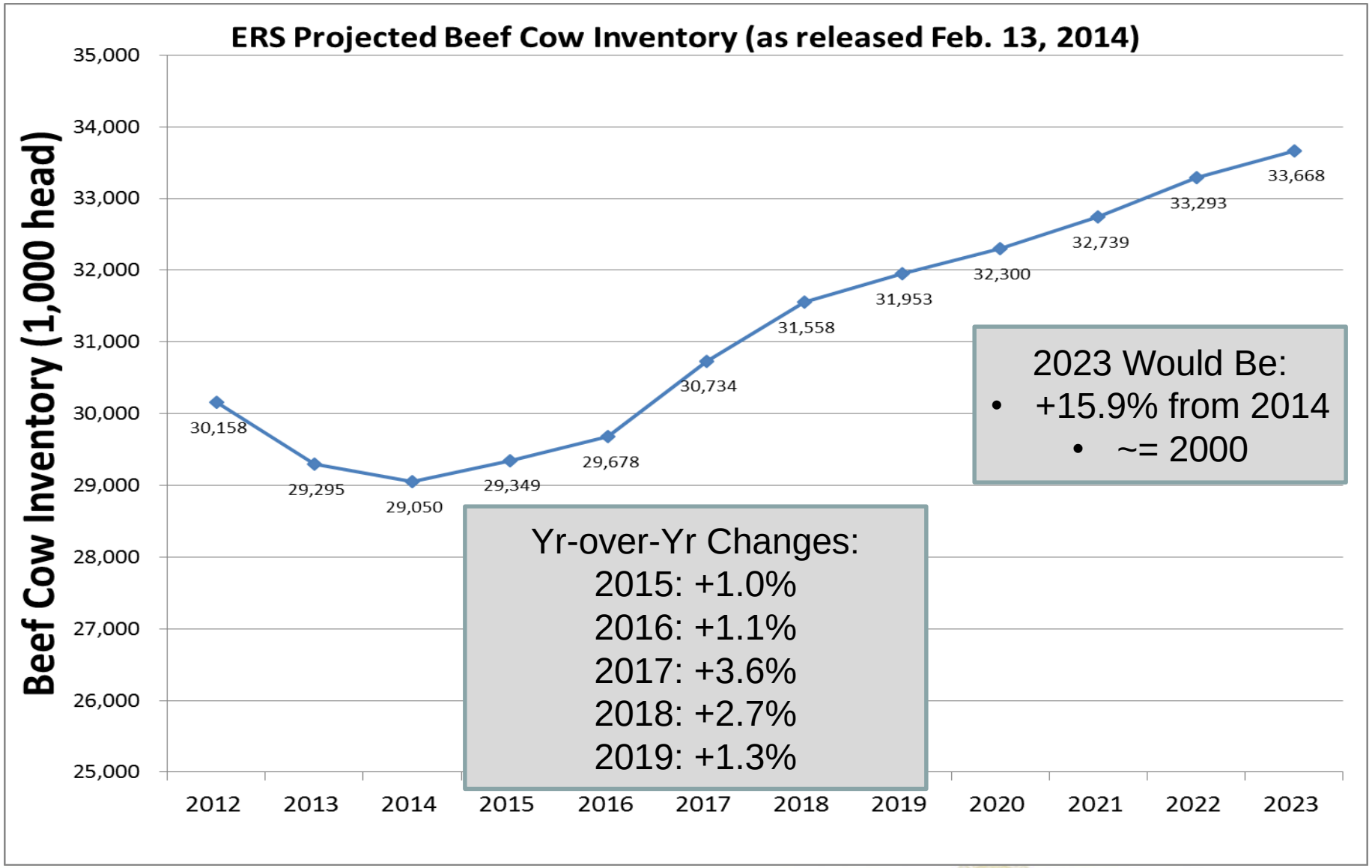
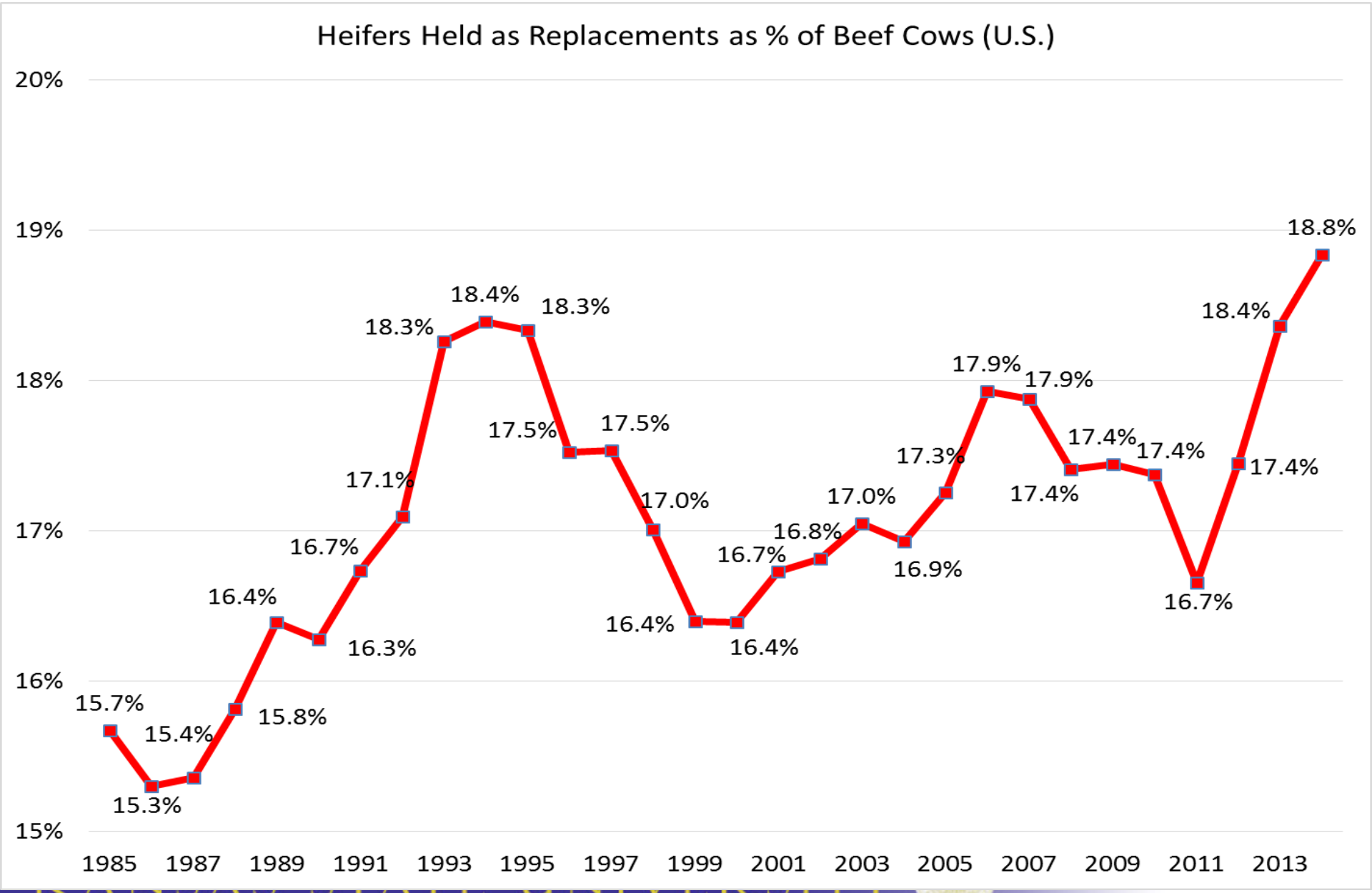
C-N-01
07/28/14

# ERS Projects Herd Expansion

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

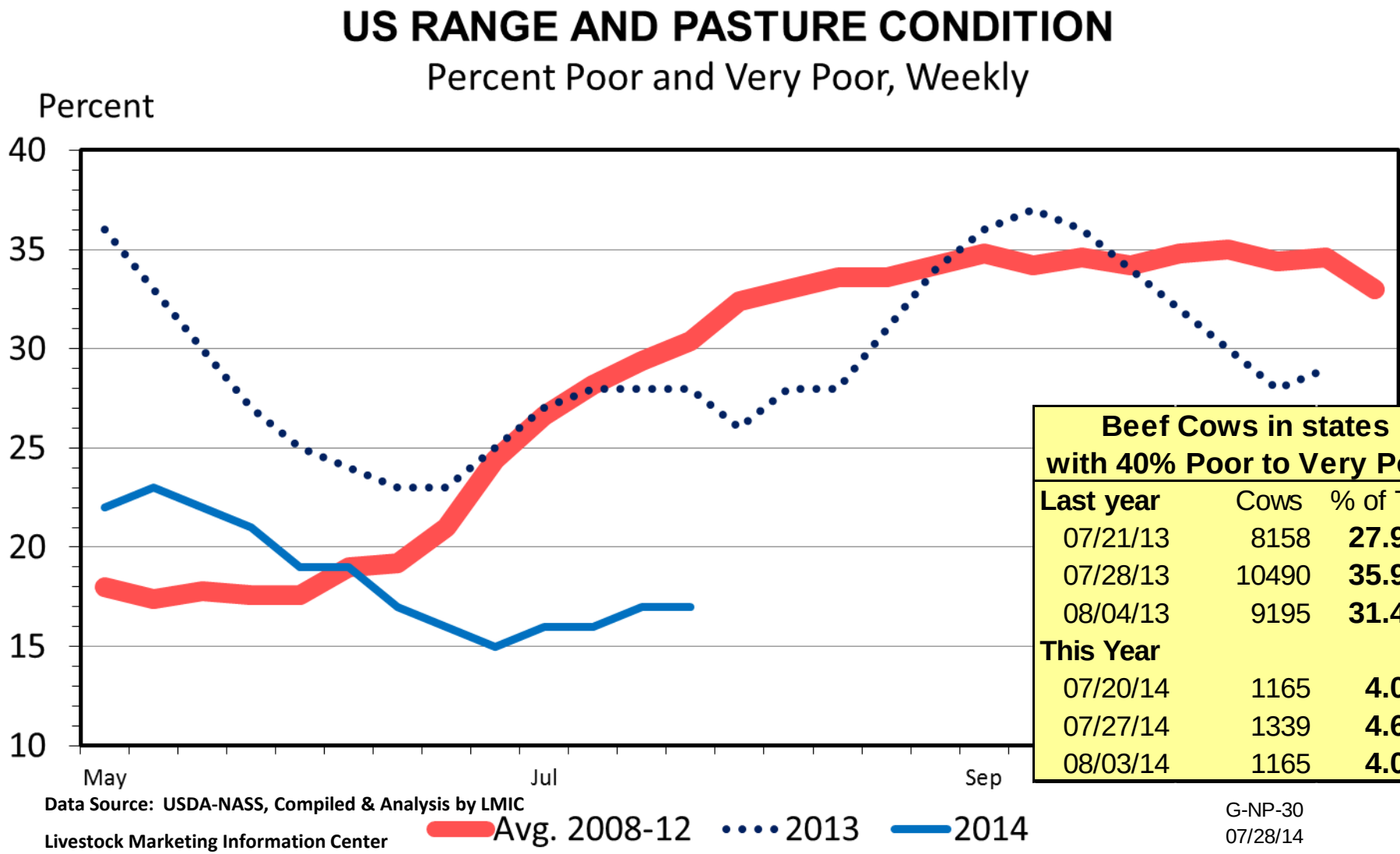


# Heifer Retention Patterns – Signal Expansion Interest




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**

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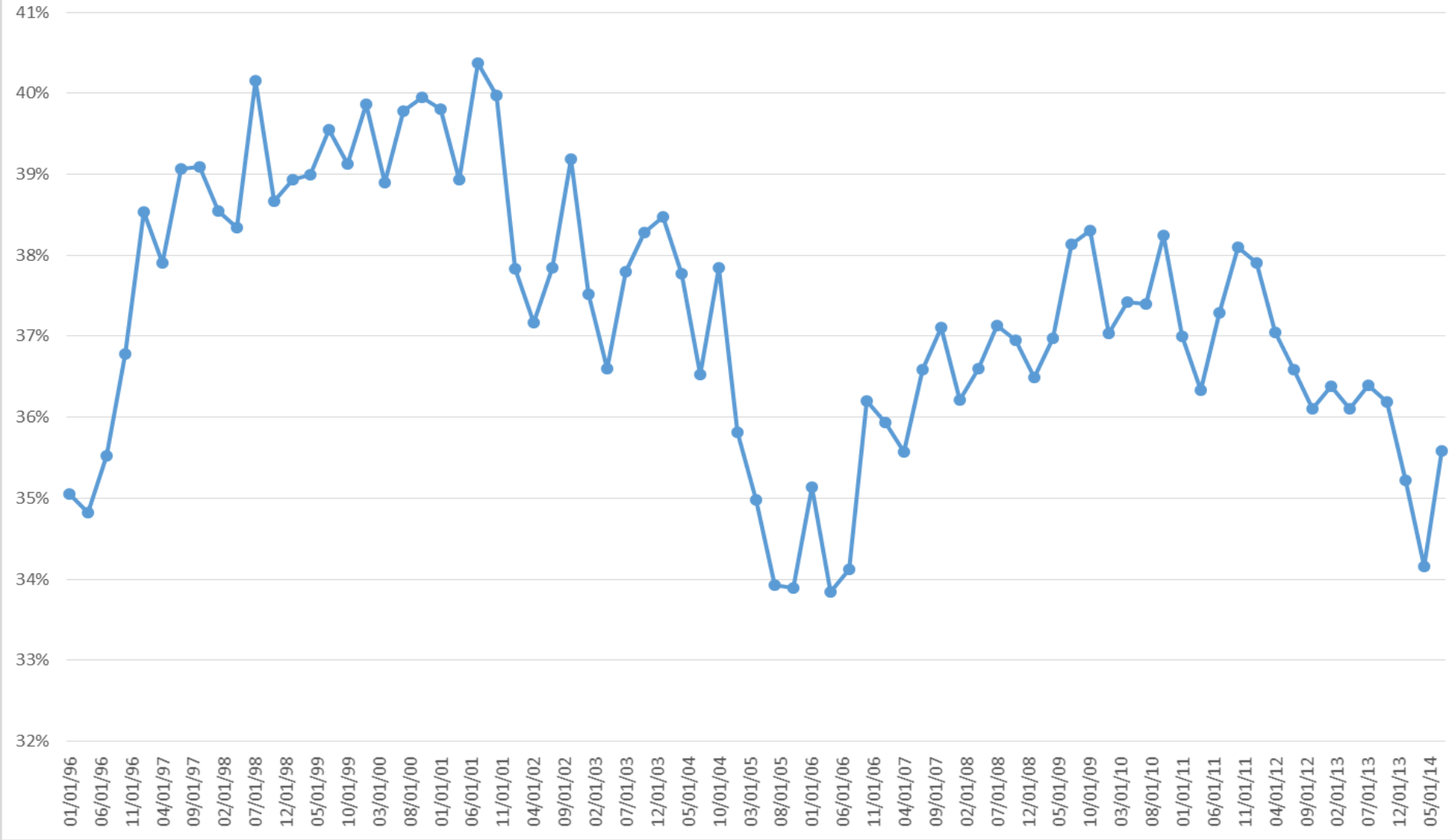
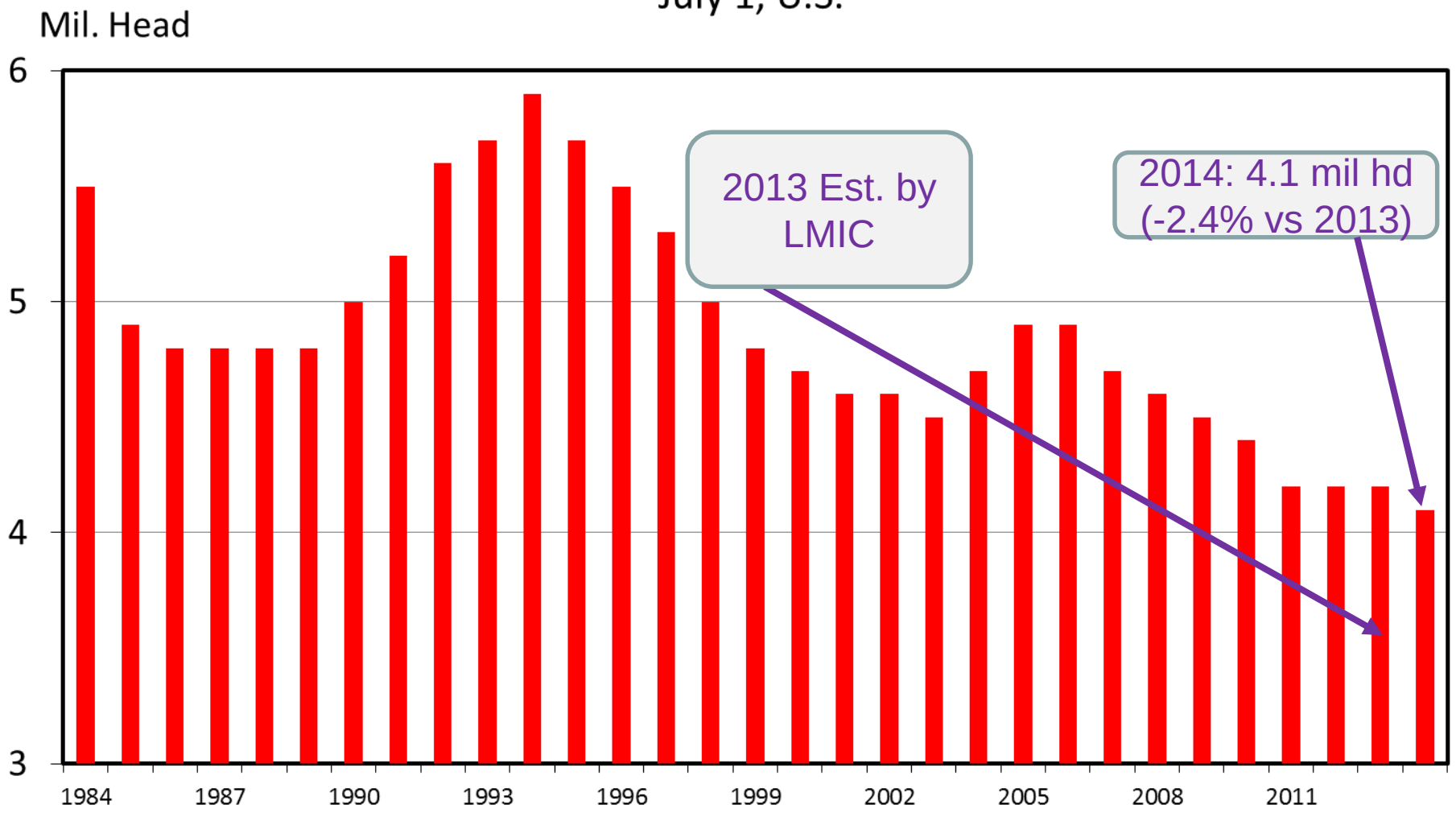
# Heifers as % of Total Placements on Feed, Source: Quarterly USDA NASS COF Reports



# HEIFERS HELD AS BEEF COW REPLACEMENTS

July 1, U.S.




**Data Source: USDA-NASS**

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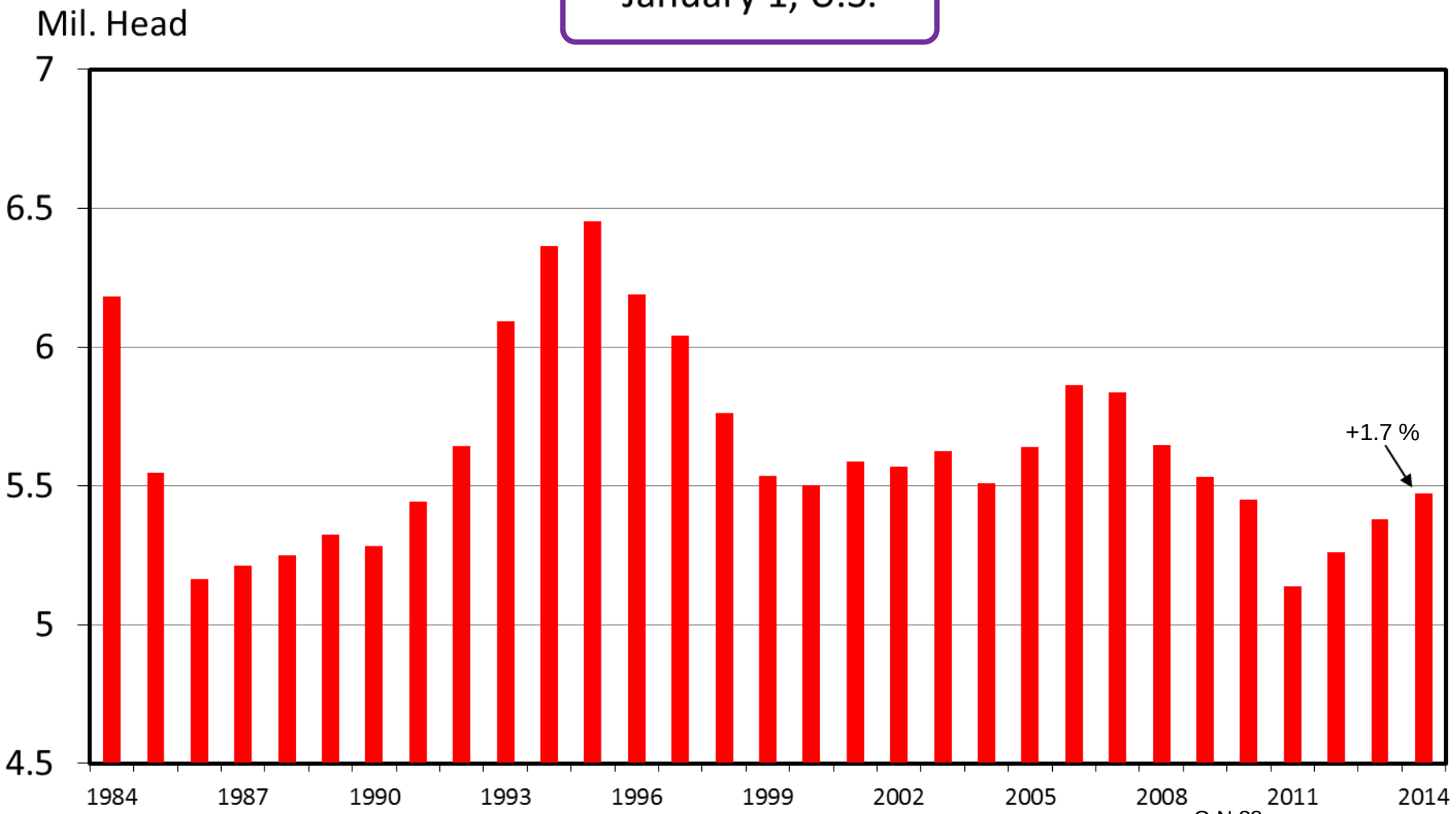
C-N-37
07/28/14

# HEIFERS HELD AS BEEF COW REPLACEMENTS

January 1, U.S.




Data Source: USDA-NASS

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C-N-38
07/28/14


- 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.

# 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?

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

| | *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** |

*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** |

# 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…*

# 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!!!**

# 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.

# 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

# 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**)**

# *Should I Buy Cows Instead of Heifers?*

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

# *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:


This presentation will be available in PDF format at:
http://www.agmanager.info/about/contributors/individual/tonsor.asp

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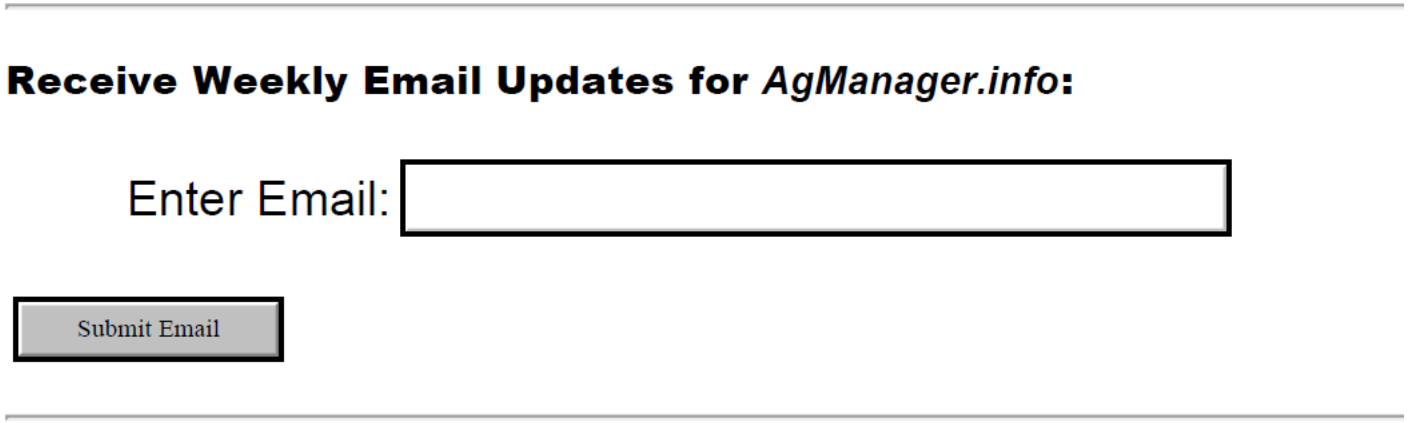


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