ESTIMATED AVERAGE COW CALF RETURNS
Returns Over Cash Cost (Includes Pasture Rent), Annual

Data Source: USDA-AMS, Compiled and Analysis by LMIC
Livestock Marketing Information Center

January 1 U.S. Beef Cow Inventory

National Herd: -0.9% (vs. 2013)
Smallest since 1962

Data Source: USDA/NASS
TOTAL CATTLE INVENTORY BY CYCLE
U.S., January 1

Data Source: USDA-NASS, Compiled & Analysis by LMIC
Livestock Marketing Information Center
ERS Projects Herd Expansion

ERS Projected Beef Cow Inventory (as released Feb. 13, 2014)

2023 Would Be:
- +15.9% from 2014
- ~= 2000

Yr-over-Yr Changes:
- 2015: +1.0%
- 2016: +1.1%
- 2017: +3.6%
- 2018: +2.7%
- 2019: +1.3%
Beef Cows in states with 40% Poor to Very Poor Poor

<table>
<thead>
<tr>
<th>Date</th>
<th>Cows</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/21/13</td>
<td>8158</td>
<td>27.92%</td>
</tr>
<tr>
<td>07/28/13</td>
<td>10490</td>
<td>35.90%</td>
</tr>
<tr>
<td>08/04/13</td>
<td>9195</td>
<td>31.47%</td>
</tr>
<tr>
<td>This Year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/20/14</td>
<td>1165</td>
<td>4.02%</td>
</tr>
<tr>
<td>07/27/14</td>
<td>1339</td>
<td>4.62%</td>
</tr>
<tr>
<td>08/03/14</td>
<td>1165</td>
<td>4.02%</td>
</tr>
</tbody>
</table>

Data Source: USDA-NASS, Compiled & Analysis by LMIC
Livestock Marketing Information Center

Nat’l Pasture Conditions – Support Expansion

US RANGE AND PASTURE CONDITION
Percent Poor and Very Poor, Weekly

Nat’l Pasture Conditions – Support Expansion

G-NP-30
07/28/14
Heifers as % of Total Placements on Feed, Source: Quarterly USDA NASS COF Reports
HEIFERS HELD AS BEEF COW REPLACEMENTS
July 1, U.S.

2013 Est. by LMIC
2014: 4.1 mil hd (-2.4% vs 2013)

Data Source: USDA-NASS
Livestock Marketing Information Center
• 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?

<table>
<thead>
<tr>
<th>Herd Size</th>
<th>All respondents</th>
<th>South Atlantic</th>
<th>East South Central</th>
<th>West South Central</th>
<th>East North Central</th>
<th>West North Central</th>
<th>Mountain</th>
<th>Pacific</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 50 head</td>
<td>30%</td>
<td>32%</td>
<td>25%</td>
<td>31%</td>
<td>61%</td>
<td>31%</td>
<td>13%</td>
<td>28%</td>
</tr>
<tr>
<td>51 to 100 head</td>
<td>23%</td>
<td>30%</td>
<td>26%</td>
<td>28%</td>
<td>19%</td>
<td>23%</td>
<td>16%</td>
<td>18%</td>
</tr>
<tr>
<td>101 to 150 head</td>
<td>15%</td>
<td>11%</td>
<td>20%</td>
<td>17%</td>
<td>9%</td>
<td>13%</td>
<td>13%</td>
<td>18%</td>
</tr>
<tr>
<td>151 to 200 head</td>
<td>9%</td>
<td>8%</td>
<td>12%</td>
<td>8%</td>
<td>3%</td>
<td>11%</td>
<td>7%</td>
<td>2%</td>
</tr>
<tr>
<td>201 to 300 head</td>
<td>9%</td>
<td>9%</td>
<td>10%</td>
<td>5%</td>
<td>7%</td>
<td>9%</td>
<td>16%</td>
<td>6%</td>
</tr>
<tr>
<td>301 to 400 head</td>
<td>5%</td>
<td>4%</td>
<td>2%</td>
<td>5%</td>
<td>-</td>
<td>5%</td>
<td>8%</td>
<td>6%</td>
</tr>
<tr>
<td>401 to 500 head</td>
<td>4%</td>
<td>1%</td>
<td>4%</td>
<td>4%</td>
<td>-</td>
<td>3%</td>
<td>9%</td>
<td>4%</td>
</tr>
<tr>
<td>More than 500 head</td>
<td>6%</td>
<td>6%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>5%</td>
<td>19%</td>
<td>18%</td>
</tr>
<tr>
<td><strong>Respondent Count</strong></td>
<td><strong>995</strong></td>
<td><strong>106</strong></td>
<td><strong>115</strong></td>
<td><strong>220</strong></td>
<td><strong>59</strong></td>
<td><strong>265</strong></td>
<td><strong>154</strong></td>
<td><strong>50</strong></td>
</tr>
</tbody>
</table>

**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.
### 10. What are your plans concerning your cowherd size in 2014/15?

<table>
<thead>
<tr>
<th>Plan Description</th>
<th>All respondents</th>
<th>South Atlantic</th>
<th>East South Central</th>
<th>West South Central</th>
<th>East North Central</th>
<th>West North Central</th>
<th>Mountain</th>
<th>Pacific</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expand by 11% or more</td>
<td>19%</td>
<td>21%</td>
<td>13%</td>
<td>27%</td>
<td>9%</td>
<td>17%</td>
<td>21%</td>
<td>18%</td>
</tr>
<tr>
<td>Expand by 1% to 10%</td>
<td>52%</td>
<td>49%</td>
<td>59%</td>
<td>48%</td>
<td>58%</td>
<td>57%</td>
<td>44%</td>
<td>52%</td>
</tr>
<tr>
<td>Remain the same but add/grow other enterprises</td>
<td>17%</td>
<td>19%</td>
<td>15%</td>
<td>15%</td>
<td>17%</td>
<td>17%</td>
<td>21%</td>
<td>12%</td>
</tr>
<tr>
<td>Contract by 1% to 10%</td>
<td>6%</td>
<td>8%</td>
<td>4%</td>
<td>5%</td>
<td>9%</td>
<td>7%</td>
<td>7%</td>
<td>8%</td>
</tr>
<tr>
<td>Contract by 11% or more</td>
<td>3%</td>
<td>1%</td>
<td>5%</td>
<td>4%</td>
<td>2%</td>
<td>2%</td>
<td>4%</td>
<td>8%</td>
</tr>
<tr>
<td>Get out of the beef/cattle industry completely (Not retiring)</td>
<td>1%</td>
<td>2%</td>
<td>1%</td>
<td>1%</td>
<td>3%</td>
<td>0%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Retire</td>
<td>1%</td>
<td>1%</td>
<td>3%</td>
<td>1%</td>
<td>3%</td>
<td>1%</td>
<td>1%</td>
<td>-</td>
</tr>
<tr>
<td><strong>Respondent Count</strong></td>
<td>990</td>
<td>105</td>
<td>115</td>
<td>219</td>
<td>59</td>
<td>262</td>
<td>154</td>
<td>50</td>
</tr>
</tbody>
</table>

**Tonsor Calculations:**

<table>
<thead>
<tr>
<th>Plan Type</th>
<th>All respondents</th>
<th>South Atlantic</th>
<th>East South Central</th>
<th>West South Central</th>
<th>East North Central</th>
<th>West North Central</th>
<th>Mountain</th>
<th>Pacific</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expand</td>
<td>71%</td>
<td>70%</td>
<td>72%</td>
<td>74%</td>
<td>66%</td>
<td>74%</td>
<td>64%</td>
<td>70%</td>
</tr>
<tr>
<td>Same</td>
<td>17%</td>
<td>19%</td>
<td>15%</td>
<td>15%</td>
<td>17%</td>
<td>17%</td>
<td>21%</td>
<td>12%</td>
</tr>
<tr>
<td>Contract</td>
<td>9%</td>
<td>9%</td>
<td>10%</td>
<td>9%</td>
<td>10%</td>
<td>8%</td>
<td>11%</td>
<td>16%</td>
</tr>
<tr>
<td>Exit/Retire</td>
<td>2%</td>
<td>3%</td>
<td>4%</td>
<td>2%</td>
<td>7%</td>
<td>1%</td>
<td>3%</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Wtd Avg Change (Omitting Retirement and Exits, Using Mid-Points)</strong></td>
<td>4.1%</td>
<td>4.3%</td>
<td>3.6%</td>
<td>4.7%</td>
<td>3.2%</td>
<td>4.2%</td>
<td>3.7%</td>
<td>3.3%</td>
</tr>
</tbody>
</table>

Important to note this summary is not weighted by an operation’s current herd size.
10. What are your plans concerning your cowherd size in 2014/15?

<table>
<thead>
<tr>
<th>Grow</th>
<th>All respondents</th>
<th>1 to 50 head</th>
<th>51 to 100 head</th>
<th>101 to 150 head</th>
<th>151 to 200 head</th>
<th>201 to 300 head</th>
<th>301 to 400 head</th>
<th>401 to 500 head</th>
<th>More than 500 head</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tonsor Calculations:</td>
<td></td>
<td>Expand</td>
<td>71%</td>
<td>76%</td>
<td>70%</td>
<td>69%</td>
<td>69%</td>
<td>66%</td>
<td>71%</td>
</tr>
<tr>
<td></td>
<td>Same</td>
<td>17%</td>
<td>14%</td>
<td>17%</td>
<td>16%</td>
<td>19%</td>
<td>20%</td>
<td>22%</td>
<td>17%</td>
</tr>
<tr>
<td></td>
<td>Contract</td>
<td>9%</td>
<td>7%</td>
<td>10%</td>
<td>12%</td>
<td>12%</td>
<td>12%</td>
<td>4%</td>
<td>6%</td>
</tr>
<tr>
<td></td>
<td>Exit/Retire</td>
<td>2%</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
<td>0%</td>
<td>2%</td>
<td>2%</td>
<td>0%</td>
</tr>
<tr>
<td>Wtd Avg Change (Omitting Retirement and Exits, Using Mid-Points)</td>
<td></td>
<td>4.1%</td>
<td>4.7%</td>
<td>3.9%</td>
<td>3.7%</td>
<td>3.5%</td>
<td>3.6%</td>
<td>4.7%</td>
<td>4.4%</td>
</tr>
</tbody>
</table>

Is Middle "Hollowing Out"?

4.3% 3.6% 3.9% 4.0%
### 10a. How will you accomplish your cowherd expansion?

<table>
<thead>
<tr>
<th>Method</th>
<th>All respondents</th>
<th>South Atlantic</th>
<th>East South Central</th>
<th>West South Central</th>
<th>East North Central</th>
<th>West North Central</th>
<th>Mountain</th>
<th>Pacific</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hold back heifers</td>
<td>84%</td>
<td>83%</td>
<td>82%</td>
<td>87%</td>
<td>82%</td>
<td>83%</td>
<td>85%</td>
<td>82%</td>
</tr>
<tr>
<td>Buy replacements</td>
<td>37%</td>
<td>40%</td>
<td>42%</td>
<td>44%</td>
<td>46%</td>
<td>35%</td>
<td>24%</td>
<td>21%</td>
</tr>
<tr>
<td>Sell fewer cull cows</td>
<td>13%</td>
<td>10%</td>
<td>13%</td>
<td>9%</td>
<td>8%</td>
<td>17%</td>
<td>14%</td>
<td>12%</td>
</tr>
<tr>
<td>Lease cattle or run cattle on shares</td>
<td>1%</td>
<td>1%</td>
<td>4%</td>
<td>1%</td>
<td>-</td>
<td>2%</td>
<td>2%</td>
<td>-</td>
</tr>
<tr>
<td><strong>Respondent Count</strong></td>
<td><strong>701</strong></td>
<td><strong>72</strong></td>
<td><strong>83</strong></td>
<td><strong>163</strong></td>
<td><strong>39</strong></td>
<td><strong>193</strong></td>
<td><strong>98</strong></td>
<td><strong>34</strong></td>
</tr>
</tbody>
</table>

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.**
## 10c. Why are you planning to reduce your cowherd?

<table>
<thead>
<tr>
<th>Reason</th>
<th>All Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Getting older and want to cut back</td>
<td>53%</td>
</tr>
<tr>
<td>Drought</td>
<td>27%</td>
</tr>
<tr>
<td>Feed costs too high</td>
<td>9%</td>
</tr>
<tr>
<td>Feeder prices too high</td>
<td>7%</td>
</tr>
<tr>
<td>Land too expensive</td>
<td>7%</td>
</tr>
<tr>
<td>Other</td>
<td>23%</td>
</tr>
</tbody>
</table>

**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
- High price of calves, I don't expand during high prices, I expand when prices are low.
- 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
- Scared
- Limited lease availability
- Lack of rentable land
- Less pasture
- 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


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

different survey
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:
  - Open and give brief overview of spreadsheet
Should I Raise Replacement Heifers?

• Most common approach to herd growth
  – 83% per 2007-08 USDA APHIS

• 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
Net Present Value of Beef Replacements

<table>
<thead>
<tr>
<th>Year</th>
<th># of Calves</th>
<th>Base Case</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>1</td>
<td>$1,316</td>
</tr>
<tr>
<td>2015</td>
<td>2</td>
<td>$1,502</td>
</tr>
<tr>
<td>2016</td>
<td>3</td>
<td><strong>$1,692</strong></td>
</tr>
<tr>
<td>2017</td>
<td>4</td>
<td>$1,838</td>
</tr>
<tr>
<td>2018</td>
<td>5</td>
<td>$1,943</td>
</tr>
<tr>
<td>2019</td>
<td>6</td>
<td>$2,026</td>
</tr>
<tr>
<td>2020</td>
<td>7</td>
<td><strong>$2,085</strong></td>
</tr>
<tr>
<td>2021</td>
<td>8</td>
<td>$2,130</td>
</tr>
<tr>
<td>2022</td>
<td>9</td>
<td>$2,166</td>
</tr>
<tr>
<td>2023</td>
<td>10</td>
<td>$2,192</td>
</tr>
</tbody>
</table>

* 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.

**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
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
  - 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
More information available at:

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

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Beef-Cattle Economics webinar series

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

Remaining 2014 session:
November 11\textsuperscript{th}

For details about specific topics and registering for webinars see additional information on AgManager.info AND http://www.meatingplace.com/Industry/Webinars
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