The Economics of Herd Expansion

2015 UF Beef Cattle Short Course

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Finally……..

We are getting paid for what we do!
The Economics of Herd Expansion

• Historical Expansion Period
• US Long-Term Price Projections
• Florida 10-Year Price Projections
• Florida 10-Year Revenue Projections
• Florida 10-Year Cost Projections
• Florida 10-Year Profit Projections

These are the basic projections that we are using in this analysis. If they are different than yours, you simply need to modify the information for your operation.
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Current Situation:

• On average 2015 annual feeder calf prices are expected to set a new record.

• 2015 beef production costs have stabilized and in some cases moved lower (such as lower feed, fuel, and fertilizer prices).

• The majority of cow-calf producers are profitable in 2015. (Finally we are getting paid for what we do!)

• Beef herd expansion is underway as of 1/1/2015.
What should we expect when we expand U.S. beef production?
Will it be smooth sailing or rough waters?
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Figure 1. U.S. Cattle and Calves Inventory, 1949-2015
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Figure 2. Inverse Relationship of U.S. Cattle Inventory and U.S. Average 450-lb. Calf Price, 1990-2015.
What Goes Up, Eventually Comes Down

Current Situation

COW-CALF RETURNS AND CATTLE INVENTORY
U.S., Annual

- Positive Profits are expected for the next several years...
Figure 3. U.S. Cattle Inventory, USDA Long-Term Projections 2013-2024

- **2013:** 90,095
- **2014:** 87,730
- **2015:** 87,700
- **2016:** 87,900
- **2017:** 88,281
- **2018:** 89,613
- **2019:** 90,878
- **2020:** 92,525
- **2021:** 93,419
- **2022:** 93,634
- **2023:** 93,984
- **2024:** 94,127

**head (in thousands)**
What should we expect when we expand U.S. beef production?

![Graph showing the relationship between beef price and quantity.](image)
What should we expect when we expand U.S. beef production?
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Future Situation:

****Record high feeder calf prices will not likely continue.

• Beef herd expansion will likely continue but is expected to be limited due to:
  – a) fewer pasture acres
  – b) average age of cattle producers and their perceptions of risk
  – c) high capital requirements for expansion
  – d) uncertain domestic and foreign economies
  – e) other factors.
Future Situation:
• Average annual feeder calf prices are expected to move lower as herd expansion and beef tonnage increases.

• Outliers such as adverse weather, terrorist events, weaknesses in domestic and foreign economies, wars, etc. will alter future production and market price levels.

• Future beef production costs are likely to increase over time.

• The majority of cow-calf producers should be profitable for the next three or four more years and then incur losses until cattle producers reduce inventory and beef tonnage levels.
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Future Situation:

Let’s look at long-term beef price projections made by:

• The Food and Policy Research Institute (FAPRI)
• United States Department of Agriculture (USDA)
FAPRI Long-Term Beef Price Projections, 2015-2024

$/cwt.

FS - FAPRI
LC - FAPRI
Oklahoma City Feeder Steers, 650 lbs.
Long-Term Beef Price Projections, 2015-2024

$/cwt.

FAPRI USDA
After modifying the average Oklahoma City Feeder Steer Calf Prices for weight, sex, and handling and transportation costs, the following annual average feeder calf prices were projected for Florida over a 10-year period.

Table 2. Projected Florida Feeder Calf Prices, Med. & Lg., #1-#2, 525 lbs.

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<td>$/cwt.</td>
<td>$220</td>
<td>$207</td>
<td>$188</td>
<td>$176</td>
<td>$166</td>
<td>$162</td>
<td>$163</td>
<td>$165</td>
<td>$168</td>
<td>$172</td>
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<td>$/hd.</td>
<td>$1,157</td>
<td>$1,088</td>
<td>$985</td>
<td>$924</td>
<td>$874</td>
<td>$852</td>
<td>$857</td>
<td>$864</td>
<td>$881</td>
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<td>$/truckload</td>
<td>$110,228</td>
<td>$103,603</td>
<td>$93,846</td>
<td>$88,002</td>
<td>$83,243</td>
<td>$81,176</td>
<td>$81,576</td>
<td>$82,271</td>
<td>$83,896</td>
<td>$85,911</td>
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Florida Feeder Calf Prices
Florida Feeder Calf Prices


$/hd.

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<th>Year</th>
<th>Price</th>
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<td>2024</td>
<td>$902</td>
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Projected Florida Feeder Calf Revenue Per Brood Cow
Projected Florida Feeder Calf Revenue

$/calf  $/brood cow

2015  $1,157
2016  $1,088
2017  $984
2018  $985
2019  $924
2020  $874
2021  $852
2022  $857
2023  $864
2024  $881

Projected Florida Feeder Calf Revenue

$/calf  $/brood cow
Projected Revenue Differences between $/Feeder Calf and $/Brood Cow
Projected Florida Feeder Calf Revenue Per Brood Cow

If you can keep your Calf Production Costs Per Brood Cow at less than $725 per brood cow, you will be profitable all 10 years.
Next we need to address cow-calf production costs?
ESTIMATED AVERAGE COW CALF COSTS
Includes Pasture Rent, Annual

Data Source: USDA-AMS, NASS, Analysis by LMIC
Livestock Marketing Information Center
Dr. Harlan Hughes – Beef Magazine
Projected Cost of Production

**Figure 5. Harlan’s projected long-run economic costs of production**

*Eastern Wyoming/western Nebraska cowherds*
Projected Florida Financial 
Calf Production Costs Per Brood Cow 
500-550 lbs., 10-Year Cost Projections (2015-2024)
*The Projected Florida Financial Calf Production Costs Per Brood Cow were assumed to increase 2 percent annually.*
Projected Profit/Loss Per Brood Cow
Florida Long-Term Profit Projections (2015-2024)
Projected Profit/Loss Per Brood Cow
Florida Long-Term Profit Projections (2015-2024)

Feeder Calf Revenue/Brood Cow
Calf Production Costs/Brood Cow
Projected Profit/Loss Per Brood Cow
Florida Long-Term Profit Projections (2015-2024)

Feeder Calf Revenue/Brood Cow
Calf Production Costs/Brood Cow
Profits
Projected Profit/Loss Per Brood Cow
Florida Long-Term Profit Projections (2015-2024)

- Feeder Calf Revenue/Brood Cow
- Calf Production Costs/Brood Cow

Profits
Losses
Projected Profit/Loss Per Brood Cow
Florida Long-Term Profit Projections (2015-2024)

Feeder Calf Revenue/Brood Cow
Calf Production Costs/Brood Cow

Losses
Profits

BREAKEVEN
Projected Florida Profit/Loss Per Brood Cow
500-550 lbs., 10-Year Profit Projections (2015-2024)
Projected Florida Profit/Loss Per Brood Cow
500-550 lbs., 10-Year Profit Projections (2015-2024)
Projected Florida Profit/Loss Per Brood Cow
500-550 lbs., 10-Year Profit Projections (2015-2024)

$profit/cow (with cost inflation)

$234 $160 $86 $57 $21

$profit/cow

$200 $100 $0

FL Baseline Prices
FL Baseline Prices -15%


$234
$160
$86
$57
$21
-$10
-$69
-$104
-$117
-$127
-$130
-$130
$86
$21
-$68
-$128
-$180
-$212
-$226
-$237
-$242
-$245

Profit/cow
Projected Florida Profit/Loss Per Brood Cow

500-550 lbs., 10-Year Profit Projections (2015-2024)

FL Baseline Prices +15% FL Baseline Prices

$profit/cow (with cost inflation)

- $200 - $100 $0 $100 $200 $300 $400 $500

Future Cow-Calf Management Strategies:

✓ Work on increasing production levels per brood cow.
  • LBS. OF CALF PRODUCTION PER BROOD COW
  • Getting More Cows BRED
  • REDUCING the Number of Open Cows
  • Weaning Heavier Calves
  • Selling Heavier Calves
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Future Cow-Calf Management Strategies:

✔ Work on lowering or controlling production costs per brood cow.
  • Increasing the Number of Days of Grazing
    • Increasing the Stocking Rate (acres/head)
    • Stockpiling Forages
  • Competitively Buying Inputs
  • Reducing Waste!
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Future Cow-Calf Management Strategies:

✓ Work on improving feeder calf and cull animal prices received.
  • Improving Quality
    • Frame Score
    • Muscle Score
  • Marketing Practices
    • Weight
    • Timing
    • Marketing Outlet
Future Cow-Calf Management Strategies:

✓ Work on increasing production levels per brood cow.
✓ Work on lowering or controlling production costs per brood cow.
✓ Work on improving feeder calf and cull animal prices received.
✓ Some combination of the above cow-calf management strategies.
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