Replacement Females: Buy or Raise?

Big Picture

Three Areas:

1. Strategic Business Considerations
2. Financial Capacity Considerations
3. Enterprise Economic Considerations
DISCLAIMER

It Depends?

Strategic Business Considerations
### Growth Strategies

| **Expand**      | - Frequently used  
|                | - Incremental versus significant  
| **Diversify**   | - Addition of new enterprises  
|                | - May spread management too thin  
| **Replicate**   | - Copy existing operation in a different site  
|                | - E.g. multiple dairies  
| **Integrate**   | - Moving forward, backward, or horizontal  
|                | - E.g. grower-packer-shippers  

*Adapted from “Strategic Alternatives in Growth & Downsizing” by Alan Miller, Boehlje, and Dobbins

### Rightsizing Strategies

| **Focus/Specialize** | - Improve efficiencies and reduce costs  
| **Intensify/Modernize** | - ↑ production through the same fixed asset base  
|                      | - ↓ production costs (e.g. double shifts)  
| **Network**          | - Create economies of size  
|                      | - E.g. alliances, partnerships, etc.  
| **Delay/Wait & See** | - Decision trigger is key  
|                      | - Not a long-term strategy  
| **Downsize**         | - Doesn’t necessarily mean business exit  
|                      | - May help improve focus and/or efficiency  

*Adapted from “Strategic Alternatives in Growth & Downsizing” by Alan Miller, Boehlje, and Dobbins
What is Your Business’ Strategy?

<table>
<thead>
<tr>
<th>Growth</th>
<th>Rightsizing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expand</td>
<td>Intensify/modernize</td>
</tr>
<tr>
<td>Diversify</td>
<td>Focus/specialize</td>
</tr>
<tr>
<td>Replicate</td>
<td>Network</td>
</tr>
<tr>
<td>Integrate</td>
<td>Delay/wait and see</td>
</tr>
<tr>
<td></td>
<td>Downsize</td>
</tr>
</tbody>
</table>

- Every business involved in at least one alternative.

*Adapted from “Strategic Alternatives in Growth & Downsizing” by Alan Miller, Boehlje, and Dobbins
LIQUIDITY

Balance Sheet Liquidity

Current Ratio
1.76:1 or more

Excess

Working Capital at or above 46% of Operating Expenses

Current ratio near 1.25:1 to 1.75:1

Adequate

Working Capital near 25% up to 45% of Operating Expenses

Current Ratio of 1.25:1

Marginal

Working Capital near 15% up to 25% of Operating Expenses

Current Ratio of 1.10:1

Minimum

Working Capital less than 15% of Expenses

LEVERAGE

Balance Sheet Leverage

Crops 45% or more

Maximum

Debt Coverage Ratio 1:10

Livestock 45% or more

Marginal

DCR 1.25:1

Secondary Sources of Repayment Capacity

Sustainable

DCR 1.75:1 or more

Crops 30% or less

Strategic

Livestock 30% or less
Cash Cycle – Operational Activities

- Cash moves as shown in the following diagram:

![Cash Cycle Diagram](image)

Enterprise Economic Considerations
Enterprise Economic Considerations

Specific Genetic Goals.

Resources and facilities available.

Cost Structure.

Operational (Enterprise) Model.

Specific Genetic Goals.

• Reliable source for purchase.

• Reasonable cost of purchase.

• Need to Raise to meet goals?
Resources and facilities available.

- Owned?
- Leased?
- Custom Development?

Cost Structure

<table>
<thead>
<tr>
<th>Calf Price $/pound</th>
<th>Cash Cow Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$600</td>
</tr>
<tr>
<td>$2.40</td>
<td>$4,000</td>
</tr>
<tr>
<td>$2.20</td>
<td>$3,400</td>
</tr>
<tr>
<td>$1.96</td>
<td>$2,800</td>
</tr>
</tbody>
</table>

Assumptions:
- Calf Weight 550#
- Cow produces 7 calves
- Annual cow cost increases 3% per year
- Interest rate is 6%
- Cull cow value estimates at $1.04 / pound

Chart based on Cattle Fax 2015 Data.
**Cost Structure**

![Graph showing Net Income per AU versus Base Operating Expense per AU.](image)

Source: Northwest FCS Cattle Knowledge Team - Peer Financial Benchmarks

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**Enterprise Economic Considerations**

**Enterprise Model**

- Sell all calves – Purchase bred replacements.
- Sell calves – Retains replacement heifer calves.
- Sell all calves – Purchase replacement heifer calves.
Enterprise Model

Sell all calves – Purchase bred replacements.

- Reliable Source?
- Cost of purchase?
- Quality & condition?
- Timing of purchase?
- Calving window?
- Risks?

Enterprise Model

Sell calves – Retains replacement heifer calves.

- Opportunity costs?
- Cost of development?
- Cost of breeding?
- Cost of carry to calving?
- Risks?
Enterprise Model

Sell all calves – Purchase replacement heifer calves.

- Reliable Source?
- +Retained replacement consideration.
  - Opportunity costs?
  - Cost of development?
  - Cost of breeding?
  - Cost of carry to calving?
  - Risks?

Example

Buy?  Raise?
## One Example

<table>
<thead>
<tr>
<th></th>
<th>Buy</th>
<th>Raise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of Purchase</td>
<td>$2,500</td>
<td>Value of heifer $1,380</td>
</tr>
<tr>
<td>Transportation</td>
<td>$15</td>
<td>Interest cost (calf) $45</td>
</tr>
<tr>
<td>Cost of feed</td>
<td>$100</td>
<td>Feed cost to calving $358</td>
</tr>
<tr>
<td>Other costs</td>
<td>$42</td>
<td>Med &amp; Vet $32</td>
</tr>
<tr>
<td>Interest costs</td>
<td>$16</td>
<td>Labor cost (develop) $225</td>
</tr>
<tr>
<td></td>
<td>Total Cost to Calving $2,673</td>
<td>Cost of breeding $44</td>
</tr>
<tr>
<td></td>
<td>Cost Difference $483</td>
<td>Other costs $75</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Interest cost (devl) $31</td>
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<tr>
<td></td>
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<td>Total cost to Calving $2,190</td>
</tr>
</tbody>
</table>

**QUESTION:** Should the comparison end here?

## Additional Opportunity Cost

### Assumptions:
- 400 head cow herd with 10% culling annually.
- Requires 40 bred replacements.
- AU required per raised heifer to calving: 0.8 AU
- Retention rate of raised heifer weaning to 1st preg.: 85%
  - (48 head retained at weaning to have 40 bred)
- Change in stocking rate if bred heifers are purchased: 37 AU’s.

**Conclusion:** Operation could run 37 more bred females using the resources devoted to raising replacement females.
One Example

Average net income per head $455
Average net income X 37hd = $16,835.00

Decision Help

Comparing Purchasing vs. Raising Beef Replacement Females

Spread sheet developed by Dr. Jack Whittier and Kevin Miller, CSU Beef Ext.
– CSU Extension web site.

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## Decision Help

### Comparing Purchasing vs Raising Beef Replacement Females

Cells that are highlighted can be modified by the user. Other cells in the spreadsheet are protected. Many cells with numbers are calculated based on the input in the highlighted cells. Formulas for these cells can be view by placing the cursor on the cell of interest.

#### Worksheet 1 - Change in net income if replacement heifer is purchased rather than raised.

<table>
<thead>
<tr>
<th>Positive Effects to Consider in Decision</th>
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</thead>
<tbody>
<tr>
<td>1. Enter sales revenue from sale of raised heifer calf</td>
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<td>2. Enter interest on sales revenue from heifer calf</td>
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<td>3. Total added returns</td>
<td></td>
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<tr>
<td>Reduced Costs</td>
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<tr>
<td>4. Enter value of hay fed to raised heifer calf</td>
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<td>5. Enter value of pasture grazed by raised heifer calf</td>
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<tr>
<td>6. Enter value of salt and mineral for raised heifer calf</td>
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<tr>
<td>7. Enter other feed costs for raised heifer calf</td>
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<tr>
<td>8. Enter veterinary and medicine (including synch drugs) for raised heifer calf</td>
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<tr>
<td>9. Enter value of labor and management for raised heifer calf</td>
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<tr>
<td>10. Compute share of bull costs for raised heifers</td>
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<tr>
<td>11. Enter other non-feed costs for raised heifer calf</td>
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<tr>
<td>12. Enter interest on feed and nonfeed costs of raised heifer calf</td>
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</tbody>
</table>

| Total positive effects (line 3 + line 13) | $2,137.07 |

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### Comparing Purchasing vs Raising Beef Replacement Females

Thank You!

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