Holstein Steer Calf Management and Buying Considerations

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Key Things With Steer Calves

Calf Health
- Calf Mortality is a big expense in a dairy steer operation.
- Loss of efficiency in gain from less than ideal health is a big risk.

Cost per pound of gain
- Mainly based on housing and nutrition management.
- Easiest factor to control
Calf Mortality
Percent of calf deaths

<table>
<thead>
<tr>
<th>Cause of Death</th>
<th>Preweaned</th>
<th>Weaned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scours, diarrhea</td>
<td>62.1</td>
<td>12.3</td>
</tr>
<tr>
<td>Respiratory problems</td>
<td>21.3</td>
<td>50.4</td>
</tr>
<tr>
<td>Joint or navel problems</td>
<td>1.7</td>
<td>1.4</td>
</tr>
<tr>
<td>Lameness or injury</td>
<td>0.5</td>
<td>6.4</td>
</tr>
<tr>
<td>Calving problems</td>
<td>4.1</td>
<td>--</td>
</tr>
<tr>
<td>Other known</td>
<td>3.4</td>
<td>13.5</td>
</tr>
<tr>
<td>Other Unknown</td>
<td>6.9</td>
<td>16.0</td>
</tr>
</tbody>
</table>


What are your biggest risks?

- Keep Records
  - Every calf that is lost or sick should be recorded.
- Include
  - Origin
  - Age
  - Disease or problem
  - IGG level
  - Other?

<table>
<thead>
<tr>
<th>Origin / Calf ID</th>
<th>Age / DOB</th>
<th>Disease / Issue</th>
<th>Treatment</th>
<th>Result</th>
<th>IGG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smith #112</td>
<td>2 days</td>
<td>Scours</td>
<td>Electrolyte</td>
<td>Death</td>
<td>Poor</td>
</tr>
<tr>
<td>John #57</td>
<td>4 weeks</td>
<td>Resp</td>
<td>Neuflor®</td>
<td>cure</td>
<td>Ex</td>
</tr>
<tr>
<td>home #103</td>
<td>9 days</td>
<td>Scours</td>
<td>Electrolyte</td>
<td>cure</td>
<td>Ex</td>
</tr>
</tbody>
</table>
Calf Immunity
The Number One Defense

- Test for calf immunity by checking IgG (immunoglobulin G) levels.
- Calf serum IgG is a direct measurement of calf immunity.
- Do not buy calves with poor IgG levels.
- If you are raising your own calves sell or flag and watch the calves with poor IgG levels.
- Total proteins is an indirect measurement of IgG.

What will it cost

- Total Proteins 25 cents for tubes and $160 for a refractometer.
- Clinics will test total proteins for around $1.00.
- On farm IgG tests range from $3.75 to $4.50 and will give you either a positive or negative meaning IgG level at least 10 on a positive reading and below for a negative reading.
- IgG Lab Test in the $25.00 range.
What is the risk involved with Holstein Bull calves

- A calf that is lost at 20 days old.
- Calf Value $100.00
- Feed for 20 days $37.80
- Labor $50.20
- Housing and equipment $4.00
- Vet Costs $16.40
- Total Loss $208.40

Numbers adapted from A. Zwald, T. Kohlman, and P. Hoffman, University of Wisconsin Cost of raising dairy replacements

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IgG and Calf Performance

<table>
<thead>
<tr>
<th>Item</th>
<th>Poor</th>
<th>Fair</th>
<th>Average</th>
<th>Good</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of calves</td>
<td>51</td>
<td>85</td>
<td>126</td>
<td>196</td>
<td>176</td>
</tr>
<tr>
<td>Serum Ig, milligrams per milliter</td>
<td>0-5</td>
<td>5-10</td>
<td>11-15</td>
<td>16-25</td>
<td>&gt; 25</td>
</tr>
<tr>
<td>Four-week gain, pounds per day</td>
<td>0.73</td>
<td>0.81</td>
<td>0.95</td>
<td>0.90</td>
<td>0.92</td>
</tr>
<tr>
<td>Feed conversion, pounds fed/pounds gain</td>
<td>2.9</td>
<td>2.6</td>
<td>2.5</td>
<td>2.0</td>
<td>1.9</td>
</tr>
<tr>
<td>Scur, days</td>
<td>8.7</td>
<td>6.1</td>
<td>4.7</td>
<td>5.0</td>
<td>4.0</td>
</tr>
<tr>
<td>Mortality, percent</td>
<td>38</td>
<td>11</td>
<td>7</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Veterinary Cost, dollars</td>
<td>$12.50</td>
<td>$9.65</td>
<td>$7.40</td>
<td>$7.70</td>
<td>$6.20</td>
</tr>
</tbody>
</table>

Source: Data adapted from M.A. Fowler, 1989 PDHRA Proceedings, by P.C. Hoffman, University of Wisconsin.
How to Measure IgG Concentrations

- Blood serum is the most accurate test.
- Testing can be done by your on farm veterinary labs can give your more precise information.
- Total Protein is not as accurate but is more practical and cheaper.

Scours

- Proper nutrition and sanitation are key
- Improve sanitation
- Improve nutrition higher fat levels and quality will help with scours.
- Improve disease resistance
- Check and know total protein levels in all calves
- Only purchase those that have acceptable levels
- Treat early don’t “wait and see how he does”
- Keep calves isolated.
Evaluating Milk Replacers

**Best Ingredients**
- **Protein**
  - skim-milk protein
  - whey proteins
  - red blood cell protein
- **Energy / Fat**
  - Lard
  - lactose
  - Tallow

**Less than Ideal Ingredients**
- **Protein**
  - Modified wheat proteins
  - soy proteins
  - Spray-dried, whole egg proteins
  - fish, blood and meat-soluble proteins
- **Energy / Fat**
  - Hydrogenated vegetable oil
  - Liquid Vegetable oil

Increased fat content will help to prevent scours.
Increased protein increases growth.
Medicated milk replacers should be used in situations where the records show a history of scours in the operation.
When using medicated milk replacers feed the recommended amount.
Gain Evaluation
On Milk Replacer

Effect of milk replacer feeding rate on calf growth and milk replacer protein levels.

<table>
<thead>
<tr>
<th>Calf Growth (pounds per day)</th>
<th>Metabolizing Energy (megacalories per day)</th>
<th>Absorbable Dietary Protein (grams per day)</th>
<th>Milk Replacer Required a (pounds per day)</th>
<th>Crude Protein Required (percent of DM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>1.75</td>
<td>23</td>
<td>0.54</td>
<td>8.3</td>
</tr>
<tr>
<td>0.50</td>
<td>2.30</td>
<td>82</td>
<td>1.11</td>
<td>18.1</td>
</tr>
<tr>
<td>1.00</td>
<td>2.01</td>
<td>136</td>
<td>1.46</td>
<td>22.9</td>
</tr>
<tr>
<td>1.50</td>
<td>3.00</td>
<td>189</td>
<td>1.46</td>
<td>22.9</td>
</tr>
<tr>
<td>2.00</td>
<td>4.64</td>
<td>242</td>
<td>2.24</td>
<td>26.6</td>
</tr>
<tr>
<td>2.50</td>
<td>5.62</td>
<td>297</td>
<td>2.57</td>
<td>27.2</td>
</tr>
<tr>
<td>3.00</td>
<td>6.45</td>
<td>350</td>
<td>3.12</td>
<td>27.6</td>
</tr>
</tbody>
</table>

*Milk replacer UM containing 22.6% Moist Matter UM needed to meet MC requirements, 14% pound cast.
Source: Adapted from Decker (2008) by H. Chester-Jones, University of Minnesota

Calculating Cost per Pound of Gain

Weight Gained
___________________________ = Cost / Lb of Gain

Cost of Raising
(feed, labor, housing, supplies, vet)

* Compare this to increased value
Cost per Pound of gain on 2 milk replacers.

- If a 22/20 Medicated Milk replacer costs $1.45 a pound or $72.50 a bag
- Calves should gain 1.5 lbs a day and Consume 1.45lbs of replacer.
- Cost Per Pound of gain is $1.40 pound.

- If a 28/20 Medicated Milk replacer costs $1.67 a pound or $83.50 a bag
- Calves should gain 2.8 lbs a day and consume 2.67 lbs of replacer.
- Cost Per Pound of gain is $1.59 pound

Starter

- Offer starter to calves on day one
- Feed high quality starter and clean out pails often.
- High protein starters will improve rate of gain.
- Do the cost per pound of gain calculation on the starter / Replacer combination.
- Calves should eat 2 lbs of starter before being weaned
Respiratory Problems

- Pneumonia and other respiratory diseases continue to cause problems for most calf raisers.
- What are some of the things that can help prevent pneumonia in calves?

Preventing Pneumonia

- Provide well ventilated facilities
- Keep calves dry and well-bedded
- Feed enough milk
- Avoid nose-to-nose contact
- Keep age groups separate
- Avoid buying calves
- Minimize weaning stress
- Vaccinate dams
- Give an immunity boost
Ventilation

- If Calves are in a calf barn proper ventilation must be achieved.
- This too, is not as simple as it sounds...
  Why?
- Air flow may be great in the alley.
- Adequate air flow is typically not achieved within the pen.

Where he lives
Air Quality

- Typical outdoor air: 100-1,000 cfu/m³
- Well ventilated office building: 1,000-3000
- Well ventilated livestock building: 10,000-30,000
- Poorly ventilated calf housing: 300,000+

Some barns may even exceed several million live organisms per cubic meter of air!


Calf Housing

Hutches
Calf Housing
Calf Barn w/ Individual Pens

Firewood?
Calf Housing

Isolation

Disease Level

Immunity

Management

These have to increase

Group Housing

Not Isolated

Disease Level

Immunity

Management

These have to increase
Tips for Successful grouping

- Start with groups of 4-5 animals of similar size.
- Double group size after a few days if animals are doing good.
- Regroup animals if some aren’t doing as well.

Calf Barn
Convert from Individual to group pens
(No moving calves)
Calf Barn Housing – Don’t be mislead

• Calf barns can be a successful management environment

• Generally the type of barn has little influence on calf management success. (Calves spend 90% of their life 1 ft off the floor)

• Each barn environment will dictate a management level required

• Ventilation and resting surface are very important

• Over-crowding can be impossible to manage

• Ever wonder why large custom calf growers primarily use hutches?

Don’t skimp on bedding

A generous dry bed of fluffy material such as straw, coarse saw dust, or wood shavings benefit the calf by:

- Helping the calf stay clean
- Helping maintain a fluffed hair coat for winter protection
- Acting as a moisture absorption media
- Providing a cushioned resting surface
Meeting the Challenges of Raising Calves

- Continuous task with critical control points
- Different issues for different farms
- Complex issues between the calf, environment and people
- Lots of conflicting advice
- We know what works
- The small things do count!

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Have an Eye for Detail!
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