Reyncrest Farm
The Reynolds Family – Corfu, NY

630 milking cows
1300 acres in production
70% of herd registered
100% of newborns registered

New barns, office plus milking complex
Original Farmstead Site
Heifer facilities

- new tunnel baby barn (in back)
- breeding barn
- bred heifers
- hutches
- pre-breeding heifers exist
- weaned calves enter here

New facilities ½ mile
Baby Calves

- Housing - Tunnel ventilated barn - since 10-07
  Hutches retained for overflow
- Waste milk (summer ’07) + MR (24-20) as needed
- Feed 2X up to gallon each feeding by 3 weeks old
- Individual assessment of calf needs
- Grain - 22%+ CP textured (same for 12 years)
- Weaning -
  - Start AM feeding only at 6-7 weeks
  - Off milk 5-7 days later
  - Generally moved by 8-9 wks - 2.5 lbs starter
  - No hay
Electronic Scale with Double Gate Cage for Weighing Calves
WEANED CALVES
2 - 4 months old

- Groups of 5 to 7 move out of baby barn or hutches into 1 of 4 small, sawdust bedded packs with scrape alley, bunk slants and seasonally covered bunk
- Moved to large “pack” area around 1 month later
- Same textured 22% as baby barn
- Soft, early grass hay fed through this time; no fermented feed
Weaned calves through pre-breeding are in a single barn.
“TRANSITION” CALVES
4 - 8 months old

PRE-BREEDING
8 - 11 months old

- Housing - Large bedded pack group moves into one of two “transition” free stall pens; these move into one of two pre-breeding free stall pens
- Transition calves are fed same textured 22% grain as baby barn, up to 7 lbs each plus free choice grass hay
- TMR of 2/3 haylage -1/3 corn silage for pre-breed
- Bedding from baby barn “pack” with sand on top
Breeding barn

- Housing - Free stalls, 2 groups
- TMR; mostly haylage, some corn silage 1-2 lbs
- 11 mos. → Breeding age/size
- “Eyeball” determination of size and weight
- All AI, no hormones or heat detection aids
- Bedding from weaned barn “pack” with sand on top
Bred heifers

- Housing - old free stall barn, sand bedded, 1 big group
- TMR; mostly haylage, some corn silage
- Cleanup bull (s), <5% of pregnancies
Pre-calving
Moved 2 months before due

- Housing - in newest barn at main milking facility
- Housed with dry cows in sand free stalls
- Moved with dry cows 1 month before due into close-up group with sand free stalls
- Moved onto straw calving pack when calving imminent
- Stay in same barn after calving
Far-off heifers & dry cows
“Close-up” (1 month) heifers & dry cows
## Breakdown of Costs of Raising Heifers by Stage of Growth

Reynolds

### Per Pound of Gain

<table>
<thead>
<tr>
<th>Stage of Growth</th>
<th>Birth to 200 Lbs</th>
<th>201 to 700 Lbs</th>
<th>701 to 850 Lbs</th>
<th>851 to Calving</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feed</td>
<td>$1.636</td>
<td>$0.515</td>
<td>$0.963</td>
<td>$1.123</td>
</tr>
<tr>
<td>Labor</td>
<td>$0.553</td>
<td>$0.070</td>
<td>$0.219</td>
<td>$0.092</td>
</tr>
<tr>
<td>All Other Costs</td>
<td>$0.534</td>
<td>$0.443</td>
<td>$0.910</td>
<td>$0.732</td>
</tr>
<tr>
<td>Total</td>
<td>$2.723</td>
<td>$1.029</td>
<td>$2.092</td>
<td>$1.947</td>
</tr>
</tbody>
</table>

### By Total Investment

<table>
<thead>
<tr>
<th>Stage of Growth</th>
<th>Birth to 200 Lbs</th>
<th>201 to 700 Lbs</th>
<th>701 to 850 Lbs</th>
<th>851 to Calving</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feed</td>
<td>$179.9</td>
<td>$257.6</td>
<td>$144.4</td>
<td>$561.4</td>
</tr>
<tr>
<td>Labor</td>
<td>$60.8</td>
<td>$35.2</td>
<td>$32.9</td>
<td>$46.1</td>
</tr>
<tr>
<td>All Other Costs</td>
<td>$58.8</td>
<td>$221.7</td>
<td>$136.5</td>
<td>$365.9</td>
</tr>
<tr>
<td>Total</td>
<td>$299.5</td>
<td>$514.4</td>
<td>$313.8</td>
<td>$973.5</td>
</tr>
</tbody>
</table>

% of Total Costs: 16.1% 27.6% 16.8% 52.2%

% of Total Growth: 8% 38% 12% 35%
Reynolds

Age Leaving Replacement Program 23.8 Months
Weight Leaving Replacement Program 1272 Lbs.
Average Daily Rate of Gain 1.63 Lbs.
All Heifers per Labor Hour, On Farm Only 53.77
Pre-Weaned Heifers per Labor Hour 12.12
Post Weanied Heifers per Labor Hour 96.1
Total Investment in Animal $2,072.43
% Dairy Replacement Cull Rate 5.49%
% Non-Completion Rate, Based on Animals Entering System 10.31%
## Reynolds

<table>
<thead>
<tr>
<th></th>
<th>Average Cost Per day Per Animal</th>
<th>Average Cost Per Pound of Gain</th>
<th>Per Animal Completing Program 102.9 wks</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feed</td>
<td>$1.450</td>
<td>$0.891</td>
<td>$1,043.91</td>
<td>54.3%</td>
</tr>
<tr>
<td>Labor</td>
<td>$0.232</td>
<td>$0.142</td>
<td>$166.94</td>
<td>8.7%</td>
</tr>
<tr>
<td>Bedding</td>
<td>$0.069</td>
<td>$0.042</td>
<td>$49.36</td>
<td>2.6%</td>
</tr>
<tr>
<td>Health</td>
<td>$0.102</td>
<td>$0.063</td>
<td>$73.60</td>
<td>3.8%</td>
</tr>
<tr>
<td>Breeding</td>
<td>$0.077</td>
<td>$0.047</td>
<td>$55.32</td>
<td>2.9%</td>
</tr>
<tr>
<td>Trucking</td>
<td>$0.001</td>
<td>$0.001</td>
<td>$0.75</td>
<td>0.0%</td>
</tr>
<tr>
<td>Insurance</td>
<td>$0.009</td>
<td>$0.006</td>
<td>$6.54</td>
<td>0.3%</td>
</tr>
<tr>
<td>Machinery Operation</td>
<td>$0.033</td>
<td>$0.020</td>
<td>$23.97</td>
<td>1.2%</td>
</tr>
<tr>
<td>Machinery Ownership</td>
<td>$0.025</td>
<td>$0.016</td>
<td>$18.17</td>
<td>0.9%</td>
</tr>
<tr>
<td>Building Operation</td>
<td>$0.050</td>
<td>$0.031</td>
<td>$36.14</td>
<td>1.9%</td>
</tr>
<tr>
<td>Building Ownership</td>
<td>$0.139</td>
<td>$0.086</td>
<td>$100.24</td>
<td>5.2%</td>
</tr>
<tr>
<td>Manure Storage Operation</td>
<td>$0.000</td>
<td>$0.000</td>
<td>$0.00</td>
<td>0.0%</td>
</tr>
<tr>
<td>Manure Storage Ownership</td>
<td>$0.000</td>
<td>$0.000</td>
<td>$0.00</td>
<td>0.0%</td>
</tr>
<tr>
<td>Manure Spreading</td>
<td>$0.136</td>
<td>$0.084</td>
<td>$98.04</td>
<td>5.1%</td>
</tr>
<tr>
<td>Custom Boarding</td>
<td>$0.000</td>
<td>$0.000</td>
<td>$0.00</td>
<td>0.0%</td>
</tr>
<tr>
<td>Professional Services &amp; Fees</td>
<td>$0.009</td>
<td>$0.006</td>
<td>$6.72</td>
<td>0.3%</td>
</tr>
<tr>
<td>Non-Performance Expense</td>
<td>$0.132</td>
<td>$0.081</td>
<td>$94.83</td>
<td>4.9%</td>
</tr>
<tr>
<td>Interest on Daily Investment</td>
<td>$0.205</td>
<td>$0.126</td>
<td>$147.91</td>
<td>7.7%</td>
</tr>
<tr>
<td>Total</td>
<td>$2.670</td>
<td>$1.640</td>
<td>$1,922.43</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
## Health Program

<table>
<thead>
<tr>
<th>Group</th>
<th>Preventative</th>
<th>Treatment</th>
<th>Veterinary</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group 1</strong></td>
<td>$0.08</td>
<td>$0.01</td>
<td>$0.00</td>
<td>$0.09</td>
</tr>
<tr>
<td><strong>Group 2</strong></td>
<td>$0.20</td>
<td>$0.01</td>
<td>$0.00</td>
<td>$0.21</td>
</tr>
<tr>
<td><strong>Group 3</strong></td>
<td>$0.21</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.22</td>
</tr>
<tr>
<td><strong>Group 4</strong></td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td><strong>Group 5</strong></td>
<td>$0.03</td>
<td>$0.02</td>
<td>$0.00</td>
<td>$0.05</td>
</tr>
<tr>
<td><strong>Group 6</strong></td>
<td>$0.00</td>
<td>$0.03</td>
<td>$0.16</td>
<td>$0.20</td>
</tr>
<tr>
<td><strong>Group 7</strong></td>
<td>$0.04</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.04</td>
</tr>
<tr>
<td><strong>Group 8</strong></td>
<td>$0.46</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.46</td>
</tr>
<tr>
<td><strong>Group 9</strong></td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td><strong>Group 10</strong></td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td><strong>Group 11</strong></td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td><strong>Group 12</strong></td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
</tbody>
</table>

### Summary

<table>
<thead>
<tr>
<th>All Groups</th>
<th>Preventative</th>
<th>Treatment</th>
<th>Veterinary</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Animal per Day</td>
<td>$0.08</td>
<td>$0.01</td>
<td>$0.02</td>
<td>$0.10</td>
</tr>
<tr>
<td>Per Pound of Gain</td>
<td>$0.05</td>
<td>$0.00</td>
<td>$0.01</td>
<td>$0.06</td>
</tr>
<tr>
<td>Per Animal</td>
<td>$56.98</td>
<td>$4.98</td>
<td>$11.63</td>
<td>$73.60</td>
</tr>
</tbody>
</table>
Reynolds
Total Heifer Raising Costs

Age in Weeks

Dollars

Per Day
Per Pound
Reynolds
Heifer Feed Costs

Dollars Per Day

Dollars Per Pound

Weeks of Age

Per Day

Per Pound
Passive Immunity Achievement

- Blood IgG >10mg/ml ✓
- or Blood serum protein >5.5g/dl
  (at 48 hours of life)
- ≥85% achieving
  (95% is achievable)
  (92% Reynolds)

Optimize Pre-Weaning Gains

- Double birth weight
  In 56 days
  ≥90% achieving
  1.95 x (2/07)
  1.90 x (1/08)
  60%
  (Reynolds)
Nail Biological Growth Targets

1. 55% mature weight @ breeding
2. 82 - 85% mature weight @ 1st calving
   ≥90% achieving

*Breeding: Avg. 57% MW (84% Achieving)
*Calving: Avg. 76% MW (23% Achieving) (Reynolds)

What Makes a “Quality Heifer” -- (Reynolds)
Maintaining Management Momentum

- 1st Calf “Treated” as Calf/Heifer* ≤ 30% ?
  24 hrs. → 3 mos. _____ 4 mos. → fresh _____
- DOAs in first calf heifers ≤ 9% 13.2%
  Male DOAs 10% Female DOAs 16.5%
- 1st Calf avg. peak ≥ 80% of Mature 67%
  or total lactation ≥ 80% of Mature 74%
- 1st Calf Culls ≤ 60 Days in Milk ≤ 5% 3.7%
- 1st Calf ME’s ≥ Mature < (-1296)
- 1st Calf “Treated” in Lactation* ≤ 15% ?
- ≥ 85% retention (any herd) to 2nd lactation 85%
- Reduce #1 reason for 1st lactation culls
  (continuous improvement) Repro
On the next slide we are blowing up the portion of the graph lines for the Case Farm’s Breeding Age month (14) and Calving (23). All size lines are removed except for their “average” frame size heifer and “large” frame size heifer. (based on Dam’s known size)

To get PowerPoint File for printing additional graph pages go to: http://www.ansci.cornell.edu/prodairy/heiftarget
Lines for Heifers from Large Framed Dams

- Expected Mature Weight 1700 Lbs
- (match up with individual heifers)

Lines for Heifers from Medium Framed Dams

- Expected Mature Weight 1450 Lbs
- (match up with individual heifers)