Improving Labor Efficiency and Effectiveness on Farm

Ashley Howlett
Jason Karszes
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cows per Worker</td>
<td>47.17</td>
<td>63</td>
<td>24.8</td>
</tr>
<tr>
<td>Milk Sold per Worker</td>
<td>1,222,519</td>
<td>1,919,476</td>
<td>767,703</td>
</tr>
</tbody>
</table>
## Labor Allocation by Primary Category

<table>
<thead>
<tr>
<th>Category</th>
<th>Worker Equivalent</th>
<th>Percent of Total</th>
<th>Average</th>
<th>10% Decile</th>
<th>90% Decile</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dairy Herd Total</strong></td>
<td>19.0</td>
<td>74.5%</td>
<td>74</td>
<td>55</td>
<td>98</td>
</tr>
<tr>
<td>Mature Herd</td>
<td>16.0</td>
<td>62.8%</td>
<td>90</td>
<td>65</td>
<td>122</td>
</tr>
<tr>
<td>Pre-Weaned Heifers</td>
<td>1.6</td>
<td>6.4%</td>
<td>15</td>
<td>3</td>
<td>29</td>
</tr>
<tr>
<td>Post-Weaned Heifers</td>
<td>1.4</td>
<td>5.3%</td>
<td>96</td>
<td>36</td>
<td>174</td>
</tr>
<tr>
<td><strong>Total Crop Hours</strong></td>
<td>1.9</td>
<td>7.1%</td>
<td>2,436</td>
<td>800</td>
<td>3,994</td>
</tr>
<tr>
<td>Hay/Haylage</td>
<td>0.8</td>
<td>2.9%</td>
<td>2,418</td>
<td>753</td>
<td>4,055</td>
</tr>
<tr>
<td>Corn Silage/Grain</td>
<td>1.0</td>
<td>3.7%</td>
<td>1,730</td>
<td>787</td>
<td>3,218</td>
</tr>
<tr>
<td><strong>Manure Handling</strong></td>
<td>1.0</td>
<td>3.6%</td>
<td>35,154</td>
<td>7,013</td>
<td>50,720</td>
</tr>
<tr>
<td><strong>Shop &amp; Maintenance</strong></td>
<td>1.9</td>
<td>6.8%</td>
<td>1,261</td>
<td>286</td>
<td>2,997</td>
</tr>
<tr>
<td><strong>Management &amp; Office</strong></td>
<td>1.8</td>
<td>7.4%</td>
<td>1,657</td>
<td>338</td>
<td>13,353</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>25.5</td>
<td>100.0%</td>
<td>55.9</td>
<td>40</td>
<td>74</td>
</tr>
</tbody>
</table>

### 80 Percent Range

- Animals per Worker
- Acres per Worker
- 1,000 Gallons per Worker
- Cows per Worker

*Source: Cornell CALS PRODAIRY*
Improving Labor Efficiency

- **Capital Investment**
  - Shorter term
    - Less capital
    - Faster to implement
  - Long term
    - Significant capital
    - Major change to business

- **Operating Efficiency**
  - Less hours needed
  - More accomplished in an hour
  - Not working more hours!
Capital Investment

- Historic approach
- As labor costs increase, increased opportunity for capital investment
- Impacts labor in two ways:
  - Decreases number of hours required
  - Increases the amount of work that can be done in an hour
- Stable herd size – how can labor hours be decreased?
- Expanding herd size – how can more be done with same labor hours?
Capital Investment

○ May positively impact more than just labor costs
  ○ Output
  ○ Other input costs
○ May lead to certain cost categories increasing ("DIRTI" five)
  ○ Depreciation
  ○ Interest
  ○ Repairs
  ○ Taxes
  ○ Insurance
Investment per Ton vs Total Cost of Loading, Mixing & Delivery per Ton
26 Dairy Farms, 2014-2015

R² = 0.3371
Lean Manufacturing

○ How long does an activity take?
○ What are the protocols and standard operating procedures for the activity?
○ Are the protocols and standard operating procedures being followed?
○ 5-S

  Sort – Set – Shine/Sweep – Standardize - Sustain

○ Can the amount of time be decreased while achieving the same or better results?
Thinking of Efficiency on Your Farm

○ Understanding Tasks within a Task
  ○ Ex. Feeding calves = cleaning up water from the last feeding, moving milk replacer bags, mixing milk, feeding milk, cleaning up.

○ How much time does the actual task take vs. prep and clean up?
  ○ Feeding takes an hour, but prep and clean up adds one more hour

○ What is one thing that would make life so much easier for that job (within reason)?
  ○ Easier system to cart milk, moving milk replacer bags closer to the sink, reorganizing hutches
Managing Labor Effectiveness

○ Quality of the work being done, not the amount accomplished
○ Training
  ○ What if you train them then they leave? …But what if they don’t?
  ○ Explain how employees can be successful in their jobs
○ Provide vision then build goals
  ○ Individual or group
  ○ Incentives
Implementing Changes

- Foster respect as a manager and between employees
- Move jobs beyond task oriented thinking
  - Encourage employees to think strategically about their job
  - Ask them ways they think they could improve the job
- Include employees on decision making regarding their area of the farm
Summary

- There is always room to improve labor efficiency & effectiveness
- A combination of approaches should be used
  - Labor effectiveness
  - Lean process concepts
  - Capital investment
- Management time focused on this improvement is critical to achieve goals