Feeding strategies during challenging times

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Five key focus areas

• Know and track Income Over Feed Cost (IOFC) and Income Over Purchased Feed Cost (IOPurFC)
• Make sure optimizing use of homegrown forages and feeds
• Fine tune feeding management
• Strategically review rations
• Carefully review cow and heifer inventories and needs
Income over feed cost (IOFC)

- Net milk revenue minus feed cost (total or purchased)
- More correlated with overall farm profitability than any other single metric
- Can be calculated and tracked using spreadsheet or tools
  - Cornell PRO-DAIRY Dairy Profit Monitor monthly online tool (calculates both on actual and fixed milk price)
  - Penn State DairyCents PRO app (both producer and consultant versions)
- Most useful for within-farm comparisons unless standardizing forage/homegrown feed prices
### 4 herds with IOFC > $12.99 per cow per day

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Energy Corrected Milk (ECM)</td>
<td>95.5</td>
<td>95.3</td>
<td>99.5</td>
<td>91.6</td>
<td>95.48</td>
</tr>
<tr>
<td>High Fat and Protein lbs per cow per day</td>
<td>6.29</td>
<td>6.37</td>
<td>6.68</td>
<td>6.06</td>
<td>6.35</td>
</tr>
<tr>
<td>Higher Feed Efficiency (ECM/DMI)</td>
<td>1.75</td>
<td>1.69</td>
<td>1.75</td>
<td>1.68</td>
<td>1.72</td>
</tr>
<tr>
<td>Higher cost/cow per day</td>
<td>7.81</td>
<td>7.24</td>
<td>8.2</td>
<td>7.16</td>
<td>7.60</td>
</tr>
<tr>
<td>Lower stocking density, % of stalls</td>
<td>101</td>
<td>108</td>
<td>79</td>
<td>105</td>
<td>98</td>
</tr>
<tr>
<td>Higher Forage NDF intake, % of BW</td>
<td>0.91</td>
<td>0.96</td>
<td>1.04</td>
<td>0.95</td>
<td>0.97</td>
</tr>
<tr>
<td>Similar milk fat %</td>
<td>3.59</td>
<td>3.96</td>
<td>3.94</td>
<td>3.70</td>
<td>3.80</td>
</tr>
<tr>
<td>Similar milk protein %</td>
<td>2.91</td>
<td>3.05</td>
<td>3.09</td>
<td>2.99</td>
<td>3.01</td>
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<tr>
<td>Slightly higher cost per lb DM</td>
<td>0.143</td>
<td>0.128</td>
<td>0.144</td>
<td>0.131</td>
<td>$0.137</td>
</tr>
</tbody>
</table>

### 3 herds with IOFC < $11.00 per cow per day

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower ECM</td>
<td>77.8</td>
<td>80.5</td>
<td>76</td>
<td>78.10</td>
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<tr>
<td>Lower Fat and Protein lbs per cow per day</td>
<td>5.18</td>
<td>5.43</td>
<td>5.09</td>
<td>5.23</td>
</tr>
<tr>
<td>Lower Feed Efficiency (ECM/DMI)</td>
<td>1.57</td>
<td>1.6</td>
<td>1.6</td>
<td>1.59</td>
</tr>
<tr>
<td>Lower cost/cow per day</td>
<td>6.49</td>
<td>6.8</td>
<td>6.2</td>
<td>6.50</td>
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<tr>
<td>Higher stocking density, % of stalls</td>
<td>132</td>
<td>115</td>
<td>94</td>
<td>114</td>
</tr>
<tr>
<td>Lower Forage NDF intake, % of BW</td>
<td>0.87</td>
<td>0.81</td>
<td>0.6</td>
<td>0.76</td>
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<tr>
<td>Similar milk fat %</td>
<td>4.08</td>
<td>3.84</td>
<td>3.76</td>
<td>3.89</td>
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<tr>
<td>Similar milk protein %</td>
<td>2.94</td>
<td>3.14</td>
<td>3.11</td>
<td>3.06</td>
</tr>
<tr>
<td>Slightly lower cost per lb DM</td>
<td>0.131</td>
<td>0.135</td>
<td>0.13</td>
<td>$0.132</td>
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Make sure optimizing use of homegrown forages and feeds

- Reward for herds that focus on and achieve high forage quality
- Calculate Forage NDF intake as a % of body weight
  - Milking cows typically can consume 0.9 to 1.0% of body weight as NDF from forages
    - 1500 lb cow x 1% = 15 lbs of NDF from forage; if 50% NDF, should be able to consume 30 lbs forage DM
    - Higher for higher digestibility forages or lush pasture; lower for low digestibility forages
- New forage analytical techniques to estimate undigestible NDF (uNDF$_{240}$)
  - Miner Institute research suggests 0.30 to 0.35% of BW as uNDF$_{240}$ intake
- 2017 Cornell and Vermont Corn Silage Trials suggested much lower NDF digestibilities than 2016
  - Compensate with highly digestible nonforage fiber sources (soyhulls, citrus pulp, corn gluten feed)
- Feed the highest quality and digestibility forages to transition and high cows
Fine-tune feeding management

• Losses due to subpar silo and feeding management are often “invisible”
• Are you taking at least 6 inches (preferably 12 inches) per day from silo face?
  • Silage faces tight and minimal leftover feed
• Mixers and other feeding equipment (e.g., tub grinders) maintained for consistent performance?
• Feeding accuracy and ingredient shrink being tracked?
• Fresh feed available when cows are done milking?
• Suggested refusal rates – 5% close-up; 2 to 3% early/high
  • Refeed close-up to far off; early/high to late lactation cows
• Resist temptation to eliminate inoculants/preservatives
  • If silage/high-moisture/snaplage fermentation issues, often affects milk fat
Strategic review of rations

• Optimize forage and homegrown feed use
• Adjust for fiber digestibility
• Evaluate protein sources for digestibility/undigestibility
  • Distillers, animal protein sources or blends
• Potentially decrease feeding rates of rumen-degradable proteins (soy, canola)?
• Prioritize maintaining ration ingredients (feeds, nutrient sources, and additives) that:
  • directly affect daily cash flow
  • are fed during very targeted periods of the lactation cycle (e.g., transition cows)
• Resist temptation to shortcut calf nutrition program
Carefully review cow and heifer inventories and needs

• Are the right cows being milked? How many heifers do you need?
  • “Ten key herd management opportunities on dairy farms during low margin times”
  • www.prodairy.cals.cornell.edu

• Overstocking generally contributes to lower feed efficiency through negative effects on milk components and rumen function

• Compromising performance/IOFC of the whole by milking cows that are not covering feed and variable costs?

• Better repro means more heifers for many farms

• Excellent resources on costs of replacement programs and other spreadsheets related to heifer programs and needs developed by Jason Karszes and at PRO-DAIRY website
Thanks!!
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