Forage Management System
Paving the Road to Profitability

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Dairy Business Management

- What factor has the greatest influence on purchased feed costs?
- What factor has a large impact on cow health and management?
- What factor influences milk production?
- What factor directly impacts 13 major expense categories?
Dairy Business Management

- The forage management system is a critical component of dairy businesses.
- The system is fully intertwined in the operating costs, investment levels, and productivity of the business.
Dairy Business Management

- Well managed, is a competitive advantage for many businesses
- Can also be a disadvantage
- How can we look at all the management areas within the business so it will be more of an advantage instead of a disadvantage?
Forage Management System

- Many different areas of the business associated with forage management
  - Soil types
  - Crop rotations
  - Planting systems
  - Harvesting methods
  - Storage systems
  - Feeding strategies
While can look at each one independently, this may lead to the forage system being a disadvantage.

Decisions made in one area impact all of the other areas.

Thinking about as a system, and how to get the most out of the system, allows the farm to maximize profitability of the business, the “road to profitability”
Goals of the Forage Management System

- Maximize profitable milk production by utilizing the highest quantity and quality of forage that can be produced cost efficiently given the resource restrictions of the business.
Question?

The dairy cattle nutritionist tells you that you would make more milk if you had alfalfa haylage in your ration. What may this lead to?
Systems Approach to Quality Forage

Forage Produced by Rotation

Forage Storage

Forage Fed
May Not Talk to the Crop Program

![Bar Chart]

- **Produced**
  - Haycrop: 60%
  - Corn: 40%

- **Fed**
  - Haycrop: 40%
  - Corn: 60%
Potential Impacts on System

- Change in rotations
- Change in quantities
- Change in land that may be needed
- Change in costs
- Change in feeding approaches

Will the switch to alfalfa be more profitable?
Degree of Change
Available

- Rations Fed
- Storage Changes
- Crop Choice
- Soils
Key Factors

- Highest quantity
- Highest quality
- For land resources
- At reasonable cost

If forage becomes too expensive, than it no longer will be profitable. There is no blank check to get the best forage
Key Factors

- However, many things can be done to improve quantity, quality, storage, and use of forages that may not add any costs, or may actually reduce costs.

- Matching all areas of the forage management system, starting with what works well with the land resource, becomes key to the success of the system.
Value of Forage

With forage being the major feed source for our dairy cattle, changing the quality and the quantity available can have a large impact on farm profitability.
Value of Forage – An Example

• Base scenario
  ▲ Utilizing average corn silage and haylage at a restricted feeding rate
  ▲ Calculate net milk income over purchased grain and concentrate per cow
    ❌ Component production
    ❌ Cost of purchased inputs
    ❌ Amount of purchased inputs utilized
# Base Forage Quality

<table>
<thead>
<tr>
<th></th>
<th>Legume Haylage</th>
<th>Corn Silage</th>
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</thead>
<tbody>
<tr>
<td>% Dry Matter</td>
<td>35</td>
<td>33</td>
</tr>
<tr>
<td>NDF</td>
<td>46</td>
<td>49</td>
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<tr>
<td>CP</td>
<td>17</td>
<td>9.5</td>
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<tr>
<td>Lignin</td>
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<tr>
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<tr>
<td>NDFIP</td>
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<td>16</td>
</tr>
<tr>
<td>ADFIP</td>
<td>16</td>
<td>7</td>
</tr>
</tbody>
</table>
Base Scenario - NMIOPGOC

Milk per cow per day: 75

% Butterfat: 3.8

% Protein: 3.1

% OS: 5.69

Forage Fed, Dry Matter: 25lbs

Net Milk Income over Purchased Grain and Concentrates: $7.65
Base Scenario – Push for Most Milk

- Same quality of forage, now pushing the concentrates at maximum rate
- Forage Fed, Dry Matter 24lbs
- NMI OPGC now $8.04
- Change = $.39 per cow per day
- Percent change = 4.8%
- Pushing the nutritional limit
## Higher Forage Quality

<table>
<thead>
<tr>
<th></th>
<th>Legume Haylage</th>
<th>Corn Silage</th>
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</thead>
<tbody>
<tr>
<td>NDF</td>
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<td>CP</td>
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<td>Sol-P</td>
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<tr>
<td>NDFI P</td>
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<td>16.4</td>
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<tr>
<td>ADFI P</td>
<td>12</td>
<td>7.88</td>
</tr>
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</table>
High Quality, Limited tons

- High quality forages, but limited tons available
- Forage Fed, Dry Matter 31.5 lbs
- NMI OPGC now $8.46
- Change = $.81 per cow per day
- Percent change = 10.5%
High Quality, Sufficient Tons

- High quality forages fed to highest rates and increasing concentrates
- Forage Fed, Dry Matter: 35 lbs
- NMI OPGC now $8.58
- Change = $.93 per cow per day
- Percent change = 12.2%
## Summary Table

<table>
<thead>
<tr>
<th></th>
<th>NMIOPFG Per cow/day</th>
<th>Dollar Change</th>
<th>Percent Change</th>
<th>Annual Difference Per 100 cows 85% in Milk*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Forage, Limited Quantity</td>
<td>7.65</td>
<td>---</td>
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<tr>
<td>Average Forage, Unlimited</td>
<td>8.04</td>
<td>0.39</td>
<td>5.10%</td>
<td>$12,100</td>
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<td>High Quality Forage, Limited Quantity</td>
<td>8.46</td>
<td>0.81</td>
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<tr>
<td>High Quality Forage, Unlimited</td>
<td>8.58</td>
<td>0.93</td>
<td>10.99%</td>
<td>$28,853</td>
</tr>
</tbody>
</table>

*Only calculating change associated with forage quality impact on lactating animal’s purchased feed costs with no estimation of impact on dry cows or replacement animals. This is not all profit as increased forage feeding may have higher costs associated with it.
Other Benefits of a Quality Forage Management System

- Better cow health
- Flexibility in handling weather variation
- Improved sustainability of crop production
- Better utilization of manure nutrients
Improving Profits Through the Forage System

- Looking at the different scenario's highlight the potential to change earnings on a dairy farm.
- However, there may be costs associated with changing the forage production system.
Improving Profits Through the Forage System

- These costs will impact the change in earnings.
- Management goals are to determine which costs can be incurred that will generate positive results, vs. ones that may cost more than what is gained.
Question?

- The crop consultant says that the farm has been losing too much feed in the storage system and that this needs to be addressed. What things are impacted by this?
Potential Impacts on System

- Change in forage feeding system.
  - Quantity
  - Quality
- Change in number of acres needed.
- Change in storage system.
Forage Management System

- The focus of this program is on the pieces of the system
- As you listen to the different presentations, think about what could be done differently within your business
- Ask questions, as that is an important part of the meeting
Introduction to Case Farm