Controlling Input Costs: Feeding Program

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GPS Dairy Consulting, LLC

Managing Feed Input Costs

1. Maximize home-grown feeds
   - Grow high quality forage
   - Manage forage inventory
2. Utilize byproducts
   - Purchasing
   - Storing
   - Use
3. Optimize dairy efficiency
4. Tune-up feed bunk management to dial-down weighbacks
Your Forages

High quality feed
1. High in nutritional value
2. Properly harvested and stored
   1. Correct moisture and particle length
   2. Pack, inoculate, cover, and seal
3. Properly managed at feedout
4. Enough of it!

Proper Harvest

Plan to Perform!

“Give me 6 hours to chop down a tree, and I will spend the first 4 sharpening the axe.”

- Abraham Lincoln
Measuring Performance

- Focus on the process not the outcome

- Forage harvest plan
  - Goals
  - Tools to measure
  - Plan of action

Goal Setting

Corn Silage          Haylage

- Goals
- Plan of Action
- Tools to Measure
Silage Management

- Losses can easily be 10% of total silage
  - Respiration
  - Spoilage
  - Shrink
Managing Feed Inventory

Projected Inventory Requirements

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Description</th>
<th>Current (Tons)</th>
<th>Daily Usage (Tons)</th>
<th>Planned (Tons)</th>
<th>Actual (Tons)</th>
<th>Projected Requirements (Tons)</th>
<th>Additional Stock (Tons)</th>
<th>Current Price</th>
<th>Projected Price</th>
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Feed Software

PMR Tracker Online - STREEF FARMS

Load Report

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Time</th>
<th>Actual Wt</th>
<th>Loaded Wt</th>
<th>Division</th>
<th>Planned</th>
<th>Actual</th>
<th>Error</th>
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<td>1387</td>
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<td>970</td>
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<td>HMcorn</td>
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<td>704</td>
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<tr>
<td>Pro</td>
<td>06:54</td>
<td>607</td>
<td>367</td>
<td>690</td>
<td>317</td>
<td>3.4%</td>
<td>113.00</td>
<td>Matt</td>
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<tr>
<td>WHEAT</td>
<td>06:54</td>
<td>607</td>
<td>367</td>
<td>690</td>
<td>317</td>
<td>3.4%</td>
<td>113.00</td>
<td>Matt</td>
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<tr>
<td>Total</td>
<td>10040</td>
<td>10040</td>
<td>10040</td>
<td>10040</td>
<td>10040</td>
<td>0.0%</td>
<td>500.17</td>
<td>Matt</td>
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Delivery: Milk

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<th>Pen</th>
<th>Time</th>
<th>Actual Wt</th>
<th>Delivered Wt</th>
<th>Division</th>
<th>Planned</th>
<th>Actual</th>
<th>Error</th>
<th>Name</th>
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<td>10000</td>
<td>10040</td>
<td>0.4%</td>
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<td>465.31</td>
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<tr>
<td>Total</td>
<td>10040</td>
<td>10040</td>
<td>10040</td>
<td>0.4%</td>
<td>500.17</td>
<td>465.31</td>
<td>13.86</td>
<td>Matt</td>
</tr>
</tbody>
</table>
Feed Inventory

- http://www.uwex.edu/ces/crops/uwforage/FeedInventory-FOF.htm
Inventory Requirements

Byproducts

- Considerations
  - Feeding rates
  - Shelf life
  - Nutritional value
  - Cost
  - Shrink
  - VALUE
Purchasing

- University of Missouri Extension By-Product Pricing
  - http://agebb.missouri.edu/dairy/byprod/bplist.asp
- Commodity brokers
  - McNess, LaBudde, All Star Trading, CP Feeds, Commodities Plus
- Local feed mills
  - Often allow you to book commodities
- Decision software: FeedVal 4 or Sesame III
- Value for nutrients on a dry basis is most important

Valuing Nutrients

1. Know the DM%
   - Example corn gluten feed (wet versus dry pellets)
     - Wet gluten: DM% is 35% (65% moisture)
     - Dry gluten: DM is 90%
     In one ton of wet feed, how many pounds of similar product are delivered?

   Wet gluten: 2000# * .35 = 700 # DM per ton delivered
   Dry gluten: 2000# * .90 = 1800 # DM per ton delivered
Valuing Nutrients

2. Know the nutrient %
   - Example corn gluten feed (wet versus dry pellets)
     - Both products contain about 23% CP
     - In one ton of feed, how many pounds of protein are delivered?

   Wet: 700 # DM * 0.23 = 161 # of protein per ton of delivered feed
   Dry: 1800 # DM * 0.23 = 414 # of protein per ton of delivered feed

3. Calculate the cost per pound of nutrient
   - Wet = $80.00/ton delivered
   - Dry = $175.00/ton delivered

   Wet: $80.00 ÷ 161 # of CP = $0.499 / pound of CP
   Dry: $175.00 ÷ 414 # of CP = $0.423 / pound of CP

   All else equal...dry gluten is the better buy
February 10, 2012

Sesame III

GPS Midwest 120219: Actual Prices vs. Predicted Price Range

Best deals
Good deals
Not out-of-line
Too high
Table 1

<table>
<thead>
<tr>
<th>Item</th>
<th>Southwest</th>
<th>West</th>
<th>Northwest</th>
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</thead>
<tbody>
<tr>
<td>NE(_i) (c/Mcal)</td>
<td>14.1</td>
<td>16.1</td>
<td>17.1</td>
</tr>
<tr>
<td>MP (c/lb)</td>
<td>24.6</td>
<td>12.0</td>
<td>8.8</td>
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<tr>
<td>e-NDF (c/lb)</td>
<td>5.1</td>
<td>11.0</td>
<td>10.1</td>
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<td>ne-NDF (c/lb)</td>
<td>-5.8</td>
<td>0.2</td>
<td>-4.1</td>
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<tr>
<td>Nutrient costs ($/cow per day)!</td>
<td>6.20</td>
<td>7.02</td>
<td>6.96</td>
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<tr>
<td>Nutrient costs ($/lb of feed DM)</td>
<td>12.6</td>
<td>14.3</td>
<td>14.2</td>
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<tr>
<td>Nutrient cost ($/cwt of milk)</td>
<td>8.85</td>
<td>10.02</td>
<td>9.94</td>
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</tbody>
</table>

1 NEL = Net energy for lactation; MP = metabolizable protein
2 e-NDF = effective neutral detergent fiber; ne-NDF = non-effective NDF
3 1,400 lb cow producing 70 lbs/day at 3.7% fat, 3.1% protein and 3.7% other solids.

Current Byproducts (in my rations today)

- Corn gluten feed: wet, dry and modified
- WCS
- Distillers: dry and modified
- Corn bran with syrup
- Corn syrup
- Gummy bears and starch
- Malt sprouts
- Soy cakes
- Wet brewer’s grain
- Delactose whey
- Oat hulls
- Corn stalks
- TMR Weighback
Storing

- Tax credit available
  - Can take depreciation in addition to a 10% Wisconsin income tax deduction – consult tax advisor on deadline
- FSA Farm Storage Facility Loan Program
  - Eligible for grain and hay (and commodity storage?)
  - Contact FSA for specific information
- Typical feed ingredients are $15.00 to $20.00 cheaper per ton than buying direct from mill
Use

- North Dakota State University Byproducts Guide for Dairy
  - http://www.ag.ndsu.edu/pubs/ansci/dairy/as1180w.htm

- Your nutritionist
- Other dairy producers

Dial-in Feedbunk Management
Feed Bunk Management

- Dial down weigh backs
  - If quality feed, reuse whenever possible
  - Weigh back is different than refusal!
- Goal for weigh back amount varies for each farm and each pen
  - Feed bunk competition
  - Stage of lactation or gestation
  - Parity
  - Timing and consistency of feed drops
  - Consistency of refusal amounts

Reading Bunks

- Is Reading The Bunk Accurate?
- When Do You Read Bunks?
- What is Optimum Level of Weigh Back?
- How Much Do You Adjust?
1.3% WB
Even Bunk

5.9% WB
Dairy Efficiency

- The pounds of fat corrected milk produced per pound of feed consumed

A cow producing 80 lbs milk at 3.50% BF is consuming 54 lbs of DMI
\[ \frac{80}{54} = 1.48 \text{ DE} \]

The same cow at 3.7% BF
\[ \frac{82}{54} = 1.52 \text{ DE} \]
DE Guidelines

- Mike Hutjens, PhD University of Illinois

<table>
<thead>
<tr>
<th>Table 2. Benchmarks for feed efficiency comparisons.</th>
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</thead>
<tbody>
<tr>
<td><strong>Group</strong></td>
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<tr>
<td>One group, all cows</td>
</tr>
<tr>
<td>1st lactation group</td>
</tr>
<tr>
<td>1st lactation group,</td>
</tr>
<tr>
<td>2nd + lactation group</td>
</tr>
<tr>
<td>2nd + lactation group</td>
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<tr>
<td>Fresh cow group</td>
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<tr>
<td>Problem herds</td>
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**DE Impact on Feed Cost**

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<tr>
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<th>Dairy 1</th>
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<tr>
<td>Total Ration Dry Matter</td>
<td>55.0</td>
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<tr>
<td>Daily Ration Cost</td>
<td>$6.60</td>
<td>$6.60</td>
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<tr>
<td>Milk Production/Day</td>
<td>77</td>
<td>68</td>
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<tr>
<td>Milk Fat Test</td>
<td>3.70</td>
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<tr>
<td>3.5% Fat Corrected Milk</td>
<td>79.0</td>
<td>73</td>
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<tr>
<td>Feed Cost/cwt. of Milk</td>
<td>$8.35</td>
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<td>Feed Cost/lb. of D.M. (cents)</td>
<td>12.0</td>
<td>12.0</td>
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<tr>
<td>Dairy Efficiency</td>
<td>1.43</td>
<td>1.33</td>
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0.10 unit difference in DE =
$0.69 per cwt difference in feed cost per cwt!
Factors Affecting Dairy Efficiency

- Days in milk
- Parity
- Environment
  - Overcrowding: lying time, bunk space
  - Temperature, mud, cow comfort
- Genetics
- Nutrition
  - Feed additives, dietary NDF, digestibility

Digestibility is Key!

Relationship between in vivo DM digestibility and FE-3.5%

J. Linn et al.,
Digestibility

Influencers...
- Maturity
- Genetics
- Environment
  - Cooler ↑ NDFd
- Planting population

Cow Comfort
- Increased lying time is associated with higher milk production
  - Stall surface
  - Sand versus Mattress
  - Foot and leg health
  - Stocking density
  - Freestall dimensions
  - Neck rail placement

12-14 hours per day
1 min eating / 3.5 min lost rest
1 hour lying time = 2-3.5 lbs milk
Mattress vs. Sand

Foot Health

- New Footbath Design
- New Footbath Design - Exit
Component Feeding

- Split grain feedings
  - Greater efficiency with more frequent, smaller meals
- Feed Rumensin
  - Can get to 440 mg/hd/day
- Improve digestibility of forages
- Feed high quality hay
Thank You

• Thank you for the work you do!!!

• www.gpsdairy.com