Cornell's Winter Dairy Management 2006
Enhance Dairy Profitability: Achieve Balance Between Crops and Cows

Case Farm:
Stanton Farms
Coeyman’s Hollow, NY
Farm Overview

- Located in Coeyman’s Hollow, NY
- Albany County
- Owned by two brothers
- 357 cows
- 320 heifers
Farm Overview

Our Farm History

Stanton Family has farmed here since 1873

• Mark & Neil are 5\textsuperscript{th} generation farmers
• Michael is the 6\textsuperscript{th} generation
How We Got Here

- **Prior to 1990**
  - Small dairy and grain farm doing some custom work

- **1990**
  - Built a new complex across road from original farm
  - 115 cow stall
  - 4 row freestall barn

- **1992**
  - Built bunk silo
  - Remodeled old dairy barn for heifers/dry cows

- **1995**
  - Built 1st heifer barn

- **1996**
  - Built new dry cow/heifer facility
How We Got Here

- **1997**
  - Constructed manure storage

- **1998**
  - Expanded original barn to fit 300 milking cows

- **2000**
  - Completed bedded pack fresh cow barn

- **2001**
  - Built 2nd heifer barn

- **2001-2003**
  - Built 3rd heifer barn

- **2005**
  - CAFO plan fully implemented
Goals

- Quantity to always allow for a 15-20% buffer
- High quality
- Highly profitable farm (top 20%)
- Low cost crop programs
- Grow farm size in steps that make sense
Challenges

- Grass vs. Alfalfa
- Feeding higher forage diets
- Keeping our resources in balance (growing more crops than we have cow numbers)
Questions?
<table>
<thead>
<tr>
<th>Date</th>
<th>DM %</th>
<th>NDF</th>
<th>Starch</th>
<th>NEL</th>
<th>NFC</th>
<th>Sol Pro</th>
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<tbody>
<tr>
<td><strong>Corn Silage</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10/24/05 (2004 crop)</td>
<td>30.7</td>
<td>38.1</td>
<td>37.8</td>
<td>.79</td>
<td>48.2</td>
<td>59</td>
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<tr>
<td>10/31/05 (2004 crop)</td>
<td>30.6</td>
<td>40.7</td>
<td>36.9</td>
<td>.77</td>
<td>45.2</td>
<td>67</td>
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<tr>
<td>12/5/05 (2004 crop)</td>
<td>32.3</td>
<td>38.5</td>
<td>34.3</td>
<td>.79</td>
<td>46.7</td>
<td>45</td>
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<tr>
<td>1/23/06 (2004 crop)</td>
<td>33.3</td>
<td>32.18</td>
<td>41.7</td>
<td>.83</td>
<td>53.9</td>
<td>64.7</td>
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<tr>
<td><strong>MML Silage</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6/30/05 (2003 crop)</td>
<td>36.4</td>
<td>38.9</td>
<td>23.5</td>
<td>.64</td>
<td>25.6</td>
<td>63.8</td>
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<tr>
<td>10/21/05 (2003 crop)</td>
<td>37.7</td>
<td>46.1</td>
<td>20.5</td>
<td>.6</td>
<td>23.3</td>
<td>55</td>
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<tr>
<td>10/31/05 (2005 crop)</td>
<td>38.3</td>
<td>44.4</td>
<td>20.3</td>
<td>.62</td>
<td>24.4</td>
<td>57</td>
</tr>
<tr>
<td>12/15/05 (2005 crop)</td>
<td>44.8</td>
<td>42.1</td>
<td>21.4</td>
<td>.58</td>
<td>24.3</td>
<td>56.5</td>
</tr>
<tr>
<td>1/23/06 (2005 crop)</td>
<td>36.5</td>
<td>44</td>
<td>21.25</td>
<td>.55</td>
<td>22.2</td>
<td>58.9</td>
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<tr>
<td><strong>Grass Haylage</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>6/20/05 (2005 crop)</td>
<td>30.9</td>
<td>44.9</td>
<td>17.1</td>
<td>.7</td>
<td>25.4</td>
<td>64.7</td>
</tr>
</tbody>
</table>
Ration Objective

- Maximize forage intake (1% bodyweight as NDF capacity) and keep cows healthy
- High group currently .88%
- Bottom Line FORAGE QUALITY!
Challenges That We Faced

- Particle size - one year our forage was too fine

- Managing body condition of our heifers (too heavy)

- Fresh cows (current challenge)
Bunk Face Management Counts
Purchased Concentrate Costs

- 2005 $4.52/cwt. purchased feed cost
  (All cow and heifer concentrates)

- Milk production 22,861 lbs./cow

- 2X milking

- 2006 Goal $4.25/cwt.
Questions?
Field Crops Get Big Emphasis on Our Farm
Soils include:

- Excellent gravel outwash soils
- Sloping upland glacial till with extensive areas of Nunda soils
- Trying to reduce acres of lake laid, poorly drained Rhinebeck and Hudson Silty Clay soils
Soils Drive the Rotation Which Determines What the Cows Are Fed

- Typical rotation is 2 yrs. Corn/ 4 yrs. Hay
- Currently switching rotation to reduce grass and increase alfalfa
## History of Improved Crop Yield

<table>
<thead>
<tr>
<th>Year</th>
<th>Corn Silage tons/Acre</th>
<th>Forage Acres/cow</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>10.36</td>
<td>3.13</td>
</tr>
<tr>
<td>1994</td>
<td>13.1</td>
<td>3.22</td>
</tr>
<tr>
<td>1995</td>
<td>10.26</td>
<td>3.21</td>
</tr>
<tr>
<td>1996</td>
<td>10.83</td>
<td>3.39</td>
</tr>
<tr>
<td>1997</td>
<td>12.56</td>
<td>5.17</td>
</tr>
<tr>
<td>1998</td>
<td>14.84</td>
<td>3.4</td>
</tr>
<tr>
<td>1999</td>
<td>12.63</td>
<td>2.41</td>
</tr>
<tr>
<td>2000</td>
<td>4.61</td>
<td>1.99</td>
</tr>
<tr>
<td>2001</td>
<td>18.72</td>
<td>2.51</td>
</tr>
<tr>
<td>2002</td>
<td>13.95</td>
<td>2.93</td>
</tr>
<tr>
<td>2003</td>
<td>22.6</td>
<td>1.99</td>
</tr>
<tr>
<td>2004</td>
<td>20.35</td>
<td>2.17</td>
</tr>
<tr>
<td>2005</td>
<td>17.3</td>
<td>2.26</td>
</tr>
</tbody>
</table>
Crop Trends

- **Corn Silage tons/acre**
  - 1993-2000  11.5
  - 2001-2005  18.6

- **Forage acres/cow**
  - 1993-2000  3.3
  - 2001-2005  2.4
Crop Program Goals

- Set up crop rotation by late summer/early fall for next year’s crop
- Soil test all fields every other year
- Maximize use of manure nutrients
- Be timely in planting and harvesting

**BOTTOM LINE:**
- Excellent yields of high quality forage for lowest cost
Questions?
Harvest
Equipment is Important to Our Farm’s Success
Well Oiled Machine

- Machinery shop is equipped to do
  - Repairs
  - Maintenance
  - Retrofitting
  - and redesigns
- Keep spare parts on hand
- Going over every piece of equipment before the season
  - Prevents having to send machines out for repair
Machinery Inventory
Stanton Farms

- **Tillage**
  - JD 4995 S.P. Disc Mower 14.6 head
  - Case 6 Bot. On land plows
  - Unverferth 6 shank zone builder
  - White chisel plow
  - Sunflower 24’ disc
  - Case Int. Field Cultivator Vibra shank 30’ w/ finishing tines

- **Merging**
  - H&S 10’ hay merger

- **Chopping**
  - 430 hp SP chopper

- **Hauling**
  - 1 Mack truck 20’
  - 1 Mack truck 22’
  - 1 Mack dump truck 28’
  - 1 Mack dump truck 30’

- **Packing**
  - 2-200hp 4WD tractors on bunk (1 w/13’ blade)

- **Other**
# 2005 Planting / Harvesting Dates

<table>
<thead>
<tr>
<th>256 acres corn for silage</th>
<th>539 acres for hay</th>
</tr>
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<tbody>
<tr>
<td>April 10</td>
<td>All seedings completed</td>
</tr>
<tr>
<td>May 7-13</td>
<td>Corn planted</td>
</tr>
<tr>
<td>May 18-21</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; cut grass hay harvest</td>
</tr>
<tr>
<td>June 1-2</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; cut alfalfa hay harvest</td>
</tr>
<tr>
<td>Sept 6-13</td>
<td>Corn silage harvest</td>
</tr>
</tbody>
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## 2005 Crop Costs

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lime &amp; Fertilizer</td>
<td>Corn</td>
<td></td>
</tr>
<tr>
<td></td>
<td>fertilizer applied</td>
<td>$3355</td>
</tr>
<tr>
<td></td>
<td>Lime applied</td>
<td>$7926</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>$11281</td>
</tr>
<tr>
<td></td>
<td>Hay</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fertilizer (seedings)</td>
<td>$4756</td>
</tr>
<tr>
<td></td>
<td>Fertilizer (top dress)</td>
<td>$1743</td>
</tr>
<tr>
<td></td>
<td>Lime applied</td>
<td>$16093</td>
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<tr>
<td></td>
<td>Total</td>
<td>$33873</td>
</tr>
<tr>
<td>Spray &amp; Other Crop Expense</td>
<td>Corn</td>
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</tr>
<tr>
<td></td>
<td>Spray</td>
<td>$20755</td>
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<tr>
<td></td>
<td>Seed</td>
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<tr>
<td></td>
<td>Total</td>
<td>$28999</td>
</tr>
<tr>
<td></td>
<td>Hay</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spray</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>Seed</td>
<td>$14120</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>$14120</td>
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</tbody>
</table>
2005 cost /cwt was .96/cwt.
 .30/cwt. was lime
 .12/cwt. was fertilizer

3 year average for crop expenses:
 .73/cwt
 $54,945/year
Questions?
Storage
Old commodity shed

Old bunks
Feed Center
New Bunks

- 5 bunker silos
- 150 feet long
- 12 foot T-walls
- 40-64 feet wide
Feed Center
Grain Bins

- 2- 28 tons
- 2- 12 tons
Bunk Densities

- Grass HCS 14.1 lbs. DM/cu.ft.
- MML HCS 15.3 lbs. DM/cu.ft.
- Corn Silage 17.8 lbs. DM/cu.ft.
COVER BUNK ASAP