Experiences with Comprehensive Herd Management of a Mega-Dairy
Using RFID, Automatic Milk Recording and Multi-client Cow-side Data Entry with Reproduction and Health Protocols

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Acknowledgments

• **DRMS staff**: Robin Andrews, Brad Ennis, Ken Butcher, Lauralyn Monticello, Tammie Guyer, Phil Dukas

• **North Florida Holsteins Farm staff**

• **Boumatic**

• **Allflex USA**

• **Southeast DHIA**
Herds use different Systems for Cow Management

- Individual cows
- Groups of cows in similar condition
- Lock-up stanchions
- Robotics
- *Sort cows on parlor exit*
Herd in this study

- 3,800 milking cows
- 2 Milking Parlors with Boumatic Hardware
  - Double-40 controlled by BM2060
  - Double-12 controlled by BM2060
- All cow data are stored in PCDART database
- PC Network allows for access to each cow’s data
- Sort gates as cows exit parlor
  - 2 dual sort gates on D-40 parlor
  - 1 single sort gate on D-12 parlor
North Florida Holsteins
Farm Overview

• Located in north-central Florida, about 50 km from the Gulf of Mexico is *North Florida Holsteins* operated by Don Bennink and his staff of more than 70.
• They are committed to producing quality milk from comfortable cows.
• Priorities are breeding, performance, herd health and environmental stewardship.
• *Management depends heavily on digital information for everyday operation.*
# North Florida Holsteins

**April, 2010**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Cows</td>
<td>4,204</td>
</tr>
<tr>
<td>Number of Heifers</td>
<td>3,386</td>
</tr>
<tr>
<td>Milk per Cow – daily</td>
<td>35.3 kg</td>
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<tr>
<td>Milk per Cow – annual</td>
<td>10,414 kg</td>
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<tr>
<td>Fat per Cow – annual</td>
<td>365 kg</td>
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<tr>
<td>Protein per Cow – annual</td>
<td>301 kg</td>
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</table>
Genetic Improvement is High Priority

Intensive embryo transfer program – 629 females carrying ET’s as of May 1, 2010

90% of females are registered with Holstein USA
Free-stall Housing
Tunnel ventilation
3,800 cows milked 3x per day
Double-40 Parallel Parlor
Individual Cow ID using RFID
The observations reported here began with the transition from a previous system in June of 2009. The new system consists of 2 BM2060 controllers from Boumatic, each connected to an individual PC on the parlour office network. There are a total of 13 PC’s, 2 for Boumatic, 3 at cow-side stations, 6 in the office, 1 as the server for PCDART and 1 for data backup.

Cows are identified with Allflex HD button tags.

Numbering is coordinated with Holstein USA for registration and pedigrees.
Cows Identified at Parlor Entry
Cow sorting after milking

- Upon exit from milking parlor, each cow passes a dual sort gate
- Automatic sorts based on parlor algorithm
- Programmed sorts based on PCDART protocol (schedule)
- Manual sorts, entered by farm personnel
Cow-side network terminal

- Network PC located at each sort gate
- PCDART contains entire herd database
- QuickCow offers a look at each cow’s specific data
- Breedings, pregnancy checks, chores done, new protocol enrollment
Network PC at Hospital Area

- QuickCow for cow’s current status, previous treatment and chores to do
- Any treatment administered is entered directly into PCDART
- New schedule (protocol) for future treatment
Office Network Clients

- calving records
- detail for embryo transfers
- scheduled group changes
- dry off and dry-cow protocol
- herd exit records
- breed registry detail
### Chores to Do

<table>
<thead>
<tr>
<th>Chore</th>
<th>Date to Do</th>
<th>Protocol</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-DAYCK</td>
<td>05/19/2010</td>
<td>FRESHCOW</td>
</tr>
<tr>
<td>6DAYPRD</td>
<td>05/21/2010</td>
<td>FRESHCOW</td>
</tr>
<tr>
<td>6DAYUTCK</td>
<td>05/21/2010</td>
<td>FRESHCOW</td>
</tr>
<tr>
<td>10DAYSCH</td>
<td>05/25/2010</td>
<td>FRESHCOW</td>
</tr>
<tr>
<td>10DAYUT</td>
<td>05/25/2010</td>
<td>FRESHCOW</td>
</tr>
<tr>
<td>V35</td>
<td>05/29/2010 - 06/04/2010</td>
<td>J5-VAC</td>
</tr>
</tbody>
</table>

### Reproductive

<table>
<thead>
<tr>
<th>Event</th>
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<th>Other Information</th>
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<tbody>
<tr>
<td>VACC</td>
<td>04/28/2010</td>
<td>Y VBG VC8 VSG VJ5</td>
</tr>
<tr>
<td>VACC</td>
<td>03/11/2010</td>
<td>Y VSG VJ5 VLL IVP</td>
</tr>
<tr>
<td>VACC</td>
<td>09/22/2009</td>
<td>Y VC8 IVP</td>
</tr>
</tbody>
</table>

### Basic Cow Information

- Lactation no: 1
- RFID: 840003004658452
- Last calving date: 05/16/2010
- Sire's name/code: 29H010818
- Last bred MDY: 05/16/2010
- Service sire name/code: 15848
- Dam's barn name: 

### Bromatic Daily Milk Weights

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Lot</th>
<th>Wt</th>
<th>Dev</th>
<th>Cnd</th>
<th>Act</th>
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</thead>
<tbody>
<tr>
<td>05/19/2010</td>
<td>07:36:33 am</td>
<td>04</td>
<td>11.7</td>
<td>+7.8</td>
<td>5.7</td>
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</tr>
<tr>
<td>05/18/2010</td>
<td>10:58:42 pm</td>
<td>04</td>
<td>09.0</td>
<td>+0.9</td>
<td>5.7</td>
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<tr>
<td>05/18/2010</td>
<td>03:37:25 pm</td>
<td>04</td>
<td>09.6</td>
<td>-5.2</td>
<td>6.1</td>
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<tr>
<td>05/18/2010</td>
<td>07:41:21 am</td>
<td>04</td>
<td>09.3</td>
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<td>6.4</td>
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<tr>
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<td>04</td>
<td>09.3</td>
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<td>04</td>
<td>07.6</td>
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### Chores Done

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<th>Other Information</th>
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</thead>
<tbody>
<tr>
<td>Chore</td>
<td>05/16/2010</td>
<td>PRV-UBT; Grp=4</td>
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</table>

### Sort Gate Retrievals

<table>
<thead>
<tr>
<th>Gate Name</th>
<th>Done?</th>
<th>Date</th>
<th>Time</th>
<th>Reason</th>
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<tbody>
<tr>
<td>Sort East_2</td>
<td>Yes</td>
<td>05/18/2010</td>
<td>03:44:39 pm</td>
<td>Deviation</td>
</tr>
<tr>
<td>Sort East_1</td>
<td>Yes</td>
<td>05/19/2010</td>
<td>06:01:00 am</td>
<td>4-DAYCK</td>
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</table>
Some Details

- Herd staff have defined 77 different protocols using 146 chores for routine management.
  - Protocols = schedules
  - Chores = actions, drugs or observations to be done
- Sept-Apr 2355 cows enrolled on SYP (primary sync protocol)
- 1807 cows were on LAMECHK (foot management protocol)
- 1807 cows were on LAMECHK (foot management protocol)
- 3087 cows on VACC (primary vaccination protocol)
More Details

- Data for all milking cows have been collected successfully for both double-40 and double-12 parlours.
- PCDART communicates routinely with both BM2060’s.
- Early in the observation period, data were transferred at the close of each milking.
- Currently, parlour data are being pulled at 10-minute intervals.
- Data entered at cow-side are transferred immediately.
- Sort gates are operating fully and provide cows for breeding, treatment, vaccination, reproductive evaluations.
- Sort gates run during first and second shifts (0700 – 2300 hr) every day.
Thank you