GPS INTERNSHIP
SUMMER 2018
Malia Martin
Goal of the internship

- Introduction into the dairy industry and the world of consulting
- Improve leadership and communication skills
- Work on a challenging research project
- Learn about consulting and the services provided
Experiences

- Project (Survey and On-farm study)
- Ride-Alongs
- ADSA/4-State
- Feeder Schools
- Breakfast on the farm
- Farm to Table
- Dairy Cares Race
Travel

- Over 9,000 miles
- 5 states
Learning Goals

1. How the relationships are built between the dairy and the consultant.
2. The applied side of nutrition work.
3. How GPS consultants are more than just nutritionists.
1. How the relationships are built between the dairy and the consultant.

- Strong personal relationships
- Involves more than just the owner
- Building the team
2. The applied side of nutrition work (in-field work in contrast to biochemistry)

- Relies less heavily on what the “ideal” diet looks like
- Science is the foundation
  - Practicality and experience yield success
3. How GPS consultants are more than just nutritionists

- Dependent on:
  - The individual consultant
  - Wants and needs of the dairy
- Assist in locking in prices for commodities
- Planning bunker space
- Being a trusted advisor
Other learning outcomes

- Sense of direction
- How to be more of a global thinker
- Personal growth and leadership
- Building and maintaining relationships
- How to be more observant
Survey

- Objective: Identify nutrition and management factors that influence milk fat composition and yield
- 18 dairies in 4 states
- Avg High temp of 82°F, THI 73°F
MILK FAT = MANAGEMENT + NUTRITION
## Survey - Herd Demographics

<table>
<thead>
<tr>
<th>Herd Demographics</th>
<th>Average</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cows</td>
<td>1623</td>
<td>420</td>
<td>4012</td>
</tr>
<tr>
<td>% 1st Lactation</td>
<td>39%</td>
<td>30%</td>
<td>45%</td>
</tr>
<tr>
<td>Milk Yield (lbs)</td>
<td>88.3</td>
<td>79.0</td>
<td>96.4</td>
</tr>
<tr>
<td>Milk Fat %</td>
<td>3.75%</td>
<td>3.47%</td>
<td>4.15%</td>
</tr>
<tr>
<td>Milk Protein %</td>
<td>3.01%</td>
<td>2.89%</td>
<td>3.21%</td>
</tr>
<tr>
<td>SCC</td>
<td>137</td>
<td>58</td>
<td>258</td>
</tr>
</tbody>
</table>
## Survey - Management

<table>
<thead>
<tr>
<th>Management</th>
<th>Average</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stocking Density</td>
<td>124%</td>
<td>111%</td>
<td>139%</td>
</tr>
<tr>
<td>Bunk inches per cow (in)</td>
<td>19.3</td>
<td>13.7</td>
<td>25.9</td>
</tr>
<tr>
<td>Headlocks per cow</td>
<td>0.83</td>
<td>0.60</td>
<td>1.08</td>
</tr>
<tr>
<td>Water space per cow (in)</td>
<td>2.3</td>
<td>1.0</td>
<td>3.8</td>
</tr>
<tr>
<td>Push-Up Frequency</td>
<td>11</td>
<td>6</td>
<td>18</td>
</tr>
<tr>
<td>Targeted Refusals</td>
<td>2.6%</td>
<td>0%</td>
<td>5%</td>
</tr>
</tbody>
</table>
Variation in Milk Fat is Driven by the Mammary Gland

Sources of Milk Fat
- De novo
- Mixed
- Preformed
Factors that Affected Milk Fat

- **Headlocks per Cow** - positive relationship
  - Northeast research shows effect of stocking density

- **DCAD (Na + K – Cl – S)** – positive relationship
  - May be direct effect of DCAD and/or buffering of Na Bicarb and K Carbonate

- **Sodium** – positive relationship

- **Ration NDF** – Negative Relationship
  - May be due to sorting although a PSPS was used
FINAL MODEL: A GOOD PREDICTOR OF MILK FAT
What’s next?

- Continue to perform statistics on the data
  - Look at preformed fatty acids, protein, etc.
- Create a formal report for the GPS team
GPS Internship 2019

- Highly Recommend
- Gain an understanding of the industry
- Personal growth and development
- Build personal and professional relationships
THANK YOU!