Oregon Freeze Dry

Largest custom freeze dryer in the world
Celebrating 50\textsuperscript{th} anniversary in 2013
5 diverse market segments

- Ingredients
- Packaged Products
  - OFD Brands
  - Private Label
  - Government
- Specialty/Non-Food Items
2011 Sales by Market

- MH 32%
- Ind 28%
- Gov 11%
- ASP 11%
- PL 18%
Replenishment History

1997: Started applying Replenishment principles using MS Excel, 99.9% on-time with –60% inventory.

1999 - 2009: Experimented with other market segments and customers.

2007: Implemented Replenishment+ for purchased parts. Static levels, no buffer profiles.

2011: Custom buffer profiles, closer integration between Planning and Purchasing

2012: DDMRP
2007 – Replenishment+

**Policy:**
Daily meeting with CFO, Accounting and Purchasing
  - Review POs generated previous day
  - “Push back” on order size(s)

**Challenge:**
Work with suppliers of high $$ items
  - ↓ lead times
  - ↓ minimum order quantities

**Result:**
Raw material inventory ↓ ~30% in first year with no reduction in availability
2012 – Demand Driven MRP

5 Critical Components

1) Positioning Inventory
2) Determining Buffer Profiles and Levels
3) Dynamic Adjustments
4) Planning Based on Demand Pull
5) Monitoring and Execution
1) Positioning Inventory

Finished Goods

• MH Pouches (41 SKUs)
• MH #10 Cans (37 SKUs)

Intermediate Components (13 SKUs)

Purchased Items

• Raw Materials (162 SKUs)
• Packaging Materials (284 SKUs)
2) Setting Up Buffer Profiles

<table>
<thead>
<tr>
<th>Type</th>
<th>Variability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make</td>
<td>1 - Low (4%)</td>
</tr>
<tr>
<td>Buy</td>
<td>2 - Medium (67%)</td>
</tr>
<tr>
<td></td>
<td>3 - High (29%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lead Time</th>
<th>Min Order Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - Short</td>
<td>M (44%)</td>
</tr>
<tr>
<td>2 - Medium</td>
<td>no M (56%)</td>
</tr>
<tr>
<td>3 - Long</td>
<td></td>
</tr>
</tbody>
</table>

Example: B23M
2) Calculating Buffer Levels

Average Daily Usage

- Average demand for parent item
  - History by item – 80%
  - Forecast by market – 20%
- Calculate down through BoM to child quantity
- Aggregate to get child ADU
- Table for Deletes, Edits & Add-ons

Standard assumptions for Red, Yellow & Green Zone impact
3) Dynamic Adjustments

- Monitor actual demand vs. ADU set point (in total)
  - Recent Trends
  - Seasonality
  - Input from dealer network

- Display for visibility

- Move individual items if necessary
3) Dynamic Adjustments

Weekly MH Can History

Forecast

Cases

0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 8,000

11/7/11 11/21/11 12/5/11 12/19/11 1/2/12 1/16/12 1/30/12 2/13/12 2/27/12 3/12/12 3/26/12 4/9/12 4/23/12 5/7/12 5/21/12 6/4/12 6/18/12 7/2/12 7/16/12 7/30/12 8/13/12 8/27/12 9/10/12 9/24/12 10/8/12 10/22/12 11/5/12 11/19/12
3) Dynamic Adjustments

Weekly MH Can History

- Forecast
- Sales

Cases vs. Sales

Simple, profound and fundamental changes for a more volatile and complex global landscape.
4) Planning Based on Demand Pull
## 4) Planning Based on Demand Pull

<table>
<thead>
<tr>
<th>PRODUCT CODE</th>
<th>PRODUCT DESCRIPTION</th>
<th>OFD INV QA (CS)</th>
<th>OFD INV RELEASED (CS)</th>
<th>OPEN SOs (CS)</th>
<th>LX ORDERS (CS)</th>
<th>TOTAL AVAIL (CS)</th>
<th>TOP OF GREEN %</th>
<th>QTY TO PRODUCE (CS)</th>
<th>TOP GREEN (CS)</th>
<th>BUFFER RANK</th>
<th>CANLINE TIME (HRS)</th>
<th>% TOP OF GREEN TO PRODUCE</th>
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<tr>
<td>0030584</td>
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<td>426</td>
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<td>100%</td>
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<td>5,103</td>
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<td>7</td>
<td>113</td>
<td>801</td>
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<td>1,004</td>
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<td>1,235</td>
<td>0</td>
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<td>1,195</td>
<td>2,537</td>
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<td>1,342</td>
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<td>56</td>
<td>1,885</td>
<td>3,934</td>
<td>47.9%</td>
<td>2,049</td>
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<td>106</td>
<td>1,713</td>
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<td>1,708</td>
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<td>22</td>
<td>829</td>
<td>1,639</td>
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<td>810</td>
<td>9</td>
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<td>898</td>
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<td>772</td>
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<td>0</td>
<td>157</td>
<td>1,011</td>
<td>1,809</td>
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<tr>
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<td>1,816</td>
<td>145</td>
<td>108</td>
<td>1,853</td>
<td>3,223</td>
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<td>892</td>
<td>0</td>
<td>80</td>
<td>812</td>
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<td>521</td>
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<td>427</td>
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<td>51</td>
<td>376</td>
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<td>MH Breakfast Skillet</td>
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<td>1,279</td>
<td>0</td>
<td>171</td>
<td>1,108</td>
<td>1,779</td>
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<td>671</td>
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<td>660</td>
<td>990</td>
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<td>590</td>
<td>0</td>
<td>15</td>
<td>575</td>
<td>860</td>
<td>66.8%</td>
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<td>18</td>
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<td>MH Noodles &amp; Chicken</td>
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<td>1,700</td>
<td>0</td>
<td>40</td>
<td>1,660</td>
<td>2,398</td>
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<td>29</td>
<td>1,202</td>
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<td>20</td>
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<td>0</td>
<td>1,355</td>
<td>0</td>
<td>33</td>
<td>1,322</td>
<td>1,841</td>
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<td>519</td>
<td>21</td>
<td>7.2</td>
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<tr>
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<td>MH Mac &amp; Cheese</td>
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<td>1,329</td>
<td>0</td>
<td>15</td>
<td>1,314</td>
<td>1,829</td>
<td>71.9%</td>
<td>515</td>
<td>22</td>
<td>6.4</td>
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<tr>
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<td>MH Chili Mac w/ Beef</td>
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<td>2,327</td>
<td>469</td>
<td>116</td>
<td>2,680</td>
<td>3,567</td>
<td>75.1%</td>
<td>887</td>
<td>23</td>
<td>10.9</td>
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<tr>
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<td>965</td>
<td>0</td>
<td>10</td>
<td>955</td>
<td>1,255</td>
<td>76.1%</td>
<td>300</td>
<td>24</td>
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<td>0030137</td>
<td>MH Pasta Primavera</td>
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<td>377</td>
<td>692</td>
<td>79</td>
<td>990</td>
<td>1,051</td>
<td>94.2%</td>
<td>61</td>
<td>25</td>
<td>0.9</td>
<td></td>
</tr>
</tbody>
</table>
5) Monitoring and Execution

Daily Meeting
Planning, Purchasing, CFO, VP Finance

- Materials Synchronization
- Replenishment Planner
- Order Management
- Past Due POs
- Deal with exceptions
- Watch for trends
5) Monitoring and Execution
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5) Monitoring and Execution
Lessons Learned

• Integrate with both Planning and Purchasing
  ▪ Eliminate side systems
  ▪ Single source for information

• Automate method for maintaining levels

• Regular monitoring is crucial
  ▪ Reacting to changes
  ▪ Ongoing improvement

• Good visibility makes monitoring easy