Keys to Finishing Success

How much is being left on the table in your operation?

“information solutions”
What is out there to grab?
Opportunity Dollars

- Modeled Data
  - Fixed feed
  - Yardage
  - Pig cost
  - Market price

- Compare performance of each closeout to top 25% of closeouts based on:
  - Death Loss
  - Culls and lights
  - Average Daily Gain
  - Adjusted Feed Conversion
KEY TO SUCCESS
Variation within a system

Opportunity $ per pig

- A: $13.69
- B: $1.00
- C: $19.41
- D: $8.98
- E: $0.38
- F: $15.83
- G: $17.07
- H: $8.42
- I: $16.73
- J: $15.31
- K: $10.60
- L: $13.08
- M: $14.93

~321,000 pigs
How to capture more opportunity dollars?

- People focusing on:
  - The pigs
  - The environment
  - The barn
The Pigs

- Starting them off right
- Nose to tail assessment
- Record water usage
- Keeping them going
- Analyzing Performance
Starting them off right

- Making sure the barn is ready
  - Clean
  - Dry
  - Warm
  - Reset ventilation

- Loading Pens
  - Sort bottom 5-10%
  - Hospital Pens

- Minimize weaning stress
  - Pigs nurse every 2 hours; get pigs up and feed on mats
Nose to tail assessment

- Eyes
- Belly
- Back
- Hair coat
- Feet and legs
- Stools (pig and floor)
Toolbox for walking the barn

- Paint Stick
- Pen/ Paper
- Infrared thermometer
- Anemometer
Walking the barn

2 seconds per pig
Water Usage

- Install water meters correctly
  - Must be horizontal and face up to read accurately
- 1st indicator of illness
  - 20% drop in 1 day
- Normal Water Ranges

<table>
<thead>
<tr>
<th>Weight</th>
<th>Gallons/pig/day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 60 lbs</td>
<td>.7-1</td>
</tr>
<tr>
<td>60-100 lbs</td>
<td>2-3</td>
</tr>
<tr>
<td>100-250 lbs</td>
<td>3-5</td>
</tr>
</tbody>
</table>

Modified from Almond, Glenn, How much water do pigs need

Brumm, 2006- Patterns of Drinking Water Use in Pork Production Facilities
Keeping them going

- Pulling fallbacks early
- Treat early
Keeping them going
Keeping them going
Keeping them going
Keeping them going
The Environment

- Temperature
  - Drafts
- Controllers
- Other
  - Air Quality
  - Humidity
Temperature

- Are the pigs comfortable???
- Zone heating
  - Setting the barn the same as without zone heating is a waste!
- Drafts

Target Temperature Ranges for Growing and Adult Pigs

<table>
<thead>
<tr>
<th>Weight</th>
<th>Optimum</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Litter-newborn</td>
<td>95 °F</td>
<td>90-100 °F</td>
</tr>
<tr>
<td>Litter - 3 weeks</td>
<td>80 °F</td>
<td>75-85 °F</td>
</tr>
<tr>
<td>10-30 lbs</td>
<td>80 °F</td>
<td>75-85 °F</td>
</tr>
<tr>
<td>30-50 lbs</td>
<td>75 °F</td>
<td>70-80 °F</td>
</tr>
<tr>
<td>50-75 lbs</td>
<td>65 °F</td>
<td>60-70 °F</td>
</tr>
<tr>
<td>75-180 lbs</td>
<td>60 °F</td>
<td>55-70 °F</td>
</tr>
<tr>
<td>180 lbs - Adult</td>
<td>60 °F</td>
<td>50-70 °F</td>
</tr>
</tbody>
</table>

Pork Bridge, Dr. Joe Zulovich
Controller Settings

Case Study

Impact of furnace offset on furnace run time
Offset changed at noon (blue vertical line)

Outside conditions – steady temperature (34°F) with fog/drizzle

Furnace run time
Temperature

Savings of 3.75 gallons of propane in one day

Variable speed pit fan ramped up after every on-cycle of the furnace.

Room temperature dropped 0.5°F with lower offset. No ramping of variable speed pit fans.
Others

Air Quality
- If your eyes water or your nose burns it’s a problem for the pigs too!

Humidity
- 50-70% for all pigs at all temperatures (PIC has < 65%)
- Too high or too low causes respiratory problems
The Barn

- Repairs
- Cleanliness
- Pits
- Feed Bins
Repairs Needed

- Check water usage when barn is empty and after washing for leaks
- Fix the broken feeder
- Replace broken shutters
- Repairs are cheaper than replacements
Just washing fans between turns is not enough; dust off the shutters.

1/8 of inch of dust = 40% reduction.

Reduce rodents.
Others

- Pit Levels
  - Disease challenges

- Feed Bins
  - Cleaning
  - Making sure pigs are never out of feed
"If you can’t measure it, you can’t improve it."

- Peter Drucker
Data

- may different programs to collect data
- accuracy of the data is an issue
- producers don’t use closeout information
- need to standardize closeout for comparison
- individual carcass information being ignored
SMS Average Daily Gain

SMS Closeouts 2008-2017
Adj Feed Conversion (50 - 290)

Adjacent Feed Conversion (50 - 290)
<table>
<thead>
<tr>
<th>Metric</th>
<th>SMS 0-25%</th>
<th>SMS 25-50%</th>
<th>SMS 50-75%</th>
<th>SMS 75-100%</th>
<th>SMS All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closeouts</td>
<td>191</td>
<td>191</td>
<td>190</td>
<td>191</td>
<td>763</td>
</tr>
<tr>
<td>Pigs In</td>
<td>420,973</td>
<td>476,120</td>
<td>438,210</td>
<td>400,297</td>
<td>1,735,600</td>
</tr>
<tr>
<td>Average Weight In</td>
<td>14.7</td>
<td>14.2</td>
<td>14.2</td>
<td>14.3</td>
<td>14.4</td>
</tr>
<tr>
<td>Death Loss &amp; DOA's</td>
<td>3.3%</td>
<td>4.1%</td>
<td>4.6%</td>
<td>6.5%</td>
<td>4.6%</td>
</tr>
<tr>
<td>Culls &amp; Lights</td>
<td>1.0%</td>
<td>0.9%</td>
<td>1.3%</td>
<td>1.5%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Adjusted Feed Conversion</td>
<td>2.54</td>
<td>2.69</td>
<td>2.79</td>
<td>2.95</td>
<td>2.73</td>
</tr>
<tr>
<td>Pounds Feed / Pig</td>
<td>689.6</td>
<td>716.4</td>
<td>730.0</td>
<td>751.8</td>
<td>721.4</td>
</tr>
<tr>
<td>Average Days / Pig</td>
<td>158.5</td>
<td>163.9</td>
<td>167.0</td>
<td>170.5</td>
<td>164.8</td>
</tr>
<tr>
<td>Average Daily Gain</td>
<td>1.71</td>
<td>1.62</td>
<td>1.57</td>
<td>1.50</td>
<td>1.60</td>
</tr>
<tr>
<td>Average Weight Out</td>
<td>286.4</td>
<td>280.3</td>
<td>276.0</td>
<td>269.4</td>
<td>278.3</td>
</tr>
<tr>
<td>Average Gain</td>
<td>271.6</td>
<td>266.0</td>
<td>261.8</td>
<td>255.2</td>
<td>263.9</td>
</tr>
<tr>
<td>Opportunity Dollars</td>
<td>$0.00</td>
<td>-$9.38</td>
<td>-$14.53</td>
<td>-$23.59</td>
<td>-$12.04</td>
</tr>
<tr>
<td>Death Loss &amp; DOA %</td>
<td>$0.00</td>
<td>-$1.09</td>
<td>-$1.89</td>
<td>-$4.58</td>
<td>-$1.83</td>
</tr>
<tr>
<td>Culls &amp; Light Wgt %</td>
<td>$0.00</td>
<td>$0.07</td>
<td>-$0.39</td>
<td>-$0.55</td>
<td>-$0.21</td>
</tr>
<tr>
<td>Avg Daily Gain</td>
<td>$0.00</td>
<td>-$1.04</td>
<td>-$1.73</td>
<td>-$2.69</td>
<td>-$1.31</td>
</tr>
<tr>
<td>Gain Max = 4 Lbs</td>
<td>$0.00</td>
<td>-$2.18</td>
<td>-$2.18</td>
<td>-$2.18</td>
<td>-$2.18</td>
</tr>
<tr>
<td>Adj Feed Conversion</td>
<td>$0.00</td>
<td>-$5.14</td>
<td>-$8.34</td>
<td>-$13.59</td>
<td>-$6.51</td>
</tr>
</tbody>
</table>
SMS Carcass Model

P&L on Every Carcass

- No Benchmarking
- Each Packer has a different “Box”
- Each Producer uses own numbers in the model
Dollars/Head by Grower

- Person marking pigs
- Sow Farm Source
- Cut from Barn
Standard Deviation

Dictionary: a quantity calculated to indicate the extent of deviation for a group as a whole.

A large standard deviation indicates that the data points can spread far from the mean and a small standard deviation indicates that they are clustered closely around the mean.
Standard Deviation Load 1
A LOT OF MONEY

What if you only capture 1/3?