What does the data say about mortality?

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Outline

• Mortality by phase
  • Female Death Loss
  • Stillborns
  • Piglet (Preweaning)
  • Nursery
  • Finishing
  • Wean to Finish

• What the best are doing differently?
Female Death Loss

- Top 10%
- ALL
- Linear (Top 10%)
- Linear (ALL)
Breakdown of Causes of Mortality

- 39% Vaginal/Uterine Prolapse
- 29% Rectal/Anal Prolapse
- 15% Both Rectal and Vaginal/Uterine Prolapse
- 4% Difficulty Farrowing/Retained Pig(s)
- 6% Intestinal (Ulcer) Complications
- 3% Disease
- 2% Intestinal (Ulcer) Complications
- 2% Lame/Injured/Downer
- 2% Unknown/Other

*21% of Mortality was due to POP*
% of Death Loss based on Sow Farm Size

- <1000 (340) bars
- 1000s (224) bars
- 2000s (194) bars
- 3000s (44) bars
- 4000+ (68) bars

Legend:
- Top 10%
- All
- Bottom 30%
- Linear (All)
Total born per litter compared to Sow Death Loss

- Average Total Born
- # of farms
A small section of time

30% in 9 days
Total Born / Female Farrowed

- Top 10%
- ALL
- Linear (Top 10%)
- Linear (ALL)
Percent Stillborns

01/15/05 07/15/05 01/15/06 07/15/06 01/15/07 07/15/07 01/15/08 07/15/08 01/16/09 07/16/09 01/16/10 07/16/10 01/16/11 07/16/11 01/16/12 07/16/12 01/16/13 07/16/13 01/16/14 07/16/14 01/10/15 07/10/15 01/10/16 07/10/16 01/10/17 07/10/17 01/10/18 07/10/18 01/15/19 07/15/19

Top 10%  ALL  Linear (Top 10%)  Linear (ALL)
Stillborn / Female Farrowed

- Top 10%
- ALL
- Linear (Top 10%)
- Linear (ALL)
# of Stillborns by Total Born

R² = 0.7957
Pre-weaning Death Loss

Top 10%  ALL  Linear (Top 10%)  Linear (ALL)
Piglet Death Loss

2012 2013 2014 2015 2016 2017 2018
0.0% 5.0% 10.0% 15.0% 20.0% 25.0%

Industry Productivity  IP-Top 25%  SMS  Linear (Industry Productivity)
# weaned with 14, 15 or 16 Total Born

![Bar chart showing the number of stillborns and the number of piglets weaned with 14, 15, or 16 total born. The chart has a y-axis labeled '# of stillborns' ranging from 9.5 to 12.5 and an x-axis labeled '# of stillborns' ranging from 0 to 4. The R² value for the regression line is 0.9756.](image)
Finishing Loss as % of pigs placed

![Graph showing finishing loss as a percentage of pigs placed from 2012 to 2018. The graph compares industry productivity, IP Top 25%, MetaFarms, and a linear trend in productivity.](image-url)
Wean to Finish Loss as % of pigs placed

<table>
<thead>
<tr>
<th>Year</th>
<th>Industry Productivity</th>
<th>IP-Top 25%</th>
<th>MetaFarms</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2013</td>
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<td></td>
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<td></td>
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<tr>
<td>2017</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td></td>
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</tr>
</tbody>
</table>
What the best are doing differently?
What drives farm performance?

- 103 employees in 12 farms- from companies representing 5% of the U.S. sow herd

- Not related to:
  - Employee Age
  - Experience
  - Pay

- Significantly related to:
  - Employee Satisfaction- moderate to strong relationship
  - Task Performance- moderate to strong relationship
  - Helping Behavior- moderate relationship
  - Rehire agreement- moderate to strong relationship
Job Satisfaction

Individual Farms

1  2  3  4  5  6  7  8  9  10  11  12

60  65  70  75  80  85  90  95

SUMMIT

SWINE MANAGEMENT SERVICES
Job Fit - 2x Effective as Interviewing alone

<table>
<thead>
<tr>
<th>Position</th>
<th>His Overall % Match</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPP Farm Managers</td>
<td>85%</td>
</tr>
<tr>
<td>SPP Supervisors</td>
<td>82%</td>
</tr>
<tr>
<td>SPP Entry Level Breeding</td>
<td>75%</td>
</tr>
<tr>
<td>SPP Entry Level Farrowing</td>
<td>65%</td>
</tr>
</tbody>
</table>
The Iceberg Illusion

Success is an iceberg

High Performing Farms

What people see

What people don't see

Persistence
- Feeding Differently

Failure
- Training Staff

Sacrifice
- Split Suckling

Disappointment
- Pulling Fallbacks

Dedication
- Individual Animal Care

Hard Work
- Trimming toes

Discipline
- AM/PM matings

Things I have to give up:
1. 2. 3.

@sylviaduckworth
Foot Care

• Gilt Selection
  • Each strike of the toe promotes growth

• Make sure rations are supporting foot health

• Maintenance
  • Trimming within a few days of farrowing
  • Use a chart to document who/what/when
Feeding

Sow Death Loss%

- Ad lib
- Hand w/ Hopper/Tube
- No Reservoir
Reducing Stillborns

- Attending more farrowings
- Sleeving more frequently
- Targeting at risk sows
  - History
  - Old
  - Over-conditioned
- Feeding pre-farrowing
Before and After on Farm Data

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total pigs born / female farrowed</td>
<td>16.77</td>
<td>16.90</td>
<td>17.05</td>
<td>17.24</td>
</tr>
<tr>
<td>Pigs born live / female farrowed</td>
<td>14.43</td>
<td>14.62</td>
<td>14.76</td>
<td>15.58</td>
</tr>
<tr>
<td>Stillborns / female farrowed *</td>
<td>1.57</td>
<td>1.52</td>
<td>1.48</td>
<td>0.83</td>
</tr>
<tr>
<td>Percent stillborns *</td>
<td>9.4%</td>
<td>9.0%</td>
<td>8.7%</td>
<td>4.8%</td>
</tr>
</tbody>
</table>

Stillborns per litter

.65 less stillborns per litter
• Attending more farrowings
• Split Suckling
• Udder Development
• Pulling fallbacks timely
Growing Pigs

- Making sure the barn is ready
  - Clean
  - Dry

- Loading Pens
  - Sort bottom 5-10%

- Minimize Weaning Stress
  - Rehydrate and Educate

- Warm
- Reset ventilation

- Hospital Pens

- Feed more frequently
Early Detection of “At Risk”

- Knowing the signs of illness and lameness
- Intervening
  - Removal from pen
  - Treatment
    - The right treatment for the right aliment
  - Timely euthanasia
Water Usage

• Install water meters correctly
  • Must be horizontal and face up to read accurately

• 1\textsuperscript{st} indicator of illness
  • 20% drop in 1 day or 3 days at lower intake

• 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

Figure 1. Impact of swine flu on daily water usage in a 560-head fully slatted finishing facility in Nebraska. Data courtesy Dicamusa.com.
Thank you!

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Insanity: doing the same thing over and over again and expecting different results.

Albert Einstein