What is Pork Quality?

1. Carcass Yield
2. Wholesomeness
   - Safety of the product
3. Economic Attributes of Functionality
   I. Consumer acceptability
      - Color
      - Flavor
   II. Further processing
      - Firmness & Wetness
      - Water-holding Capacity

Where Have We Been?
(Consumer Demand: An Industry Conundrum)

Presentation Outline

- The Industry Conundrum
  - What is Pork Quality?
  - Where have we been and where are we going?
  - Things to think about
- What’s the Worst that Could Happen?
  - Cost to the producer
  - Cost to the industry
- “THE CHALLENGE”
  - Production Issues
  - Transporter Issues
Things to think about

Farm

Transport

Market

Slaughter

Process

Retail & Distribution

Food Services

Consumers

Preharvest

Harvest

Postharvest

What’s the worst that can happen?

Annual loss of > $213 Million

Source: TDA Handbook
Table 10
National Pork Benchmarking Audit Estimate of Economic Loss Associated with Nonconformities in Carcass Quality

<table>
<thead>
<tr>
<th>Condemnation</th>
<th>1992</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trim</td>
<td>1.00</td>
<td>1.20</td>
</tr>
<tr>
<td>Skin</td>
<td>.01</td>
<td>.02</td>
</tr>
<tr>
<td>Bruises</td>
<td>.08</td>
<td>.08</td>
</tr>
<tr>
<td>Abscesses/Injection Sites</td>
<td>.47</td>
<td>.57</td>
</tr>
<tr>
<td>Arthritis</td>
<td>.08</td>
<td>.12</td>
</tr>
<tr>
<td>Broken Bones</td>
<td>.59</td>
<td>.30</td>
</tr>
<tr>
<td>Subtotal</td>
<td>2.23</td>
<td>2.29</td>
</tr>
</tbody>
</table>

What’s the worst that can happen? (Carcass Condemnations)

What’s the worst that can happen? (Quality Condemnations)

Table 10
National Pork Benchmarking Audit Estimate of Economic Loss Associated with Nonconformities in Carcass Quality

<table>
<thead>
<tr>
<th></th>
<th>1992</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two-toned color</td>
<td>.27</td>
<td>.43</td>
</tr>
<tr>
<td>PSE</td>
<td>.34</td>
<td>.90</td>
</tr>
<tr>
<td>DFD</td>
<td>.01</td>
<td>0.0</td>
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<tr>
<td>WHC</td>
<td>-</td>
<td>50</td>
</tr>
<tr>
<td>Ecchymosis</td>
<td>.49</td>
<td>.30</td>
</tr>
<tr>
<td>Marbling</td>
<td>-</td>
<td>0.0</td>
</tr>
<tr>
<td>Subtotal</td>
<td>1.13</td>
<td>2.13</td>
</tr>
</tbody>
</table>

What’s the worst that can happen? (Economic Losses Can Add Up)

What’s the worst that can happen? (Fatigued Hogs)

Two-toned color     .43
PSE                  .90
Trim                 1.20
WHC                  .50
Bruises              .08
Broken Bones         0.50
Subtotal             3.28

Source: TDA Handbook
What’s the worst that can happen? (Fatigued Hogs)

- Open Mouth Breathing (%)
- Rectal Temperature (°F)
- Heart Rate (BPM)
- Skin blotchiness (%)

Source: TOA Handbook

What’s the worst that can happen? (Fatigued Hogs)

- Excessive stress and muscle exertion can lead to PSE pork.

What’s the worst that can happen? (DOA’s)

- Loss (%)
- Fatigued (%)
- DOA (%)

<table>
<thead>
<tr>
<th>Study</th>
<th># of Loads</th>
<th>DOA (%)</th>
<th>Fatigued (%)</th>
<th>Loss (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study 1</td>
<td>2199</td>
<td>0.28</td>
<td>0.81</td>
<td>1.09</td>
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<tr>
<td>Study 2</td>
<td>93</td>
<td>0.19</td>
<td>0.62</td>
<td>0.81</td>
</tr>
<tr>
<td>Study 3</td>
<td>24</td>
<td>0.25</td>
<td>0.75</td>
<td>1.00</td>
</tr>
<tr>
<td>Study 4</td>
<td>74</td>
<td>0.23</td>
<td>0.85</td>
<td>1.08</td>
</tr>
</tbody>
</table>

Ellis, McKeith & Ritter

McGlicone & Ellis, McKeith & Ritter
What’s the worst that can happen? (DOA’s)

<table>
<thead>
<tr>
<th>Study</th>
<th>Loads</th>
<th>Loss (%)</th>
<th># Animals</th>
<th>$ Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>32</td>
<td>.89</td>
<td>4074.0</td>
<td>$467,980</td>
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<tr>
<td>2</td>
<td>75</td>
<td>.55</td>
<td>6768.0</td>
<td>$14,715</td>
</tr>
<tr>
<td>3</td>
<td>24</td>
<td>1.00</td>
<td>40.28</td>
<td>$4,624</td>
</tr>
<tr>
<td>4</td>
<td>74</td>
<td>1.08</td>
<td>135.86</td>
<td>$15,606</td>
</tr>
</tbody>
</table>

Assuming:
- 170 head per Load
- Carcass Weight: 201.0 lbs.
- Weighted Average: $57.15 cwt

The “CHALLENGE”
(Take Advantage of Educational Opportunities)

The “CHALLENGE”
(Understand Animal Behavior & Natural Instincts)

- Hogs have a strong natural urge to escape.
- Hogs have a natural tendency to follow.
- Hogs are easily frightened.
- Excited hogs are more difficult to move.
- Move pigs in small groups of 3-5

Dangling chains
Slippery floors
Load noises
Water puddles
Shiny objects
Clothing hanging on fences
Sunlight shining through a crack or hole
Sudden changes in the color of equipment

Lost ramps and boxes
Shadows
Extreme weight limit
Drain gates
Flapping and moving objects
Dogs or other animals

Source: TOA Handbook

The “CHALLENGE”
(Pop Quiz!)
The “CHALLENGE” (Utilize Alternatives to Electric Goads)

(Comprehend Space & Temperature Requirements)

Consider Weather Conditions & the Size of Animal Being Transported.
Overcrowding is NEVER an option.
Always be prepared.

Source: PORK Magazine-John McGlone

Recommended Transport Space Requirement

<table>
<thead>
<tr>
<th>Average Weight (lbs.)</th>
<th>Number of Hogs Per Running Foot of Truck Floor</th>
<th>Square Feet Per Head</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Truck or Trailer Width 96</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Normal Weather</td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>5.23</td>
<td>1.53</td>
</tr>
<tr>
<td>100</td>
<td>3.44</td>
<td>3.66</td>
</tr>
<tr>
<td>150</td>
<td>2.56</td>
<td>4.79</td>
</tr>
</tbody>
</table>

|                       | Truck or Trailer Width 102                      |                      |
|                       | Normal Weather                                 |                      |
| 200                   | 1.77                                          | 5.48                 |
| 250                   | 1.55                                          | 4.26                 |
| 300                   | 1.33                                          | 3.98                 |
| 350                   | 1.15                                          | 3.58                 |
| 400                   | 1.09                                          | 3.39                 |

Most Common Yet Preventable Mistake!

Source: TOA Handbook

Truck Set – Up Procedures During Temperature Settings

<table>
<thead>
<tr>
<th>SET</th>
<th>Air Temp (°F)</th>
<th>Bedding</th>
<th>Side-Slats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bitter Cold</td>
<td>&lt;10</td>
<td>Heavy</td>
<td>10% Open*</td>
</tr>
<tr>
<td>Very Cold</td>
<td>&lt; 40</td>
<td>Heavy</td>
<td>10% Open*</td>
</tr>
<tr>
<td>Cold</td>
<td>40-50</td>
<td>Medium</td>
<td>25% Open</td>
</tr>
<tr>
<td>Mild</td>
<td>50-75</td>
<td>Light</td>
<td>50% Open</td>
</tr>
<tr>
<td>Warm</td>
<td>75-90</td>
<td>Light</td>
<td>All Open</td>
</tr>
<tr>
<td>Very Warm</td>
<td>&gt; 90</td>
<td>Light*</td>
<td>All Open</td>
</tr>
</tbody>
</table>

Source: TOA Handbook
Acknowledgements

- The conscientious producer
- Colin Johnson (ISU/IPIC)
- Iowa Pork Producers Association
- Iowa Pork Industry Center
- Iowa State University
- National Pork Board

Questions?

FACTS
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www.usethefacts.com