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Study Objectives

1. To estimate the amount of feed and associated costs that are necessary to add weight to cull sows, and
2. To evaluate the cost / benefit of adding weight to cull sows that are from modern, lean genetic lines.

Cull sow performance

- Twenty nine sows started the trial
- Six of the sows did not complete the trial
  - One had a severe inner ear infection
  - One severe ulcer with metritis and retained pigs
  - One chronic lameness
  - One severe pneumonia
  - Two none gainers

Adding Value to Cull Sows

K.J. Stalder\(^1\), L. Karriker\(^2\), and R. Fitzgerald\(^1\)

\(^1\)Department of Animal Science, 109 Kildee Hall, Iowa State University, Ames, IA 50011, USA

\(^2\)Veterinary Diagnostic and Production Animal Medicine Department, 1710 Veterinary Medicine, Iowa State University, Ames, IA 50011, USA

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Cull sow performance

- The health status of each sow was evaluated by an Iowa State University swine veterinarian and medications were administered accordingly throughout the trial.

- Of note, the greatest problems the sows exhibited upon arrival to the facility were lameness followed by respiratory disease, digestive disorders, and shoulder sores.

- Had specifically requested thin sows for the study.
  - Thin but low risk of mortality

- Sows not gaining weight for two consecutive weeks were euthanized.

- All sows were euthanized at the end of the trial
  - Compare sows that completed the trial vs. those that did not.
Cull sow performance

- Seventeen of 29 sows had an initial BCS of 1, while 8 and 4 sows had an initial BCS of 2 and 3, respectively.
- Sows were weighed bi-weekly and feed intake was recorded daily.

Cull sow performance

- The most rapid and efficient weight gained was attained just after weaning.
- Sows that began the trial at a BCS 1 had an ADG of 4.3 lbs. per day and FE (Feed:Gain) of 2.3 when taking them to BCS 2.
- The performance of these same sows dropped to 2.5 ADG and 4.1 FE when adding the second BCS.

Breakeven evaluated at

- Three different operational costs
- Three different feed costs

Breakeven cull sow price per cwt. by beginning body condition score

<table>
<thead>
<tr>
<th>Feed Price, $/lb. ($/ton)</th>
<th>$ 0.05/lb. ($100/ton)</th>
<th>$ 0.075/lb. ($140/ton)</th>
<th>$ 0.09/lb. ($180/ton)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Addition of 1st, 2nd, &amp; 3rd BCS</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>1</td>
<td>17.21</td>
<td>30.47</td>
<td>30.94</td>
</tr>
<tr>
<td>2</td>
<td>27.05</td>
<td>32.12</td>
<td>34.99</td>
</tr>
<tr>
<td>3</td>
<td>26.77</td>
<td>39.25</td>
<td>33.83</td>
</tr>
</tbody>
</table>

Breakeven additional BCS

<table>
<thead>
<tr>
<th>Trait</th>
<th># of BCS</th>
<th>Adding the first BCS</th>
<th>Adding the second BCS</th>
<th>Adding the third BCS</th>
<th>Adding the fourth BCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADG, lb (F:G, lbs.)</td>
<td>1</td>
<td>4.30 (2.28)</td>
<td>9.6</td>
<td>10.2</td>
<td>2.72 (4.14)</td>
</tr>
<tr>
<td>Feed intake, lbs</td>
<td>2</td>
<td>3.38 (3.93)</td>
<td>11.8</td>
<td>12.6</td>
<td>2.72 (5.16)</td>
</tr>
<tr>
<td>Cull sow performance</td>
<td>3</td>
<td>2.74 (5.53)</td>
<td>10.5</td>
<td>11.9</td>
<td>2.05 (5.41)</td>
</tr>
</tbody>
</table>
Breakeven cull sow price per cwt. by beginning body condition score

- Producers should carefully compare the breakeven prices with the historical prices.
- These values along with the current cull sow market prices will be useful for producers determining whether or not to feed cull sows.

Breakeven of feeding cull sows

- Operational costs (excluding feed costs) can greatly influence the profitability of feeding cull sows.
- Market prices needed for profitability rapidly increase as fixed costs rise beyond $0.50 per head per day.

Breakeven of feeding cull sows

- The situation is similar with feed costs.
- If the price of feed increases to more than $0.07 / lb. ($140/ton), it will be extremely difficult to make feeding cull sows to heavier weights profitable.
- The only likely exception to this case involves cull sows that lost excessive body condition
  - Due to outstanding performance throughout lactation
  - No health problems, and are in the lowest weight class (300 - 450 lb.).
  - Once the first condition score has been added to cull sows, market prices need to increase a minimum of $13.26 cwt (using $0.05 feed cost and $0.25 operational costs) before profit thresholds can be reached again and that price situation is not likely to occur.

Cull sow health

- Identify the unhealthy and / or lame animals and market or euthanize them immediately after weaning
  - Follow all withdraw times according to label and their veterinarian’s instructions.
- Sows that are thin because they are not healthy
  - Ulcers
  - Respiratory problems
  - Lame
  - Shoulder sores
  - Prolapses

Cull sow performance

- If producers decide to feed cull sows, it is imperative that they carefully monitor performance relative to market price.
- In most cases, producers can only justify adding additional weight to sows that are thin (BCS 1and 2 or in the 300 to 450 lb. weight category).
- This is where the fastest and most efficient weight gain occurs and is where the greatest increase in market price occurs (taking sows from the 300 - 450 lb. to the 450 – 500 lb. weight class).

Figure 1. Cull sow price trends by year and weight class (USDA Market News Service).
Summary

- First and foremost, producers should determine if health is the likely reason that an individual sow is thin when making culling decisions.
  - Because of increased mortality risks, sows with obvious health issues are not good candidates to feed to heavier weights.
- Producers will have to identify whether existing, relatively low cost facilities are available for feeding cull sows.
  - High operational costs (due to labor allocation and / or facilities) can make feeding cull sows unprofitable.

Summary

- Feed costs are an important consideration when producers are considering adding weight to cull sows.
  - A specialized, low cost cull sow diet may be required to add weight economically efficiently.
- Profit can be attained only when feeding healthy sows, utilizing the lowest price feed available, and with cheap, underutilized or depreciated facilities.

Summary

- Producers should be aware of current market price and the historical prices and relationships between different cull sow weight class prices to determine the likelihood of that feeding cull sows to heavier weights will be a profitable decision.