Ultrasound results

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Our talk

- Interpreting ultrasound scan
- Illustrating the opportunity
- Changes in composition
- Summing up
Loin eye area

Figure 1A. 12th-13th rib carcass cross-section
Loin eye area
Loin eye area
Changes in composition
Muscle depth vs. body weight

Muscle depth (in)

Body weight (lb)
Muscle depth vs. body weight

The graph shows the relationship between muscle depth (in inches) and body weight (in pounds). There is a positive correlation, indicating that as body weight increases, muscle depth tends to increase as well. The data points are scattered, with some variability, but there is a general trend visible.
Fat depth vs. body weight

The graph shows the relationship between fat depth (in inches) and body weight (in pounds). The data points are scattered, with a trend line indicating a positive correlation between fat depth and body weight. The numbers 3 and 4 are marked on the graph, possibly indicating specific data points or categories.
Today’s figures

<table>
<thead>
<tr>
<th>Order</th>
<th>BW (lb)</th>
<th>Rank</th>
<th>Muscle depth (in)</th>
<th>Rank</th>
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<tbody>
<tr>
<td>1</td>
<td>111.0</td>
<td>2</td>
<td>1.52</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>108.0</td>
<td>4</td>
<td>1.77</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>77.0</td>
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<td>1.48</td>
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<tr>
<td>4</td>
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<td>1</td>
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<td>3</td>
</tr>
<tr>
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<td>8</td>
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<td>7</td>
<td>82.5</td>
<td>7</td>
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<tr>
<td>8</td>
<td>96.0</td>
<td>6</td>
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</table>
Illustrating the opportunity
United Kingdom example

- United Kingdom
  - Lean growth index
  - Developed by Scottish Agricultural College
    - Began 1989

In 9 years, 1 kg increase in lean weight in 20 kg carcass (+5%)

Selection goal
- Increase lean carcass weight (+3)
- Little change in carcass fat weight (-1)

Selection criteria
- Live weight (+)
- Muscle depth (+)
- Fat depth (-)

(Simm and Dingwall, 1989; Lewis et al., 2002; Simm et al., 2002)
United Kingdom example

- Gains in industry schemes

![Graph showing Lean Growth Index score over years for Charollais, Suffolk, and Texel breeds.]

- Gains of 2% per year
- Comparable to dairy industry

(Courtesy: Signet)
United Kingdom example

Terminal sire breeds

Crossbred ewe breeds
United Kingdom example

- Effects on marketable output
  - Comparison of crossbred lambs sired by high versus low index terminal sires
    - 6,400 lambs sired by 90 rams
    - Rams differed by 200 index points
  - Benefits
    - 0.56 kg heavier cold carcass weight
    - 0.47 kg more saleable meat yield (1000 carcasses)
    - £353 (US$ 463) extra retail value per high index ram over its lifetime

(Lewis et al., 2006., Márquez et al., 2012; Márquez et al., 2013a,b; Márquez et al., 2015)
Summing up

- Ultrasonic scanning can be used effectively to improve carcass composition
- It will improve profitability
Thank you

Questions?