The Mickel Project
A Leading Edge Genetic Selection Demonstration Project and Study
Project Objectives

- Utilize genetic testing technology to identify the sire of each lamb using DNA testing.
- Accurately and efficiently follow the growth and quality of project lambs from birth through harvest by utilizing electronic identification (EID).
- Demonstrate the value of using sires with performance-based EBVs in an industry setting.
Ram Selection

- Three Groups of Rams – Growth, Muscle & Industry
  - 42 Suffolk Ram Lambs
    - DNA collected prior to breeding

<table>
<thead>
<tr>
<th>Group</th>
<th>Average EBV</th>
<th>EBV Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth - PWWT</td>
<td>19.1 lbs.</td>
<td>17.6 – 25.4 lbs.</td>
</tr>
<tr>
<td>Muscle - PEMD</td>
<td>2.4 mm</td>
<td>1.9 – 3.6 mm</td>
</tr>
<tr>
<td>Industry</td>
<td>Visual Appraisal</td>
<td></td>
</tr>
</tbody>
</table>
Breeding

- 1,100 western white-face ewes – Mickel Brothers Sheep Co. – Spring City, Utah
- Ewes were flushed for 14 days on lush alfalfa aftermath
- Exposed to project rams for 17 days
- Rambouillet and Columbia clean-up rams were used after project rams were removed.
Lambing

- Lambing from April 3 to April 22
- 1,491 lambs born to 879 ewes (1.69 lambs/ewe)
- Lambs were tagged with an EID at birth
- DNA was collected at docking using AllFlex Tissue Sampling Units
- 1,457 lambs (92%) were assigned to a sire
Weaning

- ≈ 20% lamb mortality from docking to weaning
- 1,104 lambs were weaned (1.26 lambs/ewe)
- Individual weights collected on lambs using a Shearwell Weigh Crate - 4 hours to weigh lambs (15 seconds/lamb)
- Growth lambs weighed 4.5 pounds more than the Muscle lambs ($6.30/lamb)

<table>
<thead>
<tr>
<th>Trait</th>
<th>Industry</th>
<th>Muscle</th>
<th>Growth</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age Adj. WWT (Lbs.)</td>
<td>106.0</td>
<td>104.1</td>
<td>108.6</td>
<td>1.3</td>
</tr>
<tr>
<td>Average Daily Gain-Wean</td>
<td>0.5727</td>
<td>0.5612</td>
<td>0.5892</td>
<td>0.0079</td>
</tr>
</tbody>
</table>
## Feeding

<table>
<thead>
<tr>
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<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finish Weight (Lbs.)</td>
<td>142.0</td>
<td>143.9</td>
<td>144.7</td>
<td>1.4</td>
</tr>
<tr>
<td>Feedlot Total Gain (Lbs.)</td>
<td>36.97</td>
<td>37.93</td>
<td>38.89</td>
<td>1.28</td>
</tr>
<tr>
<td>Feedlot Average Daily Gain (Lbs.)</td>
<td>0.2885</td>
<td>0.3004</td>
<td>0.3041</td>
<td>.0117</td>
</tr>
<tr>
<td>Feedlot Days on Feed</td>
<td>125.3</td>
<td>134.5</td>
<td>118.4</td>
<td>3.6</td>
</tr>
</tbody>
</table>
Partners

- American Sheep Industry Association
- Let's Grow
- Superior Farms
- NSIP
- Allflex
- Mountain States Rosen Company
- Utah State University
- Shearwell Data