Tropical Maize as an Alternative Feed For Beef Cows

Dan Shike

Tropical Maize

- 3 acres of tropical maize
  - LH123 – dual purpose hybrid
- Planted May 22nd
  - Population 70,000 seeds/acre
- 60 lb N/acre as anhydrous ammonia
- Pre-plant herbicide
  - Keystone – 1.5 quarts/acre
- Harvested on September 9th
  - 44.5 tons
Tropical Maize

Tropical Maize
Tropical Maize Analyses

<table>
<thead>
<tr>
<th>Item, %</th>
<th>Fresh TM</th>
<th>Ensiled TM</th>
<th>Corn Silage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry Matter</td>
<td>34.5</td>
<td>30.7</td>
<td>31.5</td>
</tr>
<tr>
<td>Crude Protein</td>
<td>7.2</td>
<td>7.5</td>
<td>8.0</td>
</tr>
<tr>
<td>ADF</td>
<td>27.6</td>
<td>31.3</td>
<td>25.5</td>
</tr>
<tr>
<td>NDF</td>
<td>49.9</td>
<td>51.8</td>
<td>42.9</td>
</tr>
<tr>
<td>Starch</td>
<td>24.3</td>
<td>17.3</td>
<td>25.3</td>
</tr>
<tr>
<td>PH</td>
<td>4.5</td>
<td>3.9</td>
<td>3.8</td>
</tr>
<tr>
<td>Lactic Acid</td>
<td>2.1</td>
<td>5.7</td>
<td>5.0</td>
</tr>
<tr>
<td>TDN</td>
<td>68</td>
<td>62</td>
<td>68</td>
</tr>
</tbody>
</table>

Feeding Study

- Compare TM to corn silage
  - 26.5 lbs DM
  - 75% TM or silage, 20% MDGS, 5% supplement
- 48 Angus cows
  - Calving date: 2/10/14 ± 4 d
  - Body weight: 1475 ± 150 lbs
  - Body Condition Score: 6 ± 0.5
- Cows on study after calving
- 60 d study
Results

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Results

<table>
<thead>
<tr>
<th>Item</th>
<th>CT</th>
<th>Maize</th>
<th>SE</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial BW</td>
<td>1502</td>
<td>1450</td>
<td>36.7</td>
<td>0.34</td>
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<tr>
<td>Final BW</td>
<td>1528</td>
<td>1495</td>
<td>32.5</td>
<td>0.49</td>
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<tr>
<td>BW Change</td>
<td>26</td>
<td>45</td>
<td>14.2</td>
<td>0.37</td>
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<tr>
<td>Initial BCS</td>
<td>6.0</td>
<td>6.0</td>
<td>0.12</td>
<td>0.89</td>
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<tr>
<td>Final BCS</td>
<td>5.9</td>
<td>5.9</td>
<td>0.09</td>
<td>0.75</td>
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<td>BCS change</td>
<td>-0.1</td>
<td>-0.1</td>
<td>0.14</td>
<td>0.92</td>
</tr>
</tbody>
</table>

Summary

• Tropical maize similar to corn silage
  – Analyzed nutrient composition
  – Cattle performance in feeding study

• More work needs to be done to determine how cost/ton compares to silage
  – Yield
    • TM – 15 tons/acre
    • Corn silage 20-25 tons/acre
  – Nitrogen use?
  – Planting / harvest costs