Economics of Sorghum vs. Corn

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Tifton Campus
Considerations in Growing Sorghum Silage vs. Corn Silage

- Why you should:
  - Lower cost?
  - Less risky?
  - Less water
  - More total forage production

- Why you should NOT:
  - Cost savings may not be that great
  - Less milk production
DM Yields of Corn and Sorghum Silage

UGA Variety Trials, 2007

*Calculated as 60% of irrigated yield
**Calculated as 65% of irrigated yield
AF Yields of Corn and Sorghum Silage

UGA Variety Trials, 2007

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Comparison of Costs from Irrigated and Non-irrigated Corn and Sorghum Silage

- Budgets calculated using “typical yields"
- Fuel and Fertilizer Prices
  - $4 diesel
  - N = $0.75/#
  - P = $0.90/#
  - K = $0.60/#
  - Lime = $35/ton

- Irrigation and Harvesting
  - Corn takes 8” @ $16.50/inch
  - Sorghum takes 5” @ $16.50/inch
  - Cut and haul = $10.50/ton
  - Bagging = $8.00/ton
### Comparison of Costs from Irrigated and Non-irrigated Corn and Sorghum Silage – AF Basis

<table>
<thead>
<tr>
<th></th>
<th>Corn Dryland</th>
<th>Corn Irrigated</th>
<th>Sorghum Silage Dryland</th>
<th>Sorghum Silage Irrigated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre harvest cost</td>
<td>$ 410.56</td>
<td>$ 618.30</td>
<td>$ 337.86</td>
<td>$ 496.05</td>
</tr>
<tr>
<td>TVC</td>
<td>$ 688.06</td>
<td>$ 1,044.30</td>
<td>$ 874.36</td>
<td>$ 1,328.55</td>
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<tr>
<td>TC</td>
<td>$ 740.06</td>
<td>$ 1,204.11</td>
<td>$ 935.68</td>
<td>$ 1,502.58</td>
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<tr>
<td>AF Tons</td>
<td>15.00</td>
<td>23.00</td>
<td>29.00</td>
<td>45.00</td>
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<td>$/ton PHC</td>
<td>$ 27.37</td>
<td>$ 26.88</td>
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<tr>
<td>$/ton TVC</td>
<td>$ 45.87</td>
<td>$ 45.40</td>
<td>$ 30.15</td>
<td>$ 29.52</td>
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<tr>
<td>$/ton TC</td>
<td>$ 49.34</td>
<td>$ 52.35</td>
<td>$ 32.26</td>
<td>$ 33.39</td>
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Comparison of Costs from Irrigated and Non-irrigated Corn and Sorghum Silage – DM Basis

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<td>$1,502.58</td>
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<tr>
<td>DM Tons</td>
<td>6.45</td>
<td>9.89</td>
<td>7.54</td>
<td>11.70</td>
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<tr>
<td>$/ton PHC</td>
<td>$63.65</td>
<td>$62.52</td>
<td>$44.81</td>
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<tr>
<td>$/ton TVC</td>
<td>$106.68</td>
<td>$105.59</td>
<td>$115.96</td>
<td>$113.55</td>
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<tr>
<td>$/ton TC</td>
<td>$114.74</td>
<td>$121.75</td>
<td>$124.10</td>
<td>$128.43</td>
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</tbody>
</table>
Ok, so what about milk production?
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![Milk Production/Acre](image-url)

- **CS dryland**
- **CS irrigated**
- **FS Dryland**
- **FS irrigated**

Economics of Sorghum Silage
Dr. Curt Lacy
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So what does this all mean?

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<tbody>
<tr>
<td>$/Cow/yr</td>
<td>$813.80</td>
<td>$862.66</td>
<td>$1,370.50</td>
<td>$1,418.30</td>
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<tr>
<td>$/Cow/day</td>
<td>$2.67</td>
<td>$2.83</td>
<td>$4.49</td>
<td>$4.65</td>
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<tr>
<td>Acres required/cow</td>
<td>1.10</td>
<td>0.72</td>
<td>1.46</td>
<td>0.94</td>
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</tbody>
</table>

Based on 26,000# RHA
Summary

- Forage sorghum can be less expensive to grow than corn.
- Irrigation costs are where the real money is saved.
- However, the higher moisture content may actually make it more expensive than corn silage.
- With the decreased production, forage sorghum is probably still not as economical as corn silage for lactating cows.
- However, it may certainly have a place with other classes and types of livestock.