Forage Conference at GCA Convention

Bermudagrass or Bahiagrass: Which is More Economical?

Economics of Bahia vs. Bermuda

Dr. Curt Lacy
Extension Economist-Livestock

Bahia vs. Bermuda

Bahia
- Longer growing season
- Requires less fertilizer
- More drought-tolerant
- Requires less management
- Easier/cheaper to establish

Bermuda
- Higher production
- More easily over-seeded
- Requires more fertilizer
- More responsive to higher management

Two Financial Considerations for Making the Decision
1. Annual costs/net returns
2. Start-up/establishment costs

Assumptions

<table>
<thead>
<tr>
<th></th>
<th>Bahia-No fertilizer</th>
<th>Bahia-High</th>
<th>Common Bermuda-Low</th>
<th>Common Bermuda-High</th>
<th>Hybrid Bermuda-Low</th>
<th>Hybrid Bermuda-High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost/acre</td>
<td>$154</td>
<td>$113</td>
<td>$298</td>
<td>$298</td>
<td>$473</td>
<td>$473</td>
</tr>
<tr>
<td>Establishment Costs</td>
<td>$50</td>
<td>$154</td>
<td>$98</td>
<td>$173</td>
<td>$146</td>
<td>$221</td>
</tr>
<tr>
<td>Annual Maintenance Costs</td>
<td>$50</td>
<td>$154</td>
<td>$98</td>
<td>$173</td>
<td>$146</td>
<td>$221</td>
</tr>
</tbody>
</table>

See USA forage extension bullet for specific fertilization recommendations.
Prices for fertilizer: N=0.7%, P=0.6%, and K=0.6%

Results for 100 Acres

<table>
<thead>
<tr>
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<th>Bahia-No fertilizer</th>
<th>Bahia-High</th>
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<th>Hybrid Bermuda-High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acres/acre</td>
<td>3</td>
<td>2</td>
<td>2.5</td>
<td>1.75</td>
<td>1.75</td>
<td>1.25</td>
</tr>
<tr>
<td>Net $/acre</td>
<td>$840</td>
<td>$533</td>
<td>$596</td>
<td>$538</td>
<td>$584</td>
<td>$563</td>
</tr>
<tr>
<td>Cows on 100 acres</td>
<td>33</td>
<td>50</td>
<td>40</td>
<td>57</td>
<td>57</td>
<td>80</td>
</tr>
<tr>
<td>Net $ from 100 Acres (excluding rent)</td>
<td>$27,720</td>
<td>$15,375</td>
<td>$23,850</td>
<td>$30,673</td>
<td>$33,292</td>
<td>$40,075</td>
</tr>
</tbody>
</table>

Revenue figured on $25/lb sold for $160/cwt.

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Extension Livestock Economist
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% of Full Production by Year

Accumulated Cash Flow - Normal


Results for 100 Cows

<table>
<thead>
<tr>
<th></th>
<th>Bahia - No Fertilizer</th>
<th>Bahia - High Fertilizer</th>
<th>Common Bermuda - Low</th>
<th>Common Bermuda - High</th>
<th>Hybrid Bermuda - Low</th>
<th>Hybrid Bermuda - High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income</td>
<td>$84,000</td>
<td>$84,000</td>
<td>$84,000</td>
<td>$84,000</td>
<td>$84,000</td>
<td>$84,000</td>
</tr>
<tr>
<td>Expenses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fertilizer* Rent</td>
<td>$7,500</td>
<td>$20,375</td>
<td>$16,000</td>
<td>$21,625</td>
<td>$19,000</td>
<td>$25,250</td>
</tr>
<tr>
<td>Total Expenses (incl. interest)</td>
<td>$7,763</td>
<td>$21,088</td>
<td>$16,656</td>
<td>$22,382</td>
<td>$19,665</td>
<td>$26,134</td>
</tr>
<tr>
<td>Net $</td>
<td>$76,238</td>
<td>$62,912</td>
<td>$67,440</td>
<td>$64,318</td>
<td>$57,866</td>
<td></td>
</tr>
</tbody>
</table>


Accounting for Establishment Costs

- Can’t pay for everything in one year.
- Two ways to analyze:
  - Years to recover establishment costs
  - Accumulated cash flow by set year

Establishment Costs


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Accumulated Cash Flow-Dry Years

Take Home Points

• There is a difference in being economical and cheap.
• Concerning forages it appears the best approach is to decide if you want to focus on increasing production or minimizing costs. Either be prepared to spend a lot or nothing. Don’t be in-between.
• If land is your limiting factor, plant hybrids and fertilize heavily.
• If possible, renting additional Bahia grass pastures can be economical as well.
• When it comes to Bermuda grasses, either fertilize them well or don’t plant them.

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