MAKING FORAGES WORK DOWN ON THE FARM

Jason Sandefur
Manager
Berle Clay Farm
Paris, Kentucky

Jason manages the Berle Clay Farm in Paris, Kentucky. The farm has been in the Clay family since the 1770's. The Homestead was built in 1778.

The farming operation consist of approximately 680 acres of orchardgrass-clover, 300 acres of orchardgrass-alfalfa, 210 acres of tall fescue-clover, 100 acres of crops, 13 acres of tobacco and 70 acres in roads, buildings, etc.

The cattle operation consist of approximately 225 cow-calf pairs, 275 developing heifers, 175 feeder heifers, 700 stockers, and 210 calves to precondition.

In addition to using alfalfa for hay and haylage, Jason uses alfalfa as a summer grazing crop. He typically grazes from early June through mid-September (approximately 100 days). His stocking rate will average approximately 1.8 hd/ac with a stocking density of 10-25 hd/ac. He rotates every 2-5 days. Although there are year to year variations, he usually averages approximately 2.25 pounds per day gain, and usually exceeds 400 pounds per acre at a cost of approximately 0.26 cents per pound of gain.

In addition to all of Jason’s activities as Manager of Berle Clay Farm, he is also active in KCA and other state and local projects and activities.

In 2001, Jason became the American Forage and Grassland Council's National Forage Spokesman. He earned this high distinction by competing with other forage producers from throughout the USA and Canada. We are very proud of Jason, his program and the recognition he has brought to Kentucky Forages.

Garry D. Lacefield
Extension Forage Specialist
University of Kentucky
How We Make Forages Work For Us

Berle Clay Farm - Paris, Kentucky
Jason Sandefur, Manager

Farm History

• Purchased in 1782
• Homestead built in 1837
• Forages always been the main enterprise
2007 Inventories

Spring Calving Cows - 220
Fall Calving Cows - 80
Precondition all Calves for CPH
Elite Bred Heifers - 180
Stocker Cattle - 250
Alf./Orch. Grass Hay - 15,500 Bales

Farm Breakdown - 1248 Acres
Maury Silt Loam Soil Types

- 50%-Orch. Grass/Clover - 680 acres
- 25%-Orch. Grass/Alfalfa - 225 acres
- 25%-Tall Fescue/Clover - 210 acres
- Other - 70 acres
  - (CRP, roads, woods, & barn lots)
Berle Clay Farm
Forage System

• Maximize grazing season
  – Start early with small grain
  – Graze Alfalfa during Summer
  – Graze Late on Stockpiled Fescue
• Round bale silage for winter feed
• Square Bales give added
  Flexibility for Diversification

Phasing Out Grain &
Tobacco Enterprises

• 1997 - 300+ acres corn
  – Silage and Grain
• 2001 & 2002 - No corn acres
  – Cheaper to buy energy sources
  – Land more suited for raising
   forages than grain crops
• Transferred 300 corn acres to
  alfalfa acres
  – 75 acres/year over 4 year period
Why we chose Alfalfa to replace Grain & Tobacco Revenue

- Alfalfa allows us to increase our cattle carrying capacity
  - High quality winter feed
  - Summer grazing
  - Stockpiling of fescue
  - Square Bale Flexibility

Round Bale Silage

- 1999 - Purchase Wrapper with Phase II money
- 1st cutting Alfalfa, Small Grains, Sudex, & Soybeans
- Replace corn silage with higher protein feed source
How We Make Bale Silage Work

• Wrap 100 bales a day
  – 1 Man loading in Field
  – 1 Man unloading at Wrapper
  – 2 Men rotate hauling on 3 double wagons
  – Hire 1 custom baler

Haylage Production

First Cutting 4.5 Rolls/Acre 1.8 Tons DM
Mow/Rake $22/Acre $4.88/Roll
Baling $8/Roll $8
Wrapping $5/Roll $5
Plastic $2.68/Roll $2.68

Cost Per Roll $20.56
Net Profit $25 - $20.56 = $4.44 x 4.5 = $19.98/Acre
Winter Bale Silage Ration
Cost of Gain – Developing Heifers

<table>
<thead>
<tr>
<th>Feedstuff</th>
<th>Consumption</th>
<th>Cost per Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alfalfa Silage</td>
<td>38 lbs.</td>
<td>$.59</td>
</tr>
<tr>
<td>Soy Hulls</td>
<td>6 lbs.</td>
<td>$0.37</td>
</tr>
<tr>
<td>Mineral</td>
<td>.25 lbs.</td>
<td>$.06</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>3.2% of BW</td>
<td><strong>$1.02</strong></td>
</tr>
<tr>
<td>ADG 2.0 lbs.</td>
<td>COG</td>
<td><strong>$.51 per lb.</strong></td>
</tr>
</tbody>
</table>

Grazing Alfalfa

- High quality & high yielding forage for summer grazing
- Able to increase carrying capacity by 25% & maintain cattle inventories longer
- Allows us to stockpile fescue for winter
Distributed Water System Makes it Possible

2 wells tied together with 30,000+ feet of 2 inch line
Supply 24 concrete tanks
8 hydrants for portable tanks

Bloat Prevention

• 1620 g/ton Rumensin Mineral
• 50/50 Orch. Grass & Alfalfa
• Graze Alfalfa at 75% bud
• Avoid grazing clean first year stands
• Avoid new paddocks when wet
• Rotate Cattle after Lunch
Rotationally Graze To Maximize Utilization

Stocking Rates on Alfalfa

- 4 - 5 groups of 150 to 200 head
- 1.3 cow - calf pairs/acre
- 1.8 head stockers/acre (700-850 LB.)
- Stocking density of 10 to 25 hd/acre
- Rotate cattle every 2 to 5 days
### Grazing Alfalfa - Gain per Acre

<table>
<thead>
<tr>
<th>Grazing 6/10 to 9/20</th>
<th>100 Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stocking Rate/Acre</td>
<td>1.8 head</td>
</tr>
<tr>
<td>ADG per Head</td>
<td>2.25 pounds</td>
</tr>
<tr>
<td>Gain per Acre</td>
<td>405 pounds</td>
</tr>
</tbody>
</table>

### How We Make Square Bales Work

- Bale 1000 bales a day
  - Hoelscher Bale Accumulator
  - 1 Man Baling
  - 1 Man loading
  - 1 Man securing loads and hauling to barns
- Market most all hay within 5 miles of Farm
### Production Cost

#### Stand Establishment Costs

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seed</td>
<td>$68</td>
</tr>
<tr>
<td>Fall Tillage</td>
<td>$15</td>
</tr>
<tr>
<td>No Till Seeding</td>
<td>$15</td>
</tr>
<tr>
<td>Lime @ 2 Tons</td>
<td>$30</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$128</strong></td>
</tr>
</tbody>
</table>

#### Production Cost

**Fertilize and Stand**

**Annual Cost per Acre**

**Grazing vs. Square Baling**

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Grazing</th>
<th>Hay Prod.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stand Cost-6years</td>
<td>$21.33</td>
<td>$21.33</td>
</tr>
<tr>
<td>Potash</td>
<td>$33.75</td>
<td>$101.25</td>
</tr>
<tr>
<td>Cash Rent</td>
<td>$50.00</td>
<td>$50.00</td>
</tr>
<tr>
<td><strong>Total Cost/Acre</strong></td>
<td><strong>$105.08</strong></td>
<td><strong>$172.58</strong></td>
</tr>
</tbody>
</table>
### Square Bale Production

<table>
<thead>
<tr>
<th>Activity</th>
<th>Cost</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Cuttings</td>
<td>120 Bales/Acre</td>
<td>2.8 tons DM</td>
</tr>
<tr>
<td>Mow/Ted/Rake</td>
<td>$30/Acre</td>
<td>$90</td>
</tr>
<tr>
<td>Baling/Loading</td>
<td>$1.50/Bale</td>
<td>$180</td>
</tr>
<tr>
<td>Storage/Delivery</td>
<td>$.30/Bale</td>
<td>$36</td>
</tr>
<tr>
<td>Baling Cost</td>
<td>Per Acre</td>
<td>$306</td>
</tr>
<tr>
<td>Production Cost</td>
<td>Per Acre</td>
<td>$172</td>
</tr>
<tr>
<td>Net Profit</td>
<td>$5.50 x 120 = $660</td>
<td>$660 - $478 = $182 / Acre</td>
</tr>
</tbody>
</table>

### Grazing Alfalfa - Cost of Gain

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alfalfa Cost per Acre</td>
<td>$105.08</td>
</tr>
<tr>
<td>Mineral (1620 Rumensin)</td>
<td>$4.70</td>
</tr>
<tr>
<td>Vet Cost</td>
<td>$3.50</td>
</tr>
<tr>
<td>Interest @ 9.5%</td>
<td>$13.00</td>
</tr>
<tr>
<td>Total Cost/Acre</td>
<td>$113.28</td>
</tr>
<tr>
<td>Gain/Acre</td>
<td>405</td>
</tr>
<tr>
<td>Cost of Gain</td>
<td>$.28</td>
</tr>
</tbody>
</table>
Grazing Alfalfa – Profit/Acre

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value of Gain</td>
<td>$1.00</td>
</tr>
<tr>
<td>Cost of Gain</td>
<td>$0.28</td>
</tr>
<tr>
<td>Gain Per Acre</td>
<td>405</td>
</tr>
<tr>
<td>Profit per Acre Grazed</td>
<td>$291</td>
</tr>
<tr>
<td>Profit per Acre Baled</td>
<td>$182</td>
</tr>
<tr>
<td>Difference</td>
<td>$109</td>
</tr>
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