Brief Thoughts On Covers

Helping Agriculture and Natural Resource Industries in Michigan The Nation and World through Research that improves Quality of Life, enhances profitability and promotes environmental stewardship.
Triple Bottom Line

• Productive and Profitable
• Environmentally Regenerative
• Socially Beneficial
Our Team (Lake City)

Farm
• Doug Carmichael, Farm Manager
• Evan Elder and Ty Hughston

Extension Colleagues
• Jerry Lindquist  Kevin Gould
• Kable Thurlow Jeannine Schweihofier

Research Team
• Rachel Martin, Ph.D. Candidate
• Paige Stanley M.S. Candidate
• Sara Bronkema M.S. Candidate
• Dr. Sutie Xu, Post Doctoral Research

Colleagues
• Matt Raven, Kim Cassida, Lisa Tiemann
SAVORY Network
On Average What the Cattle Look Like

- 1250 Average Weight Cows
- 1200 Average LW of steers
- 19 month Average Slaughter
- 650 Lb Carcass Weight
- Average QG: Slight 80
Table 2. Grass Finishing Budget for 2016

<table>
<thead>
<tr>
<th>Production Costs Per Head-GF 2016</th>
<th>($) Cost/year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calf Costs¹</td>
<td>945</td>
</tr>
<tr>
<td>Labor Costs</td>
<td>-</td>
</tr>
<tr>
<td>Hay Period²</td>
<td>12</td>
</tr>
<tr>
<td>Pasture Period³</td>
<td>41</td>
</tr>
<tr>
<td>Land Costs</td>
<td></td>
</tr>
<tr>
<td>Pasture Rent (1 steer/1.5 ac)</td>
<td>105</td>
</tr>
<tr>
<td>Fence, Electric and Water⁴</td>
<td>9</td>
</tr>
<tr>
<td>Feed</td>
<td></td>
</tr>
<tr>
<td>Alfalfa Hay⁵</td>
<td>282</td>
</tr>
<tr>
<td>Alfalfa Hay⁶</td>
<td>12</td>
</tr>
<tr>
<td>Mineral Cost</td>
<td>11</td>
</tr>
<tr>
<td>Health⁷</td>
<td>5</td>
</tr>
<tr>
<td>Machinery⁸</td>
<td>20</td>
</tr>
<tr>
<td>Misc/Supplies⁹</td>
<td>15</td>
</tr>
<tr>
<td>Operating Cost</td>
<td>1457</td>
</tr>
<tr>
<td>Interest¹⁰</td>
<td>82</td>
</tr>
<tr>
<td>Death¹¹</td>
<td>18</td>
</tr>
<tr>
<td>Total Costs 2016</td>
<td>1557</td>
</tr>
<tr>
<td>Total Income¹²</td>
<td>1866</td>
</tr>
<tr>
<td>Net Income</td>
<td>309</td>
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</tbody>
</table>

¹ Taking an average 525 lb steer at $1.80, Midwest, calf worth $945
² Two hours/wk, 25 wks at $12.50/hr
³ One half hour/d May 14-November 7, 177 days at $12.50/hr
⁴ Fencing pro-rated 25 years; Electric for meter, water and piping/ups
⁵ Represents 3315 lbs of winter intake (Nov-May) at $18.4 average/cow
⁶ Represents 141 lbs of summer/fall intake at $180/T
⁷ Misc. health treatment
⁸ Assumes a straight depreciation of 10 yrs on new equipment
⁹ Represents additional items identified as important
¹⁰ Interest of 5% on operating
¹¹ Death Loss at 1%
¹² Average carcass weight 650 lbs at $2.87/lb carcass weight basis
Thoughts On Covers

• Have a Plan
• $120-150.00/AC
• If you don’t get 1+ T Utilization May not make sense

• Diversity Anecdotally seems to have greater success
Forages And What is needed

• 5400 lbs!

• Neutral Detergent Fiber
  – Typically 40-50%
  – Intake Should Be Around 1.25% of BW

• High % of Legumes/High Energy Forages in Sward

• Don’t Slow Down!
Forages
Forage Analysis: NDF, %

Cell wall content

Ideally, ~45-50% NDF

Mixed Pasture

Simple Mix

Complex Mix

**Body Weight Gains, lbs.**

<table>
<thead>
<tr>
<th></th>
<th>Day 0 to 60</th>
<th>Day 0 to 30</th>
<th>Day 30 to 60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed Pasture</td>
<td>172</td>
<td>97</td>
<td>75</td>
</tr>
<tr>
<td>Simple Mix</td>
<td>117</td>
<td>49</td>
<td>68</td>
</tr>
<tr>
<td>Complex Mix</td>
<td>163</td>
<td>60</td>
<td>103</td>
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<tr>
<td>Column1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Legend:
- Mixed Pasture
- Simple Mix
- Complex Mix
- Column1
Carcass Data

\[
\text{53 x $3 = extra $159 per carcass!}
\]

- **Hot Carcass Wt, lbs**
  - Mixed Pasture: 650
  - Simple Mix: 597
  - Complex Mix: 597

- **Dressing Percent, %**
  - Mixed Pasture: 52.5
  - Simple Mix: 55.2
  - Complex Mix: 57.3

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Conclusions

• The upper mid-west has outstanding potential for grass finishing livestock

• Our cattle can finish in a 18-20 mo window, be profitable and please the consumer

• GFB meets our triple bottom line needs
Dates

• April 26-27 Intro to HM, Lake City Research Center
• Ag Innovation Conf Aug 24, Lake City Research (tentative)
• Sept 14-15, Advanced Grass Finishing School, Lake City Research
• Grassfed Exchange, Albany NY, Sept 28-29
HEALTHY FOOD FOR A HEALTHY LIFE.
Agenda

• Jon Nelson/JNelson Farms
• 2012 Cover crop after wheat
• 2016 Cover Crop after bale grazing
• Grew up on a dairy farm in Wisconsin
• Went to school at University of Minnesota (the real U of M)
• Work at Dow Corning in Midland, Mi
• Purchased 200 acre cash crop farm in 2000
  • Currently 360 acres
• Began transition to grassfed beef in 2011
  • Rotational grazing cattle and harvesting hay
Current Operation

- **Land:**
  - 200 acres pasture divided into 21 permanent paddocks.
  - Bale graze in pasture in the winter
- **Cattle**
  - 100 Angus cross cows – red and black
  - 150 finishing animals
- **Cooperating Producers**
  - Cow/calf – supplying yearlings
  - Grazers
  - Hay supply
Why Do I use Cover Crops?

• Purpose:
  • Harvest nutrients from sacrifice paddock
  • Extend grazing
    • Grazable acres during summer slump – green when perennials are dry
    • Cool season grazing
  • Off season crop for cash crop
  • Water utilization in Spring
  • Transition back to perennials
  • Keep living forage on land
  • Nutrient/Organic Matter soil input
2012 Baleage after Wheat harvest

• 2012 – 40 acres - Oats, Peas, Sorghum Sudan for baleage
  • 7/15 – round baled wheat straw
  • 7/17 - local dairy applied 11,000 gallons of liquid manure per acre.
  • 7/20 - Planted with no till drill
  • 9/15 - Harvested baleage - 2500 lbs per acre of dry matter
• Use similar system with a cash cropping neighbor each year.
2016 Summer annuals after bale grazing

• Purpose:
  • Harvest nutrients from sacrifice paddock
  • Grazable acres during summer slump
  • Transition back to perennials
  • Keep living forage on land

• Pre planting
  • Bale grazed 70 cow/calf pairs from November to May
  • Land was very pugged with little forage growth
  • Disked twice in early June
2016

• Planting
  • 6/13 planted 30 lbs Sorghum Sudan, 5 lbs Pearl Millet, 2 lbs turnips per acre on 20 acres
  • Planted with John Deere 750 drill
July 8, 2016 – planted June 13
Started slow
July 26, 2016 – stayed green and growing when perennial pasture got dry
July 30, 2016 – Strong SS in this area
August 12, 2016 – a bit of variation in the stand; 4 feet tall to 1 foot tall – good turnips here
2016 Cover Crop

• Grazed mid August
• 8/20 - No till drilled 2.5 bushels of rye, 6.25 lbs of red clover, 3.75 lbs of trefoil per acre.
• Different species did well in different areas
August 25, 2016 – planted August 20 –
rye, red clover, trefoil
2016 Cover Crop

• Grazed in November after Sorghum Sudan was well frosted
Spring 2017

• Anxious to see what grows this spring
Thank you

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