Grain versus Grazing: The Decision Process

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Changes that have shaken our world

• Drought since Fall 2010
• Cost of inputs
  – Fertilizer
  – Fuel
  – Repairs
• Commodity Supply and Demand (Prices)
  – Risen to new levels
• External Forces
  – Energy Policy
  – Stagnant Economic
  – Political Battling
Before all of this, we were asking...

• Am I a wheat farmer?
  – Thinks first of grain yield potential
  – Stockers will be a “potential” second income
    • May or may not own the cattle
  – Spreading the risk of one enterprise failing

• Am I a stocker operator?
  – How to achieve more forage for stockers
    • Earlier the better
    • Longer is great too.
  – Owns the cattle
  – Assesses the risk of forage (moisture), death loss (production) and price risk
What Impact has this had on our wheat and cattle systems?

• More risk to try and spread around.
• Should I focus on wheat alone?
• Should I consider grazing my wheat?
  – If so,
    • Should I own the cattle?
    • Should I lease my pasture?
      – If so, for how much?
• Should I just focus on the cattle end?
The Numbers:
Representative Wheat Farm

• 3,200 acre Wheat & Stocker Cattle Operation
  – 1,600 acres grain only
  – 1,100 acres graze & grain
  – 500 acres grazed out
  – 800 head of stocker cattle
• 30 bushel average yield on No Graze
• 25 bushel average yield on Grazed
• One Hired Hand
• $452,500 Machinery & Equipment Inventory.
• $51,800 annual living withdraw from operation.
Representative Wheat Farm

• 3 Distinct Enterprises on the same farm.
  – Grain Only
  – Graze and Grain
  – Graze Out

• What should dual purpose wheat be paid for running cattle on them for 83 days?

• Focus: Which of these are the greatest contributor to profit or loss?
Representative Wheat Farm – Current Prices Used

• Wheat Price = $6.40 per bushel
• No government payments
• Some Specific Input Prices
  – Fuel - $3.25/g farm diesel
  – Fertilizer – N=$0.55/lb.
  – Interest – 6.00%
• Cash Rent on All Acres ($22/a)
Representative Wheat Farm – 2013/14 Cattle Inputs

- Cattle are Owned
- 425 lb calves go on 11/25/13

- Early Grazing (11/25/13 to 2/16/14)
  - ADG – 1.80 lbs/day
  - Stocking Rate – 2 acres/head

- Graze Out (2/16/13 to 4/25/14)
  - ADG – 2.25 lbs/day
  - Stocking Rate – 0.62 acre/head
Representative Farm
Indirect Costs and Allocation

- **Depreciation** - $48,488
  - Allocation: based on fuel use.

- **Repairs** - $25,000
  - Allocation: based on fuel use.

- **Hired Labor** - $41,800
  - Allocation: $2.00/head of cattle/month, then allocated per acre.

- **Family Withdraw** - $51,800
  - Allocation: per Acre
Grain Only:
2013/14 Direct Expenses per Acre

- Seed - $18.00
- Fertilizer - $62.13
- Chemicals - $18.00
- Miscellaneous - $18.00
- Fuel & Lube - $3.67
- Cash Rent - $22.00
- Interest - $5.07
- Harvest Cost - $28.00

Total Variable Cost = $172.87 per Acre

Breakeven to Cover Direct Costs = $5.76 per Bushel
Dual:
2013/14 Direct Expenses per Acre

- Seed - $22.50
- Fertilizer - $63.35
- Chemicals - $16.00
- Miscellaneous - $18.00
- Fuel & Lube - $4.05
- Cash Rent - $22.00
- Interest - $6.58
- Harvest Cost - $26.00

Total Variable Cost = $178.47 per Acre

Breakeven to Cover Direct Costs = $7.14 per Bushel
Graze Out (Acre):
2013/14 Direct Expenses per Acre

- Seed - $22.50
- Fertilizer - $45.75
- Chemicals - $12.00
- Miscellaneous - $7.20
- Fuel & Lube - $4.61
- Cash Rent - $22.00
- Interest - $4.66
- Harvest Cost - $0.00

Total Variable Cost = $118.73 per Acre
### Graze Out (Cattle):
#### 2013/14 Direct Expenses per Head

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeder Calf - $1,247.76</td>
<td></td>
</tr>
<tr>
<td>821 lbs @ $152.00</td>
<td></td>
</tr>
<tr>
<td>Stocker Calf- $743.75</td>
<td></td>
</tr>
<tr>
<td>425 lbs @ $175.00</td>
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</tr>
<tr>
<td>Preconditioning Costs -</td>
<td>$114.50/head</td>
</tr>
<tr>
<td>Other Costs:</td>
<td>$10.51</td>
</tr>
<tr>
<td>Interest - $30.39</td>
<td></td>
</tr>
<tr>
<td>Pasture Costs:</td>
<td></td>
</tr>
<tr>
<td>All Graze Out Acres =</td>
<td>$171.95/a</td>
</tr>
<tr>
<td>Dual Purpose Costs = ?</td>
<td></td>
</tr>
<tr>
<td>ADG over entire grazing</td>
<td>1.89 lbs/day</td>
</tr>
<tr>
<td>period = 1.89 lbs/day</td>
<td></td>
</tr>
</tbody>
</table>
Representative Wheat Farm

• 3 Distinct Enterprises on the same farm.
  – Grain Only
  – Graze and Grain
  – Graze Out

• What should dual purpose wheat be paid for running cattle on them for 83 days?

• Focus: Which of these are the greatest contributor to profit or loss?
## 2014 Total Cost per Acre Comparison (without dual wheat adjustment)

<table>
<thead>
<tr>
<th></th>
<th>Grain Only</th>
<th>Graze &amp; Grain</th>
<th>Graze Out</th>
<th>Cattle</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Revenue</strong></td>
<td>$192.00</td>
<td>$160.00</td>
<td>$171.95</td>
<td>$1,247.76</td>
<td>$1,542,428</td>
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<tr>
<td><strong>Total Direct Costs</strong></td>
<td>$172.87</td>
<td>$178.47</td>
<td>$118.73</td>
<td>$985.61</td>
<td>$1,337,433</td>
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<tr>
<td><strong>Planned Returns Above</strong>&lt;br&gt;<strong>Direct Costs</strong></td>
<td>$19.13</td>
<td>($18.47)</td>
<td>$53.22</td>
<td>$262.15</td>
<td>$204,996</td>
</tr>
<tr>
<td><strong>Total Indirect Costs</strong></td>
<td>$44.61</td>
<td>$48.27</td>
<td>$53.22</td>
<td>$20.00</td>
<td>$167,088</td>
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<tr>
<td><strong>Total Costs</strong></td>
<td>$217.48</td>
<td>$226.74</td>
<td>$171.95</td>
<td>$1,005.61</td>
<td>$1,504,520</td>
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<tr>
<td><strong>Planned Returns Above</strong>&lt;br&gt;<strong>All Costs</strong></td>
<td>($25.48)</td>
<td>($66.74)</td>
<td>$0.00</td>
<td>$242.15</td>
<td>$37,908</td>
</tr>
<tr>
<td><strong>Breakeven to Cover</strong>&lt;br&gt;<strong>All Costs</strong></td>
<td>$7.25</td>
<td>$9.07</td>
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<td></td>
<td>$128.25</td>
</tr>
</tbody>
</table>
What Should Dual Wheat be paid?

• Typical lease rate?
  – What’s that?
    • $0.65 per lb.
    • Higher than that, cattleman aren’t happy
    • Lower than that, why bother?

• Set Dual acre NI above Direct Costs equal to Grain Only NI above Direct Costs
Lease Rate necessary to make Dual NI = Grain NI

<table>
<thead>
<tr>
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<tr>
<td><strong>Total Revenue</strong></td>
<td>$192.00</td>
<td>$197.60</td>
<td>$171.95</td>
<td>$1,247.76</td>
<td>$1,583,788</td>
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<td><strong>Total Direct Costs</strong></td>
<td>$172.87</td>
<td>$178.47</td>
<td>$118.73</td>
<td>$1,037.63</td>
<td>$1,378,793</td>
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<td><strong>Planned Returns Above</strong></td>
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</tr>
<tr>
<td><strong>Total Costs</strong></td>
<td>$217.48</td>
<td>$226.74</td>
<td>$171.95</td>
<td>$1,057.31</td>
<td>$1,545,880</td>
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<tr>
<td><strong>Planned Returns Above</strong></td>
<td>($25.48)</td>
<td>($29.14)</td>
<td>$0.00</td>
<td>$190.45</td>
<td>$37,908</td>
</tr>
<tr>
<td><strong>Breakeven to Cover</strong></td>
<td>$7.25</td>
<td>$7.57</td>
<td></td>
<td></td>
<td>$134.71</td>
</tr>
</tbody>
</table>

Lease Rate to cause GO and Dual NI to Equal = $0.5013
Pasture Costs (Lease): What Should It Be?

- Budgeting $0.65/lbs.
- Cost of Gain in the Feedlots have little to do with it.
- What is a Grain-Only producer giving up?
- Current Analysis: $0.5013 Lb. of Gain
Pasture Costs (Lease): What Should They Be?

• Lease Rates (Gain Contracts)
  – Cost of Gain in the feedlots have nothing to do with what the lease rate should be.
  – Compare to what the wheat grower is giving up and his management changes due to grazing.

• Research shows a 5-6 bus. loss due to grazing until around end of February.
  – $5.00/bus. * 5 bus. = $25.00
  – $6.40/bus. * 5 bus. = $32.00
  – $7.50/bus. * 5 bus. = $37.50

• Added and Higher Input Costs - $5.60/acre
  – Heavier Fertilizer Rate
  – Heavier Seeding Rate
  – Fuel
  – Interest
  – Lower Harvesting Costs
Graze Out Decision

- What is expected bushels to harvest if I don’t graze out?
- What is the expected wheat price for those bushels?
- What income/expense adjustments are there?
  - Harvest costs
  - Insurance (short rate)

- Days of graze out remaining
- ADG during graze out
- Stocking rate during graze out
## Graze Out Decision

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Expected Bushels</td>
<td>25.0</td>
<td>Number of days of graze out</td>
<td>60.0</td>
</tr>
<tr>
<td>Exp. Wheat Price</td>
<td>$6.40</td>
<td>ADG during Graze out</td>
<td>2.25</td>
</tr>
<tr>
<td>Income / Expense Adj</td>
<td>$36.80</td>
<td>Stocking Rate</td>
<td>0.625</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total Lbs. Gained</td>
<td>216.0</td>
</tr>
<tr>
<td>Total Dollars to Overcome</td>
<td>$123.20</td>
<td></td>
<td></td>
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</tbody>
</table>

**Gain Value Necessary to Equate Grain Harvest with Graze out** $0.5704
In Summary

• This is a unique situation
• Costs are very high yet,
• Wheat price is still high but coming down (?) and
• Due to the feed situation, the cattle rollback is better than average.
Thanks/Questions

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