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

- Feeder Calf - $1,247.76
  - 821 lbs @ $152.00
- Stocker Calf- $743.75
  - 425 lbs @ $175.00
- Preconditioning Costs - $114.50/head
- Other Costs: $10.51
- Interest - $30.39

- Pasture Costs:
  - All Graze Out Acres = $171.95/a
  - Dual Purpose Costs = ?
- ADG over entire grazing period = 1.89 lbs/day

Representative Wheat Farm

- 3 Distinct Enterprises on the same farm.
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  - Graze and Grain
  - Graze Out
- What should dual purpose wheat be paid for running cattle on them for 83 days?
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2014 Total Cost per Acre Comparison (without dual wheat adjustment)

	Grain Only	Graze & Grain	Graze Out	Cattle	Total
Total Revenue	**$192.00**	**$160.00**	**$171.95**	**$1,247.76**	**$1,542,428**
Total Direct Costs	**$172.87**	**$178.47**	**$118.73**	**$985.61**	**$1,337,433**
Planned Returns Above Direct Costs	**$19.13**	**($18.47)**	**$53.22**	**$262.15**	**$204,996**
Total Indirect Costs	**$44.61**	**$48.27**	**$53.22**	**$20.00**	**$167,088**
Total Costs	**$217.48**	**$226.74**	**$171.95**	**$1,005.61**	**$1,504,520**
Planned Returns Above All Costs	**($25.48)**	**($66.74)**	**$0.00**	**$242.15**	**$37,908**
Breakeven to Cover All Costs	**$7.25**	**$9.07**		**$128.25**	

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

	Grain Only	Graze & Grain	Graze Out	Cattle	Total
Total Revenue	**$192.00**	**$197.60**	**$171.95**	**$1,247.76**	**$1,583,788**
Total Direct Costs	**$172.87**	**$178.47**	**$118.73**	**$1,037.63**	**$1,378,793**
Planned Returns Above Direct Costs	**$19.13**	**$19.13**	**$53.22**	**$210.45**	**$204,996**
Total Indirect Costs	**$44.61**	**$48.27**	**$53.22**	**$20.00**	**$167,088**
Total Costs	**$217.48**	**$226.74**	**$171.95**	**$1,057.31**	**$1,545,880**
Planned Returns Above All Costs	**($25.48)**	**($29.14)**	**$0.00**	**$190.45**	**$37,908**
Breakeven to Cover All Costs	**$7.25**	**$7.57**		**$134.71**	

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

Expected Bushels	25.0		Number of days of graze out	60.0
Exp. Wheat Price	$6.40		ADG during Graze out	2.25
Income / Expense Adj	$36.80		Stocking Rate	0.625
			Total Lbs. Gained	216.0
Total Dollars to Overcome	$123.20			
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.

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Thanks/Questions