Economic Analysis of Alternative Cattle Production Systems

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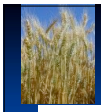
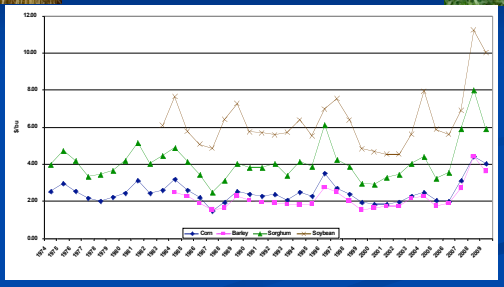
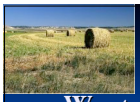
Outline

- Historical Commodity Prices
- Ethanol Policy Impacts
- Feeder Cattle Prices
- Stocker Programs
- Implications

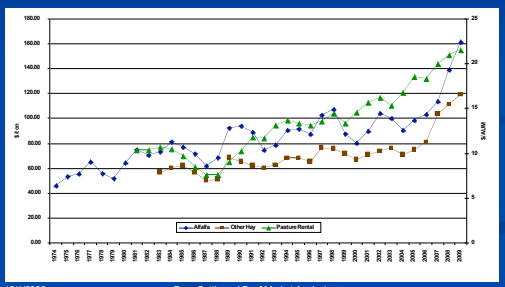


National Grain Prices

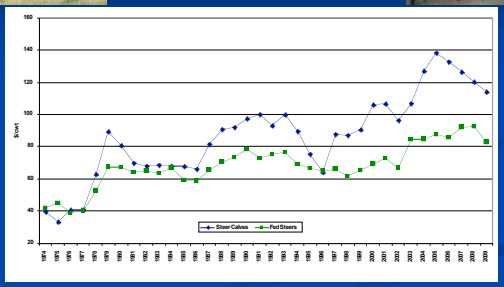




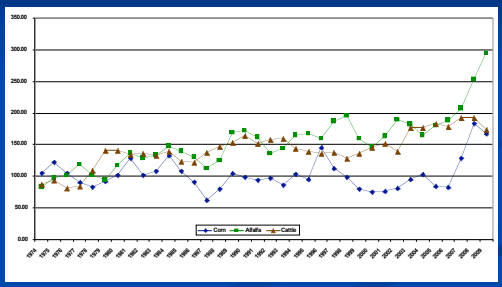
National Hay and Western Nebraska Pasture Prices



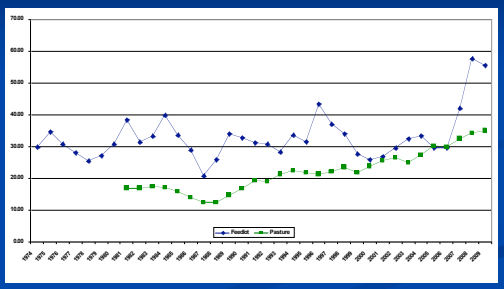
Nebraska Cattle Prices



Grain vs Forage vs Cattle Prices Index Relative to 1974-79



Corn vs. Grass
Cost per cwt. of Gain



Energy Policy
Intended and Unintended Consequences

US Energy Policy & Ethanol

- Energy Security Act 1979
  - $.40/gal of Ethanol subsidy to blenders
  - $.54/gal tariff on imported ethanol
- Subsequent acts increased subsidy up to $.60/gal
- It is currently at $.51/gal
- Energy Policy Act of 2005
  - Mandated use of renewable fuels (primarily corn based ethanol)
- Energy Independence & Security Act 2007
  - Increased and expanded renewable fuels mandates

Energy Policy Act of 2005 Mandates

Year	Renewable Fuels (billions of gallons)
2006	4.0
2007	4.7
2008	5.4
2009	6.1
2010	6.8
2011	7.4
2012	7.5

Source: Renewable Fuels Association

Energy Independence & Security Act 2007
Mandates

Year	Conventional Biofuel	Advanced Biofuel	Cellulosic Biofuel	Biomass-based Diesel	*Undifferentiated Advanced Biofuel*	Total RFS
2008	9.0					9.0
2009	10.5	.6		.5	*0.1*	11.1
2010	12	.95	.1	.65	*0.2*	12.95
2011	12.6	1.35	.25	.8	*0.3*	13.95
2012	13.2	2	.5	1	*0.5*	15.2
2013	13.8	2.75	1		*1.75*	16.55
2014	14.4	3.75	1.75		*2*	18.15
2015	15	5.5	3		*2.5*	20.5
2016	15	7.25	4.25		*3.0*	22.25
2017	15	9	5.5		*3.5*	24
2018	15	11	7		*4.0*	26
2019	15	13	8.5		*4.5*	28
2020	15	15	10.5		*4.5*	30
2021	15	18	13.5		*4.5*	33
2022	15	21	16		*5*	36

Source: Renewable Fuels Association

Energy Summary

- 30 million acres of corn needed for energy
  - 1/3 of corn acres
- How many more crop acres for cellulosic ethanol and other bio-fuels?
  - 21 million acres if 2X more efficient than corn ethanol
  - About 10 million acres if 4X more efficient than corn ethanol
- There will be a battle for crop acres between energy, feed and food uses. Higher crop prices will be the result

Dec Corn Futures
Intended Consequence

Year	Corn
2005	$2.17
2006	$3.64
2007	$4.28
2008	$3.82
2009	$4.00
2010	$4.40
2011	$4.50

Historical Average Predicted Futures

Impact of Energy (Ethanol) Policy
Unintended Consequences

- Significantly higher corn prices
- Acreage shifts to corn
- Significantly higher other grain prices
- Significantly higher oil seed prices
- Higher pasture and hay prices

Impact of Higher Corn Prices on Cattle Industry
Unintended Consequence

- Feedlot Cost of Gain
- Calf feds versus Stocker Programs
- Market Risk
- Profitability

Feedlot Cost of Gain

- Total Cost of Gain $50/cwt with Corn >$2.00/bu
- Total Cost of Gain $62/cwt with Corn >$3.00/bu
- Total Cost of Gain $73/cwt with Corn >$4.00/bu
- Total Cost of Gain $83/cwt with Corn >$5.00/bu

Calf Feds vs Stocker Programs

- Higher feedlot cost of gain will encourage heavier placement weights
- Cost and availability of other feeding programs
  - Dry lot hay
  - Corn Stalk and DDG
  - Wheat Pasture
  - Winter Pastures and cake
  - Other crop residues and "junk" feeds
  - **Summer Grass**

Feeder Cattle Price
Determined by Expected Fed Cattle Prices and Cost of Gain

Example

Mid Nov. June LC $85 $.85 * 1300 lbs = $1105
700 lbs of gain Cost of gain is $.69/lb = $ 483
$ 622

$622/600 lb steer = $1.04/lb
The Price for 600 lb steers in Nebraska for the week ending Nov 14 was 1.03/lb

Feeder Cattle Prices
Determined by Cost of Gain

Example

Week ending Nov 28, 2009 the following prices were observed at Nebraska auction markets

750 lb steers $ 99/cwt $743/hd
550 lb steers $109/cwt $600/hd
Added Value for 200 pounds $143/hd
Expected Cost of Gain $143/200 = $.715/lb

Data Transmission Network (DTN) estimated background
Total cost of Gain to be $.707/lb for the same time period.

Lighter Calf Prices
Influenced by Cost of Gain for various Stocker Programs

Example

For Nov 2009 the following average prices were observed at Nebraska auction markets

550 lb steers $107/cwt $589/hd
450 lb steers $119/cwt $536/hd
Added Value for 100 pounds $ 53/hd
Expected Cost of Gain $53/100 = $.53/lb

This is less than the feedlot cost of gain
This may be close to the cost of gain on corn stalks with DDG.

How do you make money in a Stocker Program

- If feeder prices are based on expected feedlot cost of gain,
- Then if you can devise a program with a lower cost of gain, you should have a good chance of a positive return
- Low Cost of Gain primarily associated with Grazed not Harvested Feeds
- For lighter calves, need even cheaper cost of gain to make money

GRASS

Grass Cost

- If you pay $10-15/head/month
- That is $.33-.50 per day
- If your yearlings gain 1.50 lbs/day
- Feed cost is $.22-.33/lb of gain
- Total cost is $.47-.58/lb of gain
- If your yearling gain 1.75 lbs/day
- Feed cost is $.19-.29/ lb of gain
- Total cost is $.39-.49/lb of gain

The big Challenge – How do you get from weaning to Cheap Grass

- Fall calve, wean in the spring
  - That is a whole topic of its own that I won't cover
- Dry lot calves and feed hay
  - This is normally a fairly costly approach
  - Low rate of gain, high feed costs, high cost of gain
  - Alfalfa/Grass Hay at $75/ton –
  - Feed cost of gain about $.53/lb
  - Total cost of gain near $.80/ lb

Cost of Gain

- Corn Stalks and DDG
  - $.36 feed cost of gain and $.57 total cost of gain
- Wheat Pasture
  - $.33 feed cost of gain and $.55 total cost of gain
- Other winter grazing and supplement options
  - Range, Meadow, Turnips, etc.

Market Direction and Stocker Returns

- Lower cost of gain in a stocker program compared to feedlot cost of gain only means you will likely be more profitable with your stocker program than a feedlot.
- If feedlots lose $100 per head, will a stocker program be profitable?
- Overall direction of market level will still have a big impact on stocker returns

Market Direction and Stocker Returns

- If market direction is lower during the stocker phase, you will probably lose money no matter what your cost of gain has been
- If market direction is steady during the stocker phase, you will likely return the difference between your cost of gain and feedlot cost of gain for each pound of gain
  - Example Feedlot COG $.70 Your COG $.55
  - Total lbs gained 200 X $.15 = $30

Market Direction and Stocker Returns

- If market direction is higher during the stocker program, then your return will be higher than expected.
- Of course cattle producers always expect to get higher than they expected, and so they are almost always disappointed.

Summary

- Corn for energy has changed the grain markets
- Corn for energy is changing the cattle industry
- Many stocker programs more profitable than feeding calves in feedlot
  - Can you add weight for less than the cost of gain in a feedlot?
  - If yes, there should be an economic return to do so
- Don't trust my cost of gain numbers. They are not yours. Determine your cost of gain for a program and then compare that to feedlot cost of gain.

http://cattlemarketanalysis.org