

So – Where will the Corn Come From?

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Market Level Changes

Firm level reactions

- Corn prices increase
 - Global response
 - Local basis
- DDG partially offsets corn price increase
- Soybean prices increase
- Rotations shift to increase corn production
 - Agronomic impacts
 - Input changes
 - Energy costs
 - Machinery, equipment, drying and storage
 - Timeliness losses
 - Long term impacts of monoculture
- Livestock production adjustments

Ethanol Plant

- 60 million gallon output, dry-mill technology
- Producer owned
- Been in operation for several years
- Corn bought on the open market
- Output sold on the open market (no contracts)

Ethanol Technical Coefficients

Inputs

- 1 Bushel of Corn
- 2 Gallons of Water
- 0.495 kWh of Electricity
- 0.035 mmBTU of Natural Gas
- \$0.62 in Fixed Costs

Outputs

- 2.7 Gallons of Ethanol
- 17 lbs. Dried Distillers Grain with Solubles (DDGS)

Breakeven Ethanol Plant Net Margin Given Selected Scenarios

Scenario	Ethanol (\$/Gal)	Corn (\$/Bu)	DDGS (\$/Ton)	Natural Gas (\$/MmBTU)
Ethanol \$2.11/Gallon	2.11	4.29	86.67	9.22
Ethanol \$1.91/Gallon	1.91	3.75	86.67	9.22
Ethanol \$3.00/Gallon	3.00	6.69	86.67	9.22
Ethanol \$1.50/Gallon	1.50	2.64	86.67	9.22
Corn \$3.00/Bushel	1.63	3.00	86.67	9.22
Corn \$1.74/Bushel	1.17	1.74	86.67	9.22

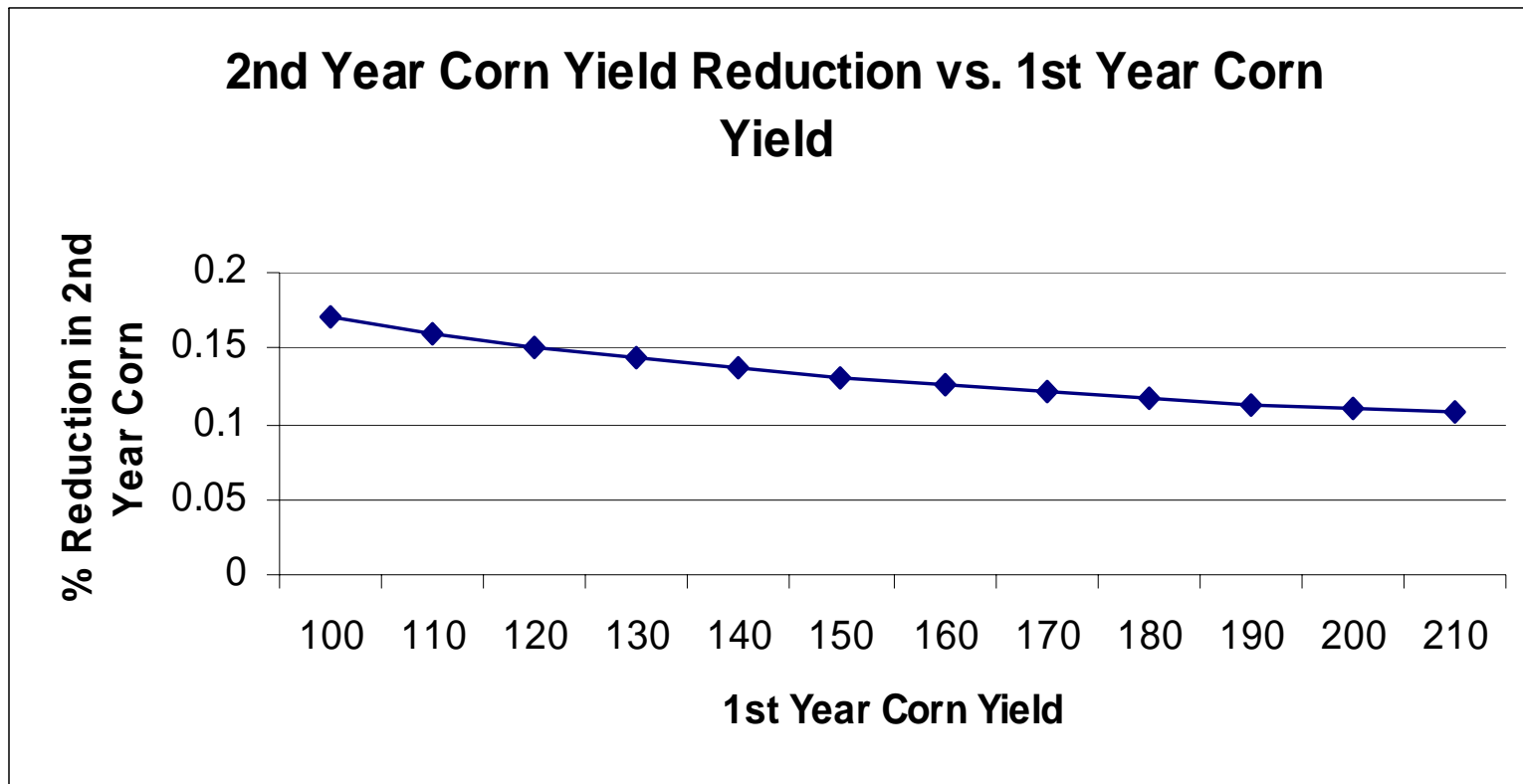
Farm-Level Effects

- Ethanol industry appears to have large profitability potential
- May require more corn acreage
- Do producers have the incentive to plant a higher percentage of corn?

Farm Level Assumptions:

- 1500 acre cash grain operation
- Northern Iowa soil quality/characteristics
- 640 acres owned, 860 acres cash rented
- On farm storage is adequate to handle the commodities in each rotation
- Adequate equipment to handle all three rotations without additional capital investment

2nd Year Corn Penalties



**Corn Price Where 50:50 = 2/3:1/3
(\$5.15 Beans)**

Soybean Yield

C o r n Y i e l d	Soybean Yield				
	35	40	45	50	55
150	2.88	3.06	3.25	3.43	3.61
160	2.75	2.93	3.10	3.27	3.45
170	2.65	2.81	2.97	3.14	3.30
180	2.55	2.71	2.86	3.01	3.17
190	2.47	2.61	2.76	2.90	3.05
200	2.39	2.53	2.67	2.80	2.94

Corn Price Where 2/3:1/3 = 100%
Corn
(\$5.15 Beans)

Soybean Yield

C o r n Y i e l d	Soybean Yield				
	35	40	45	50	55
150	2.90	3.08	3.27	3.46	3.65
160	2.78	2.96	3.14	3.31	3.49
170	2.68	2.85	3.01	3.18	3.35
180	2.59	2.75	2.91	3.06	3.22
190	2.51	2.66	2.81	2.96	3.11
200	2.44	2.58	2.72	2.87	3.01

Who Can Compete with an 800 Pound Gorilla?

- Soybean acreage?
- Livestock?
- Exports?

And what will Iowa agriculture look like when we know the answer?