

Kentucky Yellow Corn Production

1990-2003

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By:

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Yellow corn production in Kentucky utilizes about 45 percent of Kentucky's crop land, excluding hay lands. Thus, the profitability of Kentucky grain farmers weighs heavily upon the level of profitability in annual corn production. But, of course, "profit" is defined in many different ways. For our purpose, "management return" is our measure of profitability. Management return is the residual return after all costs, including a charge for equity capital and a charge for operator (or unpaid) labor, are subtracted from gross returns. In addition, there are no returns allocated to the corn enterprise from government program payments (i.e., direct payment, counter-cyclical payments, etc.), except for loan deficiency payments. Table 1 is compiled from Kentucky Farm Business Management Program data and summarizes cost and return data averages for 1999 through 2003.

Gross returns for yellow corn production ranged from \$279.95 to \$395.71 per acre during the past five years. Loan deficiency payments contributed to the gross returns in each year except 2002. The two years with historically large yields were the same years with the largest gross returns. The year with the highest per bushel return (2000) was the year with the third greatest gross returns and resulted in returns less than the five-year average of \$333.82.

Over the past five years production costs have steadily increased by varying amounts. Variable costs have risen \$35.73 per acre with fertilizer, pesticides, and seed contributing \$18.01 toward the increase and fuel contributing \$3.84 per acre. Machinery repairs and machine hire per acre are \$7.09 and \$2.78 higher, respectively. The average percentage increase in variable costs in the last five years is 4.9 percent.

Other non land costs have increased \$26.90 per acre over the five-year period. Machinery depreciation increased \$2.71 per acre, insurance increased \$6.98 per acre, and interest charge on non land capital investment increased \$8.57 per acre. Interestingly, total labor cost per acre has fallen \$0.15 per acre. One major reason for the reduction is an increase in farm acreage. The average percentage increase in other non land costs during the last five years is 5.5 percent.

Surprisingly, land costs have increased at the rate of 1.96 percent per year. Adjusted net rent is a composite cost of cash rent, crop-share rent, and an imputed interest charge on owned land. On the surface, one would have expected a larger increase in land costs over the past five years due to the underlying pressures for expansion. Cash rental rates have increased at the rate of 3.1 percent per year over the past five years.

Average management returns have maintained a negative level during the past five years. Students of economics argue that this cannot continue. Using the five-year averages, the response is that it can as long as producers expect zero returns to equity capital, very limited returns, if any, for their own labor, and "direct payments" remain available through the government farm program (i.e., \$16 to \$20 per acre).

Table 1. Kentucky Yellow Corn Enterprise for 1999 through 2003.

	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>Year Avg.</u>
Number of Farms	50	82	90	75	89	
Total Acres	574.1	757.1	794.2	847.7	827.2	760.1
Operator Acres	508.5	658.0	698.3	738.1	726.4	665.8
Yield per Acre	118.6	123.0	157.0	117.0	156.0	134.8
GROSS RETURNS						
Production Returns	\$250.54	\$273.00	\$331.00	\$295.00	\$391.00	\$312.36
Loan Deficiency Payments	<u>29.41</u>	<u>47.36</u>	<u>31.40</u>	<u>0.00</u>	<u>4.71</u>	<u>21.47</u>
TOTAL CROP REVENUE	\$279.95	\$320.36	\$362.40	\$295.00	\$395.71	\$333.82
(Per Unit)	2.36	2.60	2.31	2.52	2.54	2.48
NON LAND COSTS						
Variable Costs						
Fertilizer - Dry\Starter\Lime	\$24.28	\$22.40	\$21.71	\$25.43	\$24.38	\$23.65
- Nitrogen	29.18	30.82	42.92	32.92	37.71	35.08
Pesticides	32.16	33.18	31.92	30.45	39.71	33.58
Seed	28.63	29.18	29.52	31.09	30.46	29.87
Drying	2.16	2.83	2.83	2.50	6.19	3.39
Machinery Repair	15.20	18.69	20.60	17.56	22.29	19.09
Fuel & Oil	6.73	9.58	9.93	8.12	10.57	9.11
Machine Hire	<u>6.91</u>	<u>8.52</u>	<u>9.45</u>	<u>9.30</u>	<u>9.69</u>	<u>8.90</u>
Total Variable	\$145.25	\$155.19	\$168.88	\$157.36	\$180.98	\$162.65
Other Non land Costs						
Utilities	\$3.01	\$3.93	\$4.94	\$4.28	\$4.85	\$4.28
Labor - Paid	16.06	10.82	16.46	18.11	20.21	16.47
- Unpaid	19.58	15.94	14.22	14.36	15.28	15.64
Storage	0.81	1.26	2.79	1.85	2.27	1.87
Building Repairs	3.15	3.41	3.84	4.62	4.40	3.94
Building Depreciation	2.52	4.66	4.94	4.55	5.26	4.50
Light Vehicle Expense	0.24	0.24	0.25	0.25	0.16	0.23
Machinery Depreciation	21.43	21.00	20.53	22.32	24.14	21.95
Insurance	6.90	11.12	10.04	11.02	13.88	10.83
Miscellaneous	2.76	3.85	4.10	3.99	4.34	3.87
Non land Interest	<u>21.80</u>	<u>36.15</u>	<u>36.68</u>	<u>30.23</u>	<u>30.37</u>	<u>31.49</u>
Total Other	98.26	112.38	118.78	115.58	125.16	115.06
Total Non land Costs	\$243.51	\$267.57	\$287.66	\$272.94	\$306.14	\$277.71
LAND COSTS						
Taxes	\$2.41	\$5.40	\$5.64	\$5.39	\$7.58	\$5.47
Adjusted Net Rent	<u>92.61</u>	<u>87.25</u>	<u>95.70</u>	<u>88.67</u>	<u>96.72</u>	<u>92.22</u>
Total Land Costs	\$95.02	\$92.65	\$101.34	\$94.05	\$104.31	\$97.69
TOTAL - ALL COSTS	\$338.53	\$360.21	\$389.00	\$366.99	\$410.45	\$375.40
MANAGEMENT RETURNS						
Non land Costs per Bushel	\$2.05	\$2.18	\$1.83	\$2.33	\$1.96	\$2.06
All Costs per Bushel	\$2.85	\$2.93	\$2.48	\$3.14	\$2.63	\$2.78
Average 5-Year Yield	125.6	125.5	128.9	128.7	134.8	134.8
All Costs per Bushel	\$2.69	\$2.87	\$3.02	\$2.85	\$3.04	\$2.78
Average Cash Rent	\$77.72	\$83.33	\$83.16	\$87.99	\$89.83	\$81.40