



**AgEcon** SEARCH  
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

# Staff Papers Series

P81-26

September 1981

PLANNING PRICES  
AND  
AGRICULTURAL PROFITABILITY IN THE 1980'S

Paul R. Hasbargen



**Department of Agricultural and Applied Economics**

University of Minnesota  
Institute of Agriculture, Forestry and Home Economics  
St. Paul, Minnesota 55108

PLANNING PRICES  
AND  
AGRICULTURAL PROFITABILITY IN THE 1980'S

Paul R. Hasbargen

Staff papers are published without formal review within the Department  
of Agricultural and Applied Economics

PLANNING PRICES AND  
AGRICULTURAL PROFITABILITY IN THE 1980's\*

Paul R. Hasbargen  
Extension Economist  
University of Minnesota

"Do not boast about tomorrow, for you do not know what a day may bring forth." (Proverbs 27:1) We should keep this biblical admonition in mind as we consider probable ag prices and profitability in the eighties. But, despite the turbulent times that appear to be coming, we must continue to do forward planning--in fact, we are encouraged to do so later in the same chapter of Proverbs (v.12). "A prudent man sees danger and hides himself; but the simple go on and suffer for it."

This paper attempts to provide some information for the "prudent" manager to consider as he plans farming operations for the 1980's. First, some suggested farm planning prices, then some observations on expected trends in ag profitability for each of the major types of farms in the five state region during the 1980's.

Farm Planning Prices

The lowest commodity prices of 1980 were recorded in April--area farm corn prices were only about \$2, while wheat and soybean prices were only slightly over \$3 and \$5, respectively. The corn belt drought depressed U.S. crop production enough to sharply increase all grain prices during the summer and fall. As is usual in a short crop year, prices peaked early--shortly after harvest. The index of all farm commodity prices fell for the first five months of the year due to sluggish export demand, increasing interest rates and slower than expected domestic utilization. Despite the drop, farm prices were still above year ago levels this spring (see table 1).

On page 3 is a copy of the Farm Planning Prices as we projected them last October. For the current marketing year, feedgrain prices will average somewhat higher than we expected, whereas cattle prices are likely to average less than expected because of those high grain prices and weak demand for beef.

The five year planning prices suggested under the "terminal" heading will be the ones you will be using in your farm planning exercises later this week. The last column, however, shows my preliminary adjustments in these prices for the 1981-86 planning period. We will be taking a closer look at these this fall after this year's crop is known--when we will also work out our one year planning prices for the 1981-82 marketing year. If you elect to use the more current planning prices in the last column, you will also need to increase the costs of production over those now stored in the data banks in our farm planning computer program (FINLRB1).

---

\* Paper presented on July 27, 1981, at the Midwest Banking Institute, held in Morris, Minnesota.

Table 1. Prices received by farmers for their principal commodities

	<u>June 1981</u>	<u>May 1981</u>	<u>May 1980</u>
Wheat, per bushel	3.67	3.96	3.69
Oats, per bushel	2.01	2.01	1.43
Corn, per bushel	3.16	3.20	2.42
Barley, per bushel	2.97	3.07	2.21
Hay, baled, per ton	69.80	77.60	69.10
Soybeans, per bushel	6.99	7.29	5.76
Flaxseed, per bushel	7.45	7.65	6.04
Potatoes, per cwt.	8.36	7.91	3.74
Hogs, per cwt.	47.20	40.40	28.60
Beef cattle, per cwt.	59.10	59.60	60.70
Calves, per cwt.	68.20	69.00	75.40
Sheep, per cwt.	18.20	19.50	21.70
Lambs, per cwt.	64.00	60.70	60.30
Milk, wholesale, per cwt.	13.40	13.50	12.60
Chickens, live, per pound	.292	.282	.241
Turkeys, live, per pound	.414	.390	.319
Eggs, per dozen	.571	.563	.473
Wool, per pound	1.06	1.03	.866

Note in footnote one of the Farm Planning Prices that the long run planning prices are in current dollars, so they do not include any inflationary increase. Therefore, when using in long run farm planning, the repayment capacity of agricultural enterprises to repay land or building investments tends to be understated in an inflationary period. This happens because more dollars (cheaper ones) will be generated a few years from now to repay loans made in current dollars. However, with more and more long-term loans being made with provisions for periodic interest adjustments, some of this "understatement" of repayment capacity is being eroded away.

Using "current dollars" to do long run planning (the next 5 - 10 years) is, therefore, a fairly "conservative" approach for both the lender and the borrower during inflationary times. And, when evaluating a land purchase repayment plan it may be necessary to bet on future increases in the nominal net returns from land in order to make future cash flows feasible. (Use our BUYLAND computer program to analyze the cash flow effects of a land purchase.) If deflation sets in there could, of course, be repayment problems for the overextended borrower.

Short term planning prices are very difficult to deal with at this time of year since they are so dependent upon crop developments--not only in the U.S. but around the world. This is especially true this year because of the relatively low carryover of feedgrains and soybeans (wheat stocks are somewhat larger). Another short crop year would again put strong upward prices on all grains. This, in turn, would bring more breeding stock to market this fall as the prospects of high feeding costs depressed prices on feeder cattle, feeder pigs and feeder lambs. Conversely, a bumper crop would reduce 1981/82 crop prices below current levels and result in increased margins for livestock producers.

## FARM PLANNING PRICES

projected by  
Agricultural Economists, University of Minnesota

CROP	Unit	1 Year Planning Price		5 Year Planning Price <sup>1/</sup>	
		10/1/80 to 10/1/81		1980-85	1981-86
		Terminal <sup>2/</sup>	My Locality <sup>3/</sup>	Terminal <sup>2/</sup>	Estimated Farm Price <sup>3/</sup>
Corn	bu.	\$2.90	_____	\$2.75	\$ 3.00
Oats	bu.	1.80	_____	1.50	1.75
Wheat, 13% protein	bu.	4.40	_____	4.00	4.00
Soybeans	bu.	8.00	_____	7.00	7.50
Barley, all	bu.	2.70	_____	2.50	2.75
Sunflowers	cwt.	13.00	_____	12.00	12.50
----- Local Farm Price -----					
Mixed hay	ton	\$40-70	_____	\$40-50	\$45-\$55
Alfalfa hay	ton	50-80	_____	45-60	\$50-\$65
Straw, grain	ton	40-80	_____	40-65	\$40-\$65
----- Local Farm Price -----					
LIVESTOCK					
Hogs	cwt.	\$48.00	_____	\$48.00	\$ 52.00
Feeder pigs, 40 pounds	head	41.00	_____	45.00	48.00
Hog feeding margin/cwt. gain <sup>4/</sup>	cwt.	37.00	_____	34.00	37.00
Choice steer calves <sup>5/</sup>	cwt.	86.00	_____	80.00	75.00
Beef cow herd sales <sup>5/</sup>	cow	320.00	_____	285.00	275.00
Choice yearling steers	cwt.	75.00	_____	70.00	70.00
Choice slaughter steers	cwt.	72.00	_____	66.00	67.00
Beef feeding margin/cwt. gain <sup>4/</sup>					
Calves	cwt. of	62.00	_____	56.00	60.00
Yearlings	gain	68.00	_____	60.00	64.00
Slaughter lambs	cwt.	68.00	_____	66.00	68.00
----- Local Farm Price -----					
PRODUCE					
Milk, grade A, 3.5% butterfat	cwt.	\$12.25-12.75	_____	\$12.00-12.50	\$12.50-\$13.00
Milk, grade B	cwt.	12.00-12.50	_____	11.50-12.00	\$12.00-\$12.50
Eggs	doz.	.55-.60	_____	.58-.62	\$59.00-\$61.00
Wool (with incentive)	lb.	1.15	_____	1.15	1.15

- 1/ The 5 year planning prices do not include any allowance for future inflation. They are based on current cost structures and include government "target price" payments which in some years may require "set aside" acres. Continued high inflation rates will increase both costs and commodity prices above these levels. Therefore, if expected future inflation is included in cost projections, it should also be added to these planning prices.
- 2/ The Twin City terminal market price except for hay, straw, milk, eggs and wool.
- 3/ Adjust terminal price as necessary for normal locational differentials when selecting a local planning price. Thus, a 5 year planning price of \$2.50 might be appropriate in the surplus corn areas of southern Minnesota compared to \$2.75 for the deficit areas of north central Minnesota. Since a terminal market does not exist for some commodities (hay and milk) we suggest a probable range in outstate market prices.
- 4/ The hog and beef feeding margins are determined by subtracting the purchase cost of a feeder from the sale receipts of one finished animal and dividing by the cwt. of gain.
- 5/ Assumes average sales per cow of: steer calf - 180 lbs., heifer calf - 100 lbs., cow - 170 lbs., and South St. Paul price on good-choice calves and utility cows.

Despite the obvious difficulties of trying to second guess the weather-- and international political developments--we do periodically update some suggested quarterly planning prices for major midwest commodities. Minnesota bankers can obtain updates on these quarterly planning price suggestions by contacting local county Extension Directors. Ask for a copy of the output from our computer program OUTLOOK. An example of current projections will be provided during the bankers school.

We have not been as optimistic as most regarding 1981 livestock prices. We have been consistently below USDA in our expectations since last fall-- but still tended to over-estimate livestock prices in early 1981. (The current USDA estimates are centered on \$73 choice steers and \$54-\$55 market hogs). Prices have been sharply below expectations of last fall because of larger supplies of red meat coupled with a sluggish demand associated with recent high inflation levels. Housewives have especially shied away from the expensive beef cuts in an effort to hold their own against the ravages of a lower priced dollar.

Unfortunately, producers' hopes for higher prices coupled with favorable weather for rapid feedlot gains kept cattle in feedlots too long last winter. Heavier slaughter weights pushed beef supplies up 3 percent at a time when consumers weren't interested in buying more beef. Larger marketings of cows and cattle off grass because of dry conditions helped to increase total beef production 6 percent during the first half of 1981.

### Profitability

Inflation, as well as changes in the relative supplies and prices of some inputs, is having a differential effect upon the profitability of different enterprises and different farmers. Well-managed crop and dairy farms have fared well in recent years. Beef enterprises have been under stress. Hog profits continue to cycle down every 3 years.

Crop producers have faced sharp increases in fuel, fertilizer and interest costs. Their costs are about a third higher than 2 years ago. Commodity price hikes could have more than matched these increases if marketings were well-managed. But, those who do not have marketing plans--those who sold much of their product during the April-May price lows of the past two years because they then needed money to put in the next crop--have faced declining net returns.

Current high inflation rates also pose real production management challenges for crop producers. Many are going to have to shift their objectives from that of "maximum yield" to "maximum profit". The following 1979 comparative cost and return figures for corn from two different sorts of the data from south central Minnesota farms (Mankato area) suggest that many farmers apply more inputs than desirable from an economic efficiency standpoint.

	82 Farms With Highest Return Over Costs	82 Farms With Highest Corn Yield
Average yield	143.7	147.3
Fertilizer cost	\$38.27	\$47.22
Chemicals	\$14.93	\$17.18
Seed & other	\$25.94	\$32.59
Direct costs as a percent of gross	27%	34%

The "direct costs" shown above do not include interest and fuel costs. If these were included, there would be an even greater disadvantage shown for the high yield farms.

This suggests that in these times of rapidly escalating costs, farmers--like bankers--are going to have to seriously evaluate all of their "standard" practices and cut back on those inputs that are not now more than paying their way.

The net return to farmland is now in the 3 percent area. A decade ago it was about 4 percent. I expect that land prices will continue to increase more rapidly than will net return to land during the 1980's. Therefore, land may show a net return of only 2 to 2.5 percent by 1990. Thus, I expect land will remain a good "growth stock" in the eighties, but it will continue to be "overpriced" with respect to current dividends.



Therefore, landowners with high equity are going to enjoy continued gains in wealth during the 1980's--as well as good current incomes. However, low equity, highly leveraged crop producers are going to face some tough years. High interest costs are going to continue to be a heavy burden on these operators. During the late 1970's when inflation often increased more rapidly than interest rates, the heavy borrower was getting "free" or "inflation subsidized" loans. But with current efforts to control inflation, short term interest costs are apt to reflect more than the usual "real interest rate" premium of some 3 percent over the anticipated inflation rate. This is because potential long term borrowers have been substituting short term for long term borrowings. This puts increased pressure on short term loanable funds--pushing short term interest rates up.

Livestock producers face similar challenges as the crop farmers. Dairy farmers are in a stronger financial condition than they have ever been because of the 80 percent parity pricing formula that prevailed until this past April. Returns over feed costs per cow tripled between 1975 and 1980 (see table on page 7 ). During this same period nonfeed costs also increased--but that increase was less than 100 percent.

The new dairy support plan will likely allow milk prices to remain near 70 percent of parity given the downward adjustment to this level in case of heavy government purchase. This change will cause net returns for the average dairyman to decline somewhat from the high levels of the last 2 years.

The beef cow enterprise is the other major livestock enterprise that has been in a relatively strong earnings position the past 3 years. Feeder cattle prices peaked in real terms 2 years ago, last spring--about a year earlier than expected. Beef supplies per person bottomed out in 1980. But the high interest rates, large pork supplies and sluggish meat prices at the retail counter resulted in lower prices on both slaughter cattle and feeder cattle in 1980--with yearlings averaging \$8 per cwt. less than in 1979.

My outlook for the entire beef industry is not very optimistic for the 1980's. Demand growth will be very small as long as economic growth is slow and real after-tax incomes do not improve. Also, beef does not enjoy the strong positive image that it had 10 and 20 years ago. The health/diet controversy coupled with concerns over "feeding the hungry" have taken their tolls on that image.

If, at the same time, we see an increase in the real price of feed and continued high interest rates there will be a cost-price squeeze on both segments of the beef industry. Given normal cyclical patterns, the beef cow herd will begin to show the effects of this squeeze next year and, after a couple more years, cow herd liquidation will be triggered--resulting in even poorer returns to cow herds during the 1985-87 period.

RETURNS ABOVE FEED COSTS FOR MINNESOTA LIVESTOCK ENTERPRISES\*

Year	Enterprise Including Breeding Herds				Feeding Enterprises	
	Dairy (cow)	Hogs (cwt.)	Beef (cow)	Sheep (ewe)	Feeder Pigs (cwt.)	Feeder Cattle (cwt.)
1960	\$155.52	\$10.16	\$71.65	\$ 5.30	\$10.16	\$ 5.77
1961	156.03	5.44	23.81	2.93	5.44	2.48
1962	115.38	4.92	27.49	4.80	2.40	6.18
1963	129.56	2.43	19.05	12.27	-.22	-6.09
1964	148.35	3.62	11.87	6.88	3.05	1.38
Avg. 1960-64	140.96	5.29	30.77	6.44	4.17	1.94
1965	141.25	11.90	10.75	11.06	7.75	7.12
1966	197.29	8.37	52.76	12.20	5.84	.68
1967	245.53	6.11	33.28	6.49	.85	4.87
1968	273.02	7.07	43.02	10.32	2.37	8.22
1969	276.88	13.37	35.11	11.32	6.87	.95
Avg. 1965-69	226.79	9.36	34.98	10.27	4.73	4.37
1970	321.62	4.70	46.22	9.24	-.29	3.28
1971	324.89	5.68	48.06	11.63	3.95	12.65
1972	331.38	15.53	106.38	11.67	10.04	12.26
1973	371.53	21.34	106.05	13.24	13.29	7.54
1974	303.48	7.76	-138.58	-1.63	3.80	-21.16
Avg. 1970-74	330.58	11.00	33.62	8.83	6.16	2.91
1975	301.13	24.16	-77.73	4.56	14.75	8.77
1976	523.31	11.95	-46.45	12.99	5.64	-7.43
1977	583.30	17.72	18.78	34.58	10.92	8.99
1978	744.78	27.75	224.42	23.83	13.37	29.88
1979	879.53	11.38	148.20	34.41	.56	17.49
Avg. 1975-79	607.01	18.59	53.44	22.02	9.05	11.54
1980	915.70	13.12	128.31	20.51	4.12	3.72
Projected**	860.00	22.00	80.00	25.00	12.00	15.00

\* Historical returns are from the summaries of records kept by farmer members of the Southwest Farm Management Association.

\*\* These are the returns over feed costs associated with suggested planning prices for the next 5 years. For details of costs and returns, write and ask for the appropriate planning guide (dairy, hog, cattle, sheep, beef cow northern or southern). Address requests to: Extension Farm Management, 249 Classroom Office Building, University of Minnesota, 1994 Buford Ave., St. Paul, MN 55108.

The cattle feeding enterprise has been a loser in 5 of the last 7 years. Only 2 months out of the last 2 years showed returns over all costs to cattle feeders (August and September, 1980). The large \$100 per head losses of the winter months are tapering down. Some pluses will occur this summer. But, as I look ahead over the next 5 years, I am not very optimistic for the average cost feeder. He will likely just get enough return over feed costs to cover his directly associated cash costs--with little, if anything, to pay for labor and facilities. Only the well-managed feedlot where superior buying-selling skills result in above average gross margins per cwt. of gain should be given any encouragement to expand.

Hog prices and returns have been depressed one year in three during the past dozen years. 1980 was the depressed year. If recent history is repeated, hog prices should bounce back sharply in 1981--about 25 to 30 percent--bringing the yearly average close to \$50 (see following table).

Average Annual Hog Prices - Seven Markets

<u>Years</u>	<u>Low Year</u>	<u>Following Years</u>	
1968-70	\$18.50	\$22.20	\$22.70
1971-73	18.45	26.76	40.27
1974-76	35.12	49.12	43.83
1977-79	41.38	48.46	42.32
1980-?	40.04		
Avg. Change (%)			
From Previous Year	-11%	+29%	+2%

However, many people are concerned that overexpansion in new high-cost facilities will prevent the usual contraction in hog numbers during this cycle--and, the contraction was delayed a few months. However, it is now underway with slaughter levels in May, running 8-10 percent below year earlier levels.

I expect, however, that cutbacks will be less severe in this region because of our larger grain supplies--and relatively lower grain prices. Looking ahead to the rest of this decade, I expect that Minnesota and bordering states may account for a greater proportion of national hog production in the eighties than in the seventies because of the higher energy and transportation costs that will make our feed relatively lower priced than that in the eastern corn belt and the southern states.

### Summary

The final size of the 1981 world crop will have a significant impact upon grain prices and the income of area farmers in the coming year. Crop farmers will have large variations in earnings, depending upon their crop production levels, equity positions and marketing skills. However, there is reason for some optimism as we look to the remainder of this decade. Recent world demand and supply estimates suggest that there may be problems keeping up with increases in world demand for agricultural products during the eighties. America has an efficient agriculture. If trade channels stay open, our farmers stand to benefit from the projected tight food situation if it does materialize.

Low grain prices in 1980 led to expanded livestock production. Higher feed and nonfeed costs of the past year led to losses to livestock and poultry producers. This, in turn, is causing the current cutback in meat production. However, the western corn belt is likely to gain in its share of national meat production because of its position relative to meeting export demand for feedgrains and soybeans.

Farm prices and earnings will continue to vary among years, commodities and managers. Earning opportunities will be excellent for those with little debt. But those with high debt ratios will have to manage carefully and work closely with creditors in the wise use of all borrowed funds to avoid becoming "slaves to the lender".