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Agricultural Profitability
In the 1980's

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

So I'll try, in this paper, to provide some information for the "prudent" planner to consider as he plans farming operations for the 1980's. First a look at farm planning prices, then a few observations on ag profitability and possible changes in ag structure during the coming decade.

Farm Planning Prices

The month of April likely recorded the lowest commodity prices of the year. In early April, area farm corn prices were only about \$2, with wheat and soybean prices only slightly over \$3 and \$5, respectively. Hopefully, by the time of our meeting in late July these prices will all be significantly higher--but not at the expense of a severely drought damaged crop in this region.^{1/}

The table on the next page shows our suggested planning prices for the coming marketing year as well as for the next 5 years. Both sets of numbers are preliminary--but annual planning prices are subject to the largest change before this crop is harvested.^{1/}

Annual crop prices are very sensitive to changes in crop production--not only in the U.S. but in the world. Government programs put a floor--and a ceiling--on the prices of most major crops for the coming year. Following are the July 14 supply-demand and farm price estimates made by USDA for the 1980 crop as compared with the 1979 crop.

As for livestock prices, USDA is currently projecting Omaha choice steers in the high 60's and low 70's for the last half of 1980 and hogs in the high 30's. Our projections are in the same range. However, recent levels in the livestock futures market show that traders expect prices to be lower than we do.

^{1/} Drought concerns plus high exports raised these prices by about one-third by July 26, 1980. Therefore, annual planning prices for feed-grains and soybeans now appear to be 10 to 15 percent higher than shown in the table.

* Paper presented on July 26, 1980, at the Midwest Banking Institute, held in Morris, Minnesota.

FARM PLANNING PRICES

Preliminary Projections
5/80

CROP	Unit	1 Year Planning Price 9/1/80 to 9/1/81		5 Year Planning Price ^{1/} 1980-85	
		Terminal ^{2/}	My Locality ^{3/}	Terminal ^{2/}	My Local Farm Price ^{3/}
Corn	bu.	\$2.70	_____	\$2.70	\$2.45-2.70
Oats	bu.	1.50	_____	1.45	_____
Wheat, 13% protein	bu.	4.30	_____	4.00	_____
Soybeans	bu.	6.40	_____	6.75	_____
Barley	bu.	2.40	_____	2.25	_____
Mixed hay	ton	--	\$35-50	--	\$35-45
Alfalfa hay	ton	--	\$40-60	--	\$40-55
Straw, grain	ton	--	\$35-65	--	\$35-65
Sunflowers	cwt.	10.50	_____	11.00	_____
Sugarbeets	cwt.	--	\$25-28	--	\$22-25
<u>LIVESTOCK</u>					
Hogs	cwt.	42.00	_____	44.00	_____
Feeder pigs, 40 pounds	head	35.00	_____	42.00	_____
Hog feeding margin, per cwt. gain ^{4/}	cwt.	32.00	_____	31.00	_____
Choice steer calves ^{5/}	cwt.	90.00	_____	82.00	_____
Beef cow herd sales ^{5/}	cow	315.00	_____	290.00	_____
Choice yearling steers	cwt.	76.00	_____	72.00	_____
Choice slaughter steers	cwt.	70.00	_____	64.00	_____
Beef value produced/cwt. gain ^{4/}					
Calves	cwt. of	55.00	_____	50.00	_____
Yearlings	gain	62.00	_____	54.00	_____
Slaughter lambs	cwt.	66.00	_____	66.00	_____
<u>PRODUCE</u>					
Milk, grade A, 3.5% b.f.	cwt.	--	12.00-12.50	--	11.80-12.40
Milk, grade B	cwt.	--	11.50-12.00	--	11.30-11.80
Eggs	doz.	--	_____	--	.62
Wool (with incentive)	lb.	--	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 commodity planning prices.

2/ The Twin City terminal market price.

3/ Adjust terminal price as necessary for normal locational differentials when selecting a local planning price. Thus, a 5-year planning price of \$2.45 might be appropriate in the surplus corn areas of southern Minnesota compared to \$2.70 for the deficit areas of north central Minnesota. Since a terminal market does not exist for some commodities (hay, sugarbeets, milk) we suggest a probable range in outstate market prices.

4/ The hog feeding margin and the value produced figures 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/ Assume 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.

	Corn		Wheat		Soybeans	
	79-80	80-81	79-80	80-81	79-80	80-81
----- millions of bushels -----						
Beg. Stocks	1,286	1,676	925	901	174	380
Production	7,764	7,284	2,142	2,317	2,268	1,9-2,2
Total Supply	9,051	8,961	3,069	3,220	2,442	2,2-2,3
Feed (or Crush)	4,350	4,350	96	100	1,130	1,0-1,1
Exports	2,400	2,600	1,375	1,450	850	825-900
Total Use	7,375	7,700	2,168	2,255	2,077	2,0-2,1
Ending Stocks	1,676	1,261	901	965	380	275-440
U.S. Farm Price	2.40	2.45-2.85	3.82	3.75-4.25	6.19	6.00-7.50

Minnesota bankers can obtain updates on our 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 follows:

5/24/80

ESTIMATED AVERAGE MINNEAPOLIS CASH PRICES

CROP	3RD	4TH	1ST	2ND
SOYBEANS	6.95	6.75	7.00	7.25
CORN	2.70	2.50	2.65	2.75
WHEAT	4.45	4.50	4.50	4.50

ESTIMATED AVERAGE MINNESOTA PRICE

LIVESTOCK	3RD	4TH	1ST	2ND
CHOICE CATTLE	70.00	72.00	73.00	74.00
YEARLING STEERS	70.00	74.00	75.00	77.00
STEER CALVES	85.00	87.00	88.00	90.00
MARKET HOGS	40.00	41.00	43.00	45.00
FEEDER PIGS	30.00	32.00	40.00	42.00

Following is a range of estimates for choice steers made by five other University market analysts:

Cooperative Estimates
Choice Slaughter Steers - Market Outlook

<u>Quarter</u>	<u>Range</u>	<u>Average</u>
Apr-Jun 80		
Beef Prod.	+1% to -3%	-1%
Price	\$66-\$72	\$68.55
Jul-Sep 80		
Beef Prod.	-2% to -5%	-3%
Price	\$68-\$78	\$72.70
Oct-Dec 80		
Beef Prod.	+1% to -4%	-1%
Price	\$68-\$80	\$73.50
Jan-Mar 81*		
Beef Prod.	+2% to -1%	+1%
Price	\$72-\$82	\$75.67

*includes three estimates only

Five year planning prices are shown in current value dollars rather than in inflated dollars for 1983 or 1985. Thus, they tend to understate the repayment capacity of agricultural enterprises to pay back long term investments in land or buildings in an inflationary economy because the investment payback is fixed in current dollars while the payback is made in cheaper ones.

Profitability

Sharp increases in fuel, interest and fertilizer costs in 1980 have resulted in a 20 to 30 percent jump over 1979 in the cost of producing most crops. During the first half of this year, only wheat and sugar showed equally large price increases. Therefore, depending in part on relative yields, net crop earnings in 1980 are expected to be significantly below those realized last year.

Current high inflation rates pose real management challenges for crop producers. Many are going to have to shift their objectives from that of "maximum yield" to "maximum profit". (This is especially true if world grain production remains high in 1980 and we are looking at another year with crop prices resting at or near loan levels.) The following 1979 comparative cost and return figures for corn from two different sorts of the data from south central Minnesota farms (Mankato area) suggests that many farmers apply more inputs than desirable from an economic efficiency standpoint.

	<u>82 Farms With Highest Return Over Costs</u>	<u>82 Farms With Highest Corn Yield</u>
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 farm land 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.

The profitability of most livestock enterprises is also being eroded by higher costs for nonfeed items. Only dairy, with its current 80 percent parity pricing formula is protected. But indications are that, given the build up in government purchases of dairy products during 1980, the 80 percent parity level will be reduced after the election this fall--leaving only one more jump in price props in October before declines are permitted.

The beef cow enterprise is the other major livestock enterprise in a relatively strong earnings position at the current time. Feeder cattle prices peaked in real terms a year ago last spring--about a year earlier than most of us had expected. Beef supplies per person will likely bottom out this year. But the high interest rates and sluggish meat prices at the retail counter prohibited a similar peak in feeder prices this spring. Consequently, the trade was overbearish on beef in April and May leading to larger than expected slaughter of nonfed cattle and low feeder cattle placements. These actions taken during the first half of 1980 should help hold down the expansion of cow numbers, thus assuring relatively strong feeder cattle prices for at least two more years.

Cattle feeders, however, have suffered another loss year during the past 12 months. This should be followed by a relatively profitable year during the next 12 to 18 months. Feeders were a "steal" in April. They remained good buys in early May. So, some healthy profit recoveries will come to those yearling feeders who refilled lots at that time. Those who bought calves last fall should show some positive returns over feed and cash costs on third quarter sales. And, returns in the year ahead should also remain positive because of the reluctance to bid feeder prices back up after the bad experiences of the past year.

However, 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.

Hog prices and returns have been depressed one year in three during the past dozen years. This is the depressed year. If recent history is repeated, hog prices will bounce back sharply in 1981--about 25 to 30 percent--putting them in the high 40's next year (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-?			
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. This fear has been expressed quite often in the past two decades. If grain prices remain low after the 1980 harvest, there is a good possibility that the cutback in farrowings will not match that of recent cycles. In any case, I expect that cutbacks will be less severe in this region because of our larger grain supplies--and relatively lower grain prices. That is, 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.

The table on the next page shows return over feed costs for livestock in southwestern Minnesota for the past 2 years along with projections for the next 5.

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	<u>148.35</u>	<u>3.62</u>	<u>11.87</u>	<u>6.88</u>	<u>3.05</u>	<u>1.38</u>
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	<u>276.88</u>	<u>13.37</u>	<u>35.11</u>	<u>11.32</u>	<u>6.87</u>	<u>.95</u>
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	<u>303.48</u>	<u>7.76</u>	<u>-138.58</u>	<u>-1.63</u>	<u>3.80</u>	<u>-21.16</u>
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	13.38	-46.45	12.99	5.64	-7.43
1977	612.46	17.72	18.78	34.58	10.92	8.99
1978	873.74	27.75	224.42	23.83	13.37	29.88
1979	<u>870.26</u>	<u>8.80</u>	<u>148.20</u>	<u>34.41</u>	<u>-.31</u>	<u>14.66</u>
Avg. 1975-79	636.15	18.36	53.44	22.02	8.87	10.97
Projected**	875.00	20.00	140.00	25.00	10.00	12.00

* 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.

Structure

The structure "dialogue" of the past year has, in my judgement, been based largely upon a false premise--namely, that farms would continue to grow in size and dwindle in number. This premise is based on a simple projection of past trends--it is backward-looking.

The prudent man should base his conclusions on what he sees currently. What forces do you see affecting agriculture in the 80's?

I see higher energy and transportation costs.

I see higher grain prices and probable food shortages in some areas of the world.

I see high inflation rates and possible worldwide monetary problems.

I see a sizeable recession and continued slow economic growth in the U.S. because of the low savings rate and low investment in business stemming from government's preference for public sector spending.

I see the odds growing that trade wars and/or a major shooting war could become a reality in this decade.

I see political concern over the welfare of the "small farmer" continuing to grow relative to that of the "large farmer".

I see environmental concerns beginning to abate as living levels are reduced, but that they will remain as an active force against "large farmers".

I see a growing interest on the part of urban people to "move to the country" to be either part-time farmers or full-time farmers in their retirement years.

In assessing the probable impact of these forces, I recently wrote the following.*

"Structure - Higher energy and transportation costs may slow down the trend towards the very large commercial cattle and hog feeding operations because of the economic advantage of feeding wet shelled corn on the farm where it is produced versus the increasing costs of drying and transporting corn out of the corn belt.

However, a partially offsetting factor will be the opportunity for corn belt farmers to make a living from crops alone if periodic world-wide crop shortfalls keep grain prices relatively high. Higher grain prices encourage older, established farmers to discontinue livestock operations if they don't have large

* Hasbargen, Paul R. "Future of Minnesota Animal Industry", paper presented at the 52nd Annual Meeting of Minnesota Farm Managers and Appraisers, Inc., February 1980.

land and facility payments that require large business volumes to cover cash flow commitments. On the other hand, higher priced food and high unemployment rates in the city will encourage more people to try to produce their own meat on a small acreage. So, the net effect of this factor upon future structural change is debatable.

Continued high rates of inflation make land purchases impossible to cash flow without being subsidized by earnings from livestock, from other land or from off-farm earnings. This means that there will be increased incentives for young farmers to get into livestock--more so than in the past decade.

A serious recession and slow economic growth (expected because of current low savings rate and anti-business attitudes) would tend to reverse the migration of labor from country to city, thereby encouraging more livestock farms as current larger farm units are split up between several sons.

Wars and rumors of wars tend to increase farm earnings. If earnings increase, there is less incentive for established farmers to continue small livestock enterprises. Also, there could be pressure on rural labor supplies if the draft is reinstated. This would encourage a more rapid shift to larger, more labor efficient livestock operations.

Minnesota political leaders have demonstrated an anti-bigness bias in legislation affecting farmers. This same bias exists in the minds and actions of those concerned about environmental effects of livestock production units. These attitudes are likely to continue to restrict the development of large-scale livestock units in Minnesota in the near future.

The recent reversal of the long time farm-to-city migration trend will bring into being some new small-scale livestock units. These small units will help slow down the rate of decline in the total number of "livestock farms" but may add very little to Minnesota's beef and pork production if they are only part-time farming operations or "rural residents".

On balance, I expect that the annual rate of decline in the number of hog operations will drop considerably below the average annual 3.6 percent drop observed in the U.S. during the past 15 years. In fact, I expect that the number of farms reporting hogs will actually increase in Minnesota during this decade. A drop in U.S. hog operations of 2 percent a year would reduce the number of farms in the nation with hogs to about one-half million in 1990 versus the 631,000 of last year. I don't think the decline will be this much. In fact, my guess is that the number of farms reporting hogs in the western corn belt may not change much during the eighties.

Cattle feedlots which carry cattle to choice slaughter finish may continue to decline nearer the recent rate of 3 percent per year in the U.S.--dropping numbers from the current 123,000 lots to 90,000 by 1990. Minnesota feedlots have been disappearing at a rate of 4 percent per year. However, the factors discussed above should slow this rate to more like 2 percent per year. This would drop feedlot numbers from 10,900 to about 9,000 by 1990. But, I expect to see more 'growing' or 'backgrounding' operations which overwinter our locally produced feeders on corn silage or haylage and limited grain feeding."

Summary

The current year will be the roughest since the drought year of 1976 in terms of cash flow problems for most area farmers. The dairymen and cow-calf operators are the exceptions.

The final size of the 1980 world crop will have a significant impact upon grain prices and the income of crop farmers in the coming year. Early odds are that crop prices will not increase enough to cover increased operating costs. 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 will 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.

Current low grain prices have led to expanded livestock production. If grain prices bounce back, livestock and poultry production will be cut back. However, the western corn belt is likely to gain in its share of the national meat production.

Dairy and hog numbers will increase as higher energy and fertilizer costs put a premium on farm production systems that are more self-contained.

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".