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Swine Update

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Economic Information and Planning

"The plans of the diligent lead surely to abundance, but everyone who is hasty comes only to want." Prov. 21.5

The truth of that proverb has been very evident in the farming community the past year. Well planned hog operations enjoyed near record returns in 1982. But, some that made hasty expansions in 1979/80 after the record profits in 1978 got into serious financial difficulty.

The ingredients of sound forward planning include (1) specific production and financial objectives, (2) price projections for the short, intermediate and longer term periods, and (3) input requirements and costs.

The objective of this issue of Swine Update is to provide some economic information regarding future hog prices and production costs that will be helpful in making cash flow projections on hog enterprises.

PRH

Hog Cycles - Three Year Projections

Human nature coupled with the time required to increase hog marketings leads to the familiar hog production/price cycle of 3 to 4 years. When the demand for pork is strong relative to the supply, prices increase and hog production becomes quite profitable (for example 1978 and 1982). Some hog producers and potential hog producers who observe the increased profitability of this enterprise start expanding hog numbers. The initial extra holdback of gilts and sows from the market further decreases pork supplies and increases prices even more. Hog prices peak during this period.

A year later hog supplies are increasing and prices are declining. Prices and profits are about average then--but supplies keep increasing because of the year lag between the "decision to expand" and the actual increase in marketings.

After prices drop below average production costs, more producers decide to quit producing hogs. As the slaughter of breeding stock increases, prices are depressed even further and some financially squeezed units may be forced out of production. This is the high supply/low price phase of the cycle. It precipitates a larger than necessary reduction in pork supplies, resulting in a price recovery that again makes the hog enterprise look financially attractive to the expansion-minded operators.

Evidence of the 3 year regularity of this cycle over the past 15 years is apparent in the following table:

Average Annual Hog Prices At Seven Major Markets By 3 Year Cycles

Years	Low Year	Following Years	
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
1980-82	40.04	44.45	54.10
1983/84 (low year)			

Knowledge of this cycle gives strong clues as to what price trends to expect over a 3 year period. Prudent producers will not start expansion during high price periods (e.g. the current 82/83 high). Rather, breeding stock and facilities are relatively cheaper in the price "bust" years and expanded production will hit the market when prices are higher.

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Short Run Planning Prices

Slaughter hog and feeder pig prices rebounded in the first quarter of 1983 from the 1982 fall low. However, since then prices have declined about $14 per cwt. for slaughter hogs and $13 per head for feeder pigs. Although some strength could return this summer, a general decline in hog prices was expected in 1983 and it appears to be developing.

As was described in the hog cycle article by Paul Hasbargen, United States hog production runs in 3 to 4 year cycles. Expected expansion in hog production in 1983 was reported in the March 1 USDA Hogs and Pigs Report--hog producers increased Dec. 1982 - March 1983 pig production by 10 percent over a year earlier, following 11 quarters of decreased sow farrowings. Hog producers also indicated that they planned to step up farrowings this spring and summer by about 7 percent. These increases seem likely in view of the favorable profits in the hog industry through much of 1982. Expansion in sow farrowings can also be expected in the fall quarter of 1983, perhaps by about 7 to 9 percent.

The drop in last half 1983 hog prices and stronger grain prices should dampen both the extent and length of the increase in hog production in the expansion phase of the 1983-85 cycle. Based on the cyclical model, expansion in sow farrowings should be expected through second quarter of 1984 of perhaps 5 percent before a possible turn around in the production cycle occurs.

Market and Price Prospects

Hog slaughter has been gradually increasing and will continue to do so. By third quarter 1983, hog slaughter could be above year earlier levels by 7 to 9 percent. Gradual seasonal increases will push slaughter up even more by third quarter 1983. Markets will likely not show reduced supplies until mid-1984 or later.

Slaughter hog prices could show some strength in third quarter 1983 to a level of about $50 per cwt., but from there on the trend will be down to the low $40's per cwt. in the fourth quarter. Hog prices will likely range from the low of $42 per cwt. to about $45 per cwt., and average about $43 over the first half of 1984. Feeder pig prices will range from the current $45 per head down to $30 per head by fourth quarter 1983, and remain in the $30 to $40 per head level in first half of 1984.

KEE

Long Run Planning Prices

As indicated in the previous sections, production/price cycles result in hog prices that vary greatly from one year to the next. Unfortunately, both the high prices and the low prices give false signals to those who are inclined to be "hasty" in their expansion/contraction plans. In addition, the high inflation rates of the 70's and the fluctuating feed costs of the past decade keep shifting the appropriate "long run" planning prices. Nevertheless, understanding of the economic forces involved enables development and use of a longer term planning price that is more apt to prove correct than will the simple extension of recent prices or recent price trends.

We attempt to provide such long term planning prices that are reviewed and revised on a regular basis. These planning prices are developed on the observation that there exists some production cost level that must be covered for pork production to be sustained at a given level of per capita supplies. When hog prices fall below this level, pork production will decline. When prices move above this level--production increases. Therefore, our task is to project that future price/production balance level.

To do this I examine past average feed costs and determine what has happened to the "return over feed" required to keep the hog enterprise viable. (In other words, what is the industry saying that they need to cover nonfeed costs.) I then project feed prices based on current government policies and the world grain supply/demand conditions. Given these feed price expectations, current average feed conversion and estimated nonfeed return requirements, I suggest a long term planning price that will cover these "average industry costs". The following table shows how these "average industry costs" have changed through time and what I expect them to be with corn at $2.60 - $2.80 per bushel.

Projecting Long Run Planning Prices

Period	Production Costs* Feed Cost	+	Return Over Feed Costs	=	Average Hog Price
	-----------------$ per cwt.-----------------				
Early 1960's	$11.00		$ 5.00		$16.00
Late 1960's	12.00		9.00		21.00
Early 1970's	19.00		15.00		34.00
Late 1970's	24.00		20.00		44.00
Projected for 80's	25-27		22-24		47-50

* Based on farm management records (southern Minnesota)

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Short Run Cost and Return Budgets

With both expected lower hog prices and higher feed costs, returns to hog producers will be reduced rather sharply over the next 12 months, as compared to the high profit year just completed (82/83). The following table uses a cost structure based on $2.65 corn and current nonfeed costs to project returns from a complete hog program during the coming year.

Complete Hog Program
Expected Costs And Returns With $45 Hogs And $2.65 Corn, Average 1983/84

	One Litter		Per Cwt. Produced
Value produced			
7.3 pigs - 225# @ $45/cwt.	$739		
.3 sow - 450# @ $40/cwt.	54		
Total (1,778 pounds)	$793		$44.60
Feed requirements and costs			
Corn @ $2.65/bu., 105 bu.	$278	330 lbs.	$15.63
Suppl. @ $15/cwt., 2,400 lbs.	190	70 lbs.	10.69
Total feed	$468	400 lbs.	$26.32
Operating costs	$191		$10.73
Total feed and operating	$659		$37.05
Return to labor and facilities	$134		$7.53

Some management implications of these projections are that hog producers should not make decisions which have long-run implications based on short-run economic conditions. If they have a hog set-up which was profitable in the past, it will likely be so again. If fine tuning is needed in the hog enterprise, now might be the time to consider it. Be aware of contracting possibilities. Expected strength in cash prices this summer could pull fall contracts up some. Hog producers should remember that contracts can be used to minimize losses as well as to maximize returns. Contracting decisions should be based on individual price goals as well as on expectations of price movements in both cash and futures markets. If additional grain is needed for feeding in 1983-84, cash purchases this fall when PIK allocations are made might be advisable.

KEE

Long Term Cost and Return Budgets

The preceding section projects annual cash flows using short term planning prices and input costs. This section projects longer term expected average costs and returns for three types of hog enterprises. Individual hog producers are encouraged to use their hog enterprise records to generate feed conversions and nonfeed cost requirements that are more appropriate for their own situations. However, I would encourage them to use butcher hog prices in the $48 to $50 range if they expect corn prices to be near loan levels during the next few years.

The following table is based on the long term cost and return estimates in our Hog Producers Planning Guide, FM 503, as revised January 1983.

Long Term Income Opportunities In Hog Production

	Complete Hogs	Feeder Pig Production	Hog Feeding
Unit	litter	litter	pig
Production	7.6 pigs	8 pigs	195 lbs.
Price (buy/sell)	$ 49	$ 45	$45/$49
Other sales	51	34	-
Total sales	856	385	$115
Cash costs (excluding interest)	345	180	72
Value of grain fed	278	102	28
RETURNS OVER LISTED COSTS	$233	$103	$ 15
Interest cost			
Operating	17	6	1
Livestock	16	12	2
Total interest	33	18	3
EXPECTED NET CASH FLOW	$200	$85	$12
Key management variable	feed/grain	pigs/litter	buy/sell margins
Effect of a 10% change	±$25	±$35	±$ 7
Risk of loss	low	moderate	high

The "return over listed costs" indicates the amount that net cash income is expected to increase per unit of the enterprise produced during the next 5 years. (Interest costs are excluded, as are facility ownership costs since they vary so much from farm to farm.) This is the amount that will be available for debt repayments, family living and/or new investments.

However, since most farmers are incurring some type of interest costs, the "expected net cash flow" indicates the expected contribution of each enterprise to overhead labor and facility costs after the specified interest charges are deducted.

Note that a relatively small (10%) change in buy/sell margins or production efficiency wipes out over half of the expected net cash flow from the feeding enterprise. Therefore, this enterprise is not very desirable for the highly levered farmer with little risk bearing capacity.

The dollar figures in the above table are based on current dollar values. If inflation re-ignites, as now appears likely, the numbers will all be significantly larger 5 years from now; but costs and returns will likely increase proportionately and real, inflation adjusted, returns will not change much.

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