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SHIFTING FROM CASH CROPS TO DAIRYING

The farm operator faces two major problems as a result of the changing conditions of farming. First, he must determine whether a particular adjustment or investment is sound. Second, once the farmer has decided that a change will increase his returns sufficiently, he must ascertain how and under what conditions the change can be financed. Credit plays an important role here, since it is often the implement which facilitates needed adjustments.

Professors Clarence A. Moore and A. C. Magee of the Department of Agricultural Economics and Sociology at Texas A. & M. College recently made a study of probable returns and finances needed to shift from cash-crop farming to dairy farming in the central Blacklands of Texas. The threefold objective of the study, entitled "Financing the Dairy System on a Central Blackland Farm," was to determine: (1) the returns that can be expected from the change, (2) the finances needed to make the change, and (3) the length of time required to repay the debt incurred with the additional income that may be obtained.

A large number of problems arise in making a study of this kind because of the tremendous variations in conditions on farms as to soils, acreages, buildings and equipment, managerial ability of the operators, and other factors. If a change in organization is contemplated for a particular farm, estimates would need to be worked out for the specific situation. Since it would be impossible to analyze all possible conditions on individual farms, the economists set up a farm situation, based on research findings, which approximates the situation on many farms in parts of the Blacklands.

The farm situation used was a 180-acre Blackland unit consisting of 106 acres of cultivated land, 72 acres of pasture land, and 2 acres of homestead and roads. A fairly high level of soil management and crop production was assumed; therefore, the management practices and yields used in the study were better than those on many farms in the area with similar land capabilities. Only two farming systems were analyzed — a cash-crop operation without livestock and a 36-cow dairy operation.

Prices received for farm products and costs of purchased items were those prevailing in the area during 1955. Any change in these cost-price relationships naturally would alter the final results.

Cash-Crop System

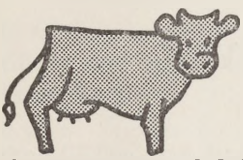
The cropping system was a 3-year rotation of cotton, corn, and oats-clover, fitted to recommended practices for high-level production. Acreage controls on cotton were assumed to be in force. Corn was the grain used, since it appeared to be more profitable under the 1955 conditions than any other grain.

Labor costs were not considered. The assumption was made that the farm family could provide the labor needs for both the cash-crop system and the dairy system, except labor for harvesting and weeding cotton and the labor included in work performed on a custom basis. However, dairy operations are more confining and allow less free time for recreation than does the cash-crop system.

Under the conditions outlined, the cash-crop system had total sales of $5,779 and expenses of $1,726, leaving a return of

$4,053. Reduced yields or lower prices than those used in the study would result in less return; if the converse were the case, higher returns would be realized.

The Dairy System



In order to make the change from a 180-acre cash-crop farm to a 36-cow dairy with an average annual production per cow of 9,000 pounds of milk, an initial investment of $21,075 would be needed. Almost half the total investment required was for the outright purchase of the dairy herd. (Limited information seemed to favor outright purchase of the dairy herd for the full-scale operation, rather than building up the milking herd over a period of years.) In addition to the dairy herd, the more costly investment items needed were the dairy barn, feeding barns, and feed storage structures.

The cropping system was planned to provide grazing, hay, and roughage for the dairy herd; concentrates for the cow herd were purchased. Thirty acres of Sudan and 41 acres of forage sorghum were planted on the acreage formerly devoted to corn and cotton; the 35 acres of oats-clover were unchanged.

Gross income from the dairy totaled $16,810, and expenses were $7,989, leaving a return of $8,821.

Comparison of Returns

In this study, the change from a cash-crop operation to a 36-cow dairy setup yielded $4,768 in additional returns. The amount represents a return of 22.6 percent on the investment of $21,075 needed to make the change, and about 4½ years would be required for the additional net returns to equal the cost of the change-over.

The results would be changed substantially if production were above or below the 9,000-pound output per cow assumed for this study. The greatest changes in expenses would result from differences in the cost of purchasing the dairy herd and expenditures for feed, since both costs vary directly in relation to the productivity of the cows.

If the annual productivity per cow is 7,000 pounds of milk, the farmer converting from a cash-crop system to a dairy system can expect only $1,526 of additional net income. With a level of 12,000 pounds per cow, the farmer can expect as much as $9,592 of additional net income annually.

Net returns from either cash-crop farming or dairying will vary substantially as a result of relative changes in prices for crops and milk. For example, milk prices in the Blacklands from 1948 through 1955 ranged from 18 percent below to 14 percent above the average prices received for cash crops in the area in 1955. Using these extremes in price relationships and assuming that cash-crop prices remain at 1955 levels, the additional returns of converting from cash-crop farming to a 36-cow dairy with cows producing an average of 9,000 pounds of milk annually would have varied from $1,742 to

TIME AND ANNUAL PAYMENTS REQUIRED TO LIQUIDATE AN AMORTIZED DEBT INCURRED IN CHANGING FROM CASH-CROPPING TO DAIRYING

Item	PRODUCTION LEVEL OF DAIRY HERD		
	7,000 pounds per cow	9,000 pounds per cow	12,000 pounds per cow
Initial cost of change-over	$17,475	$21,075	$24,675
Amount of loan[1]	$13,100	$15,800	$18,500
Additional net returns[2]	$ 1,526	$ 4,768	$ 9,592
Liquidation of loan (amortized)[3]			
At 6 percent interest			
Number of annual payments	13	4	3
Amount of annual payment	$ 1,480	$ 4,560	$ 6,921
At 8 percent interest			
Number of annual payments	16	5	3
Amount of annual payment	$ 1,480	$ 3,958	$ 7,178

[1] Three-fourths of the initial cost rounded to the nearest $100.
[2] Additional net returns expected from changing from cash-crop farming to a 36-cow dairy at 1955 prices.
[3] Assuming annual payments do not exceed the expected additional net returns at 1955 prices.

$7,121, compared with $4,768 for 1955 price relationships. This variation in returns emphasizes the care needed in selecting the prices to be used in determining whether a major change in farming systems is warranted.

Financing the Adjustment

A change from cash-crop to dairy farming should prove profitable to the central Blacklands farmer who has good management ability and a farm similar in type and size to that outlined in this study. In most cases, a farmer would have to obtain credit to make the changes involved in converting from a cash-crop system to a complete dairy operation. Usually, he would expect to make repayment of credit from the additional returns.

Often, the lending agency requires the farmer to provide some of the initial outlay for the change-over. In this study, it was assumed that the farmer would provide one-fourth of the initial cost, and a lending agency would provide the remainder. The time required to amortize the debt from additional returns would vary from 3 years to 16 years under the situation prevailing in 1955, depending upon the productivity of the cows and the rate of interest on the loan.

In the study, the additional returns that can be expected from a change-over to dairying are average returns and, as indicated earlier, can vary substantially. This variation in returns should be taken into consideration when the loan is made.

Messrs. Moore and Magee point out two possibilities in coping with variations that might occur in net returns: (1) the term of the loan could be lengthened, thereby reducing the annual amortized payments; or (2) a flexible repayment plan could be used, with the amount of annual payments set at a reasonable proportion of the realized net returns each year.

Turkey Troubles

Turkey producers will need to keep well informed in order to market their 1957 turkey crop at a profit, according to Extension poultry marketing specialist F. Z. Beanblossom and Extension economist John G. McHaney.

Government purchases through the school lunch program eased last year's supply situation somewhat; yet, little or no profit was realized from turkey enterprises. Feed-dealer credit featuring risk-sharing plans for financing production may influence farmers to continue turkey production at a high rate during 1957, although prices received for the record crop last year were the lowest in several years.

Both national and state testing reports indicate an increase in the number of breeder hens for 1957. In Texas on December 15, 1956, 40 percent more hens had been tested than by the same date in 1955. Reports of the United States Department of Agriculture indicate that the Nation's farmers intend to hold 16 percent more heavy breeder hens and 3 percent fewer light breeder hens for the production of eggs and poults in 1957.

The current trend of selling turkeys the year-round, instead of only during seasonal holiday periods, may relieve some of the pressure from the expected large sales of 1957-crop turkeys. However, the specialists warn that such action will not completely solve the marketing problem of surplus production.

Drought-Feeding Cattle

The Oklahoma Agricultural Extension Service makes the following suggestions for drought-feeding beef cows and heifers.

1. *Feed at least the minimum roughage requirements.* One pound of roughage per 100 pounds of body weight is the absolute minimum for the proper function of the digestive system. Two pounds of roughage per 100 pounds of body weight should be sufficient to meet maximum energy requirements. As long as minimum roughage requirements are met, 1 pound of grain can be substituted for 2 pounds of roughage.

2. *Feed an adequate amount of protein* because most roughages are not providing

$5,000 CASH AWARD!

The Hoblitzelle Award for the Advancement of Texas Rural Life will be presented on May 22, 1957, at the Texas Research Foundation's annual field day at Renner to the Texas farmer or rancher who made the most notable contribution to agriculture in the State during the 4-year period January 1, 1953, through December 31, 1956. The award, consisting of $5,000 in cash and a gold medallion, is made every 2 years to the individual whose contribution to rural life improvement is judged the most important for the preceding 4 years.

Nominations may be made by individuals, groups, or agencies to one of the five regional committees not later than March 1 this year. Information on how the candidates for the award are nominated and other details may be obtained by writing the Permanent Secretary, The Hoblitzelle Awards, Texas Research Foundation, Renner, Texas.

normal amounts of protein. Microorganisms in the rumen (paunch) require the nitrogen in protein to digest feeds, especially low-quality roughages. If dry grass or roughage is ample, the cattle should be fed 2 pounds of 41 percent protein meal per head daily. When grain is substituted for a part of the roughage, feed 1½ pounds of cottonseed meal or soybean meal per head daily. Grain will not substitute for protein. Buy protein supplement on the basis of the price per pound of protein.

3. *Feed extra phosphorus,* free access, using a half-and-half mixture of salt and steamed bone meal. Dicalcium phosphate may be substituted, pound for pound, for bone meal.

4. *Feed vitamin A if needed,* especially to cows with calves and to weaned calves, using either dehydrated alfalfa pellets or a commercial vitamin A concentrate mixed with feed.

Only the best and most productive cows will pay. Start feeding cattle before they become weak and thin, and creep-feed calves as soon as they will eat.

Sorghum Protein High During Winter

Chemical analyses have shown that the percentage of protein in sorghums is exceedingly high during the early growth stages of the plant, declines rapidly until about heading time, and then remains relatively constant. From September until March, weathering has little — if any — effect upon the protein percentage in sorghums, although total protein decreases as total dry matter declines from weathering.

Tests conducted at the Oklahoma Agricultural Experiment Station at Stillwater show that the percentage of protein in sorghums during drought years, when forage yields usually are low, is two to three times higher than during "normal" years. Three years of the tests were considered droughty, and three were considered normal.

New Nursery to Boost Pine Seedling Output

A new nursery 12 miles west of Kirbyville will more than double the Texas Forest Service's future production of pine seedlings for the State's timberlands.

The service expects to produce 20 million seedlings in the new nursery this year, according to Don Young, Head of the Forest Management Department of the Texas Forest Service. When peak production is reached, the output is expected to be 50 million seedlings a year.

The *Agricultural News Letter* is prepared in the Research Department under the direction of J. Z. Rowe, Agricultural Economist.