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As manager of a Production Credit Association field office, I have had the opportunity to observe various management capabilities and operating tendencies of farm operators for the past several years. In this paper I will try to state several of my observations as an agricultural creditor working with farmers on their financial problems and relate these problems to the changing discipline of farm management.
Because I feel that all of these observations are interrelated, I will state the problem areas and then discuss each using three farmer-operator examples to illustrate some of the points. First, there is a general lack of overall financial management on the part of many farm operators. Second, there is a direct correlation between the type of farm records kept and financial management abilities. Third, there is a lack of financial planning when making capital purchases on the part of many farmers. And last is the problem of "split-credit." This problem is related to the lack of financial planning when making capital purchases to some extent, but specifically refers to the operator having numerous credit sources and open accounts. As can be seen, it is somewhat difficult to discuss one of these and omit the other factors as they are all very closely related.
Traditionally farm management courses have stressed production principles as opposed to financial management, marketing strategy and the like. If one reviews standard farm management textbooks such as Farm Management Decisions by Trimble R. Hedges or Farm Business Analysis by Castle, Becker and Smith, there is very little discussion devoted to overall financial management as it relates to the sound and wise use of credit. One key reason to the overall lack of financial management is due to the fact that prior to the early 1970's, prices of farm commodities were very predictable and farm capital costs increased at a modest rate of inflation, as did operating expenditures. Therefore, as long as production factors were favorable, there was not the imperative need for financial management because agricultural creditors were dealing with a relatively constant factor of financial needs. However, as stated by Frey and Klinefelter (March 1978) "Agriculture is well into its third major revolution - that of business financial management. This follows the mechanical and technological revolutions of earlier years. Future success in agriculture will demand that operators have the ability to attract and manage huge amounts of capital."
With this statement in mind and the experiences of the past several years regarding crop-price and operating expense variations along with the rapid price-rise for farm machinery and other capital items, the need for increased financial management skills become very critical.
If a farm operator is to have the data necessary to make sound financial decisions regarding both the operating procedures and capital requirements, good financial records must be kept and utilized. In the past farmers and agricultural creditors have analyzed production performance records to determine yearly performance. The concept of net income earned by the

[^0]farm program has not been scrutinized until just recently in determining the yearly business performance.

There are numerous farm records systems such as AGRIFAX, ELFAC, state university account books, and private accounting companies available to farmers today as well as manual systems. But, there is a definite correlation between the quality of records kept and the overall financial management abilities of the operator. For the most part the operator with detailed, accurate records has a much better understanding of the overall financial condition of his business than does the operator who keeps poor and inaccurate farm records.

## THREE EXAMPLES

The three examples illustrated in Tables 1, 2, and 3 reveal some of the financial management problems as related to accurate records. Each example will be further discussed at a later point in this paper. However, a comment should be made at this time regarding each operator illustrated in the examples. The operators illustrated in Tables 1 and 2 keep no records other than the historic "shoebox" used by many farmers. The operator illustrated in Table 3 uses the AGRIFAX records system provided by the Farm Credit Service. His financial records are very precise and accurate as are his production records.

Because of poor records, many operations that are in financial difficulty do not realize that a problem exists until it is too late. This situation happens quite easily when the operator stays current with regular payments on capital accounts, but begins to build up open accounts on operating expenses with insufficient repayment capacity to cover both operating and capital debt requirements. This point is illustrated quite well in Tables 1 and 2.

Table 1 illustrates a dairy operation that underwent an expansion program approximately five years ago. This expansion was financed on an intermediate-term basis. As can be seen, very little long-term debt was held in relation to the total assets on hand. As a result of the poor records kept on the operation, the operator did not have a basic understanding of why he was having difficulties in servicing all the short-term debt that he had undertaken. It was not until some extremely tedious financial counseling took place that the operator seemed to realize that he could not continue to operate on the basis that he had been operating for quite some time. As may be seen in the 1978 financial statement, a major refinancing took place to put the debt loan in a more realistic proportion with regard to the operation. Hopefully this refinancing was not too late as the operator must forego any new capital purchases for at least two years if the prior situation of insufficient profit to service the debt is not to reoccur.

Table 2 illustrates a young cash grain operator. At first glance a stranger to the situation would most likely ask how it is that this individual is still in business today, given the extreme loss in financial position during the three years shown. An honest answer is that the young operator's parents are co-signed on the PCA note or it would be totally impossible for us to try and help

TABLE 1.
Three-Year Comparative Financial Statement Dairy Program - No Farm Records

|  | $\begin{gathered} \text { January } \\ 1976 \end{gathered}$ |  | $\begin{gathered} \text { January } \\ 1977 \end{gathered}$ |  |  | January |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ASSETS | No. | Value | No. | Value | No. | Value |
| Livestock cows | 119 | \$ 55,000 | 120 | \$ 66,000 | 115 | \$ 60,000 |
| heifers | 50 | 15,000 | 51 | 15,600 | 40 | 16,000 |
| calves | 29 | 5,000 | 39 | 4,000 | 40 | 10,000 |
| Feed \& Grain |  | 44,200 |  | 55,250 |  | 34,870 |
| Growing Crops |  | 4,200 |  | 3,200 |  | 2,500 |
| Farm Machinery |  | 133,800 |  | 135,800 |  | 140,000 |
| Autos \& Trucks |  | 24,500 |  | 34,950 |  | 31,000 |
| PCA Stock |  | 11,855 |  | 12,370 |  | 12,370 |
| Cash on Hand |  | 5,000 |  | 10,000 |  | 8,000 |
| TOTAL CURRENT ASSETS |  | \$304,455 |  | \$342,170 |  | \$314,840 |
| Farm Real Estate | 293 | 375,000 | 293 | 375,000 | 293 | 375,000 |
| Non-Farm Real Estate |  | 150,000 |  | 175,000 |  | 175,000 |
| TOTAL ASSETS |  | \$829,455 |  | \$892,170 |  | \$864,840 |
| LIABILITIES |  |  |  |  |  |  |
| PCA Notes Payable |  | 223,866 |  | 225,789 |  | 129,131 |
| Implement Companies |  | 54,000 |  | 42,185 |  | -0- |
| Bank |  | 13,000 |  | 9,500 |  | 13,000 |
| Accounts Payable |  | 12,100 |  | 24,281 |  | 1,500 |
| Farm Real Estate Debt |  | 24,500 |  | 22,000 |  | 211,750 |
| Non-Farm Real Estate Debt |  | 55,000 |  | 50,000 |  | 42,000 |
| TOTAL LIABILITIES |  | \$382,466 |  | \$373,755 |  | \$397,381 |
| NET WORTH |  | \$446,800 |  | \$518,415 |  | \$467,459 |
| PERCENT NET WORTH |  | 53.87 |  | 58.11 |  | 54.05 |
| NET FARM INCOME (prior tax year) |  | \$ 7,407 |  | \$ 9,868 |  | \$ 8,426 |

this operator work out of the existing situation. Again, this operator kept no form of accurate financial records and had no basis for undertaking the capital purchases except the premise that he felt he needed these items.

More will be said about the manner in which the operators shown in Tables 1 and 2 undertook the capital purchases and how the open accounts built up to the large sums that exist at present.

The operation shown in Table 3 is a dairy farm that at first glance appears to be debt-heavy and may be bordering on financial trouble. However, as stated earlier, this operator keeps very detailed financial records as well as production records. Because of the complete records that are kept by this operator, the management abilities of this individual are brought to the forefront and are easily identified.

The observations regarding split-credit and lack of financial planning when undertaking capital purchases are usually quite closely related. Based on the three examples previously illustrated as well as other loan accounts, split-credit is usually a direct result of the lack of financial planning when undertaking capital purchases. A major factor that increases the likelihood of split-credit is the ease of obtaining credit through the equipment manufacturer finance companies. Normally the only aspects considered are the individual's current balance sheet and credit check to determine how the person handles any existing debt. Very rarely is any budgeting done to determine if the farm
program is capable of generating sufficient profit to service the total debt load including the new capital item being considered. From an agricultural creditor's viewpoint, it must be remembered that all capital purchases must be financed from profit, that is to say that a sufficient profit (income above operating expenses) must be achieved to service the debt being incurred on a properly amortized basis. If this is not possible, then rarely should the capital purchase be undertaken. The three operations illustrated indicate quite different net income generated on each operation as may be seen in Tables 1 through 3.

The operator shown in Table 1 had a history of purchasing any piece of equipment that he felt he needed and financing it through the implement finance company or bank through which the local dealer worked. This technique led to dollars being used to make payments on these capital accounts rather than keeping feed and fertilizer bills current, the end result being a build-up of open accounts on operating bills. Finally, all accounts, both capital and operating, began to lag in repayment as there was insufficient profit to service the total debt package.

The program is overinvested in machinery and the vast majority of the machinery has been purchased new over the past five years. This dilemma is commonly referred to as "New Paint Fever"' by agricultural creditors. It should be noted that the value of farm machinery reported in Table 1 is a depreciated figure. The operator has averaged over $\$ 20,000.00$ of new equip-

TABLE 2.
Three-Year Comparative Financial Statement Cash Grain Program - No Farm Records

|  | $\begin{gathered} \text { August } \\ 1975 \end{gathered}$ |  | $\begin{gathered} \text { August } \\ 1976 \end{gathered}$ |  | August 1977 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ASSETS | No. | Value | No. | Value | No. | Value |
| Livestock - steers | 26 | \$ 7,850 | 5 | \$ 1,500 |  | \$ -0- |
| Growing Crops | 450 | 25,000 | 450 | 15,300 | 555 | 22,000 |
| Grain \& Feed |  | 12,500 |  |  |  |  |
| Farm Machinery |  | 40,250 |  | 51,000 |  | 74,000 |
| Autos \& Trucks |  | 4,500 |  | 7,800 |  | 9,000 |
| Accounts Receivable |  | 1,000 |  | 2,500 |  | 1,700 |
| PCA Stock |  | 2,260 |  | 2,535 |  | 2,535 |
| Cash on Hand |  | 1,000 |  | 500 |  | 1,000 |
| TOTAL CURRENT ASSETS |  | \$94,360 |  | \$85,135 |  | \$110,235 |
| Farm Real Estate |  | -0- |  | -0- |  | -0- |
| TOTAL ASSETS |  | \$94,360 |  | \$85,135 |  | \$110,235 |
| LIABILITIES |  |  |  |  |  |  |
| PCA Notes Payable |  | \$45,750 |  | \$45,155 |  | \$ 39,904 |
| Implement Dealer |  | 3,300 |  | 3,500 |  | 18,363 |
| Equipment Finance Co. |  | -0- |  | -0- |  | 10,000 |
| ASCA/CCC |  | 1,000 |  | 4,500 |  | 9,253 |
| Fertilizer - Seed Co. |  | 6,000 |  | 16,100 |  | 34,335 |
| TOTAL LIABILITIES |  | \$56,050 |  | \$69,255 |  | \$102,855 |
| NET WORTH |  | \$58,310 |  | \$15,880 |  | \$ 7,380 |
| PERCENT NET WORTH |  | 61.80 |  | 18.65 |  | 6.70 |
| NET FARM INCOME (prior tax year) |  | \$ 6,535 |  | - \$13,222 |  | -\$ 15,490 |

ment purchases. Based on the net farm income, these purchases become very questionable with regard to repayment capacity.
As state earlier the reorganization of the total debt structure will hopefully bring the program back into line. However, at the present level of debt repayment capacity, there is no room for any additior al capital purchases for at least two years. Also, the individual must start maintaining some form of financial records specifically in the area of business management results on a yearly basis so future problems may be detected and corrected before the problem becomes critical.

The final point to be made regarding Operator Number 1 is that this operation is at a critical point in time. All the traditional measures of financial condition are in the "critical" areas. Debt per cow is $\$ 3,455.00$. (A general rule of thumb is that anything over $\$ 3,000.00$ debt per cow must be watched carefully.) Also, the monthly debt payments as a percent of the average monthly gross milk check are approximately 63 percent. This payment far exceeds the general rule that 35 percent or less of the monthly milk check should be required for capital debt repayment.
The young grain farmer illustrated in Table 2 also had an inclination for "New Paint Fever." Again, this is an example of very poor records being maintained and having no sound basis for making the decision to add capital items to the program other than his personal feeling that the items were needed. The operator has no definite marketing plan that is followed for marketing the crops raised. As can be seen by the poor performance shown, the three-year comparative balance in Table 2, this person is almost at the point of no return.
Several factors should be noted about this operation in reviewing its manner of capital expansion and the problem of split-
credit. The additional capital purchases made during the threeyear period may well have fit into his program if more planning had been done prior to their purchase. The operator has a tendency toward untimeliness in his production practices, but yields are still above average for the area. Also, his 1975 crop was marketed at the bottom end of the price range for this crop year. As a result he could not meet all his operating expenses for the year. In 1976 his yields were again good but due to improper management, he lost a large portion of the crop in storage, and again hit the low price market. It was at this time that he purchased a new tractor and traded combines for a newer model. These purchases were made without consulting PCA or other creditors and were done in spite of a negative income in the prior year. From a creditor's viewpoint, this purchase did not appear to be a wise decision with two years' operating expenses still largely unpaid. At this point it should also be noted that the implement company has recently repossessed the new tractor purchased in the fall of 1976.
Poor marketing practices and improper storage management have hurt this operator in the past several years. He follows no set plan for marketing his crop except to hold the crop till the following spring and summer. He does not use forward contracts to average out the highs and lows as well as guarantee a set income. In both the 1975 and 1976 crop years, the following summer was the low point for price during the year. Had he used forward contracts and used periodic marketing intervals, the income picture would have been significantly improved. Also, as stated, he has lost a portion of his crop due to high moisture in storage with improper ventilation.
A final comment about the operator in Table 2 is that the

TABLE 3.
Three-Year Comparative Financial Statement Dairy Program - Farm Records Utilized

creditors have met with this individual and his father and have worked out an arrangement to repay the operating expenses built up on a four-year amortization schedule. At this point in time, if it were not for the father's backing the program and an improved degree of cooperation on the part of this young operator, he would not be in business at present.

After discussing the situations in Tables 1 and 2, the operator illustrated in Table 3 is somewhat of a pleasure to work with. An entire paper could be devoted to this individual alone illustrating the high degree of management abilities and how decisions on the operation are made via the use of records and careful analysis. However, time and space do not permit this in a general discussion of overall financial management.

Table 3 shows a consistent growth in the Net Worth, but a drop in the Percent Net Worth during the past year. Two points should be clarified about these facts. First, the dollar increase in Net Worth is a "real increase" as all assets are valued using a depreciated value and there have been no adjustments in real estate values to account for inflation. The second point regarding the Net Worth position is that (as may be seen in Table 3) this individual added an additional 179 acre farm to the program during 1977. This was done through a land contract purchase
with basically 100 percent financing. Thus the drop in Percent Net worth, as dollars of assets on the new real estate were added on a one-to-one basis with liabilities. A further comment regarding this real estate purchase is that the farm was located directly across the highway from the home farm and the operator had been renting it on a cash basis for the past 15 years, so it was not a new addition in terms of acreage to the program. Also, it was financed on a land-contract basis for tax reasons on the part of the sellers.

When looking at the financial statement in Table 3, it is noted that split-credit does not exist. Basically, there is one source of short-term credit and the only other debt is the long-term real estate portion. In the 1978 statement, there is a debt to implement companies, but these purchases were made only after consulting with the Production Credit Association personnel and an analysis of his financial records. The debts were placed with the implement companies to take advantage of the interest-free program offered and the dollars were set up through the Production Credit Association to pay off the accounts when the interest-free option expired. These purchases were made because of the detailed records available as a necessity in the area of tax planning and overall management. The $\$ 34,156.00$ invested
saves approximately $\$ 5,000.00$ in taxable income or a return of 14.6 percent.

This operator has had continued growth in net farm income primarily because of outstanding production and financial management. His milk production is well above average, approximately 17,800 pounds milk sold per cow per year. Also his crop production is above average for the area.
As stated several times previously, but to re-emphasize, this individual operator does not undertake any capital purchases without first consulting with the Production Credit Association personnel and a careful analysis of the financial records to determine the impact of such a purchase and how it will affect the overall business as well as its feasibility with regard to debt repayment. Without these records available to credit personnel, it would be impossible to make the types of financial decisions that are necessary to provide sound credit to this individual.
As a final point to illustrate the need for financial planning and how it relates to the problem of split-credit, the figures in Table 4 illustrate a hypothetical capital purchase and the resulting debt payments incurred.

TABLE 4
Potential Capital Purchase

| Amount to be financed | $\$ 20,000.00$ |
| :--- | :---: |
| Amortization schedule | 5 years |
| Repayment plan | 5 annual installments |


| Repayment plan | 5 annual installments |  |
| :--- | :---: | :---: |
|  | Alternative A | Alternative B |
| Interest Rate | $9 \%$ | $16 \%$ |
| Yearly payment | $\$ 5,142.00$ | $\$ 6,108.00$ |
| Total Payments | $\$ 25,710.00$ | $\$ 30,540.00$ |
| TOTAL Savings | $\$ 4,830.00$ |  |

Using the data presented in Table 4, it would appear to be a safe assumption that if an operator could not afford to purchase the capital item under the terms of Alternative A, then it would be impossible to justify the purchase under the terms of Alternative B. However, I have experienced several situations where farm operators have made similar requests, as illustrated in Table 4, to their local Production Credit Association and have been advised not to undertake the added capital purchase due to insufficient debt repayment capacity based on their proposed budget. These individuals have then gone to the local implement dealer and purchased the item, financing it through the equipment manufacturer's finance company with interest rates very close to those shown in Alternative B. Again, this happened due to the lack of understanding on the part of both creditor and operator regarding financial management.

## SUMMARY

In this paper I have attempted to bring forth some very general areas of concern in the farm management discipline regarding financial management. The problem areas discussed are quite
broad in nature, but as an agricultural creditor dealing with farm operators, these problems become quite real.

The three examples illustrated tried to show both extremes in terms of management capabilities and to point out that management problems are not unique to any one specific type of farm operation. The examples illustrate the types of problems that operators and creditors can become involved in when there is a lack of financial management on the part of the operator, or creditor, or both.
As farm operators and agricultural creditors move into the "third revolution" of agriculture mentioned previously, both parties must become skilled in dealing with larger amounts of capital required to finance a farm program. As stated in the Agricultural Credit Outlook 78, "The USDA forecasted a total farm debt of $\$ 118.7$ billion dollars on January 1, 1978. This represents a 15.6 percent increase for 1977." The average loan size for the Production Credit Association in the Fourth Farm Credit District increased from \$17,574.00 in February, 1975, to $\$ 25,159.00$ in February, 1978. ${ }^{1}$ Assuming that this trend is going to continue, both farm operator and creditor must become more proficient in analyzing financial information.

This situation presents a tremendous opportunity for the agricultural credit, academic, and extension professionals to work together in taking the lead to change and revise the existing farm management discipline to meet the needs of the future. All three of these professional areas have a vested interest in what future changes take place in our agricultural economy. I feel that it would be in the best interest of all parties, including the farm operators, if a coordinated approach were to be taken in upgrading and improving the techniques of financial management.

This paper raises more questions than it answers, but if it stimulates a dialogue between the various professional personnel working in the farm management discipline, it has served a very useful purpose.
${ }^{1}$ Compiled from PCA Fourth District Loan Activity Reports on file.

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