# Use Of Cash Flow Statements As A Financial Management Tool

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# Use Of Cash Flow Statements As A Financial Management Tool

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## INTRODUCTION

FARMERS GENERALLY understand the aspect of farm management relating to control and use of physical assets to achieve high rates of production. They are less familiar with the tools of financial management, however, even though the high capital investment in agriculture makes it imperative that financial management be a part of farm management. High interest rates and other unfavorable factors of the recent economic environment have encouraged farmers to seek ways to increase production efficiency, especially the more efficient use of capital. This can be accomplished through improved financial management.

Financial management includes decision making concerning investment, tax liabilities, and financing current operations. All of these involve forward planning and have direct effects on the profitability of the farm. Industry emphasizes financial management and farmers should do the same, especially with the large amounts of capital being borrowed by today's farmer. Good financial planning at the beginning of the year can both reduce the need to borrow and reduce interest costs when borrowing is necessary.

Financial planning should not be limited to the management of borrowed funds. Relevant information should also be gained in the areas of tax management and investment decisions. Perhaps the most useful financial management tool available to the farmer

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in this regard is the cash flow statement. A cash flow statement is a periodic summary of farm receipts and expenses. This publication examines the development and use of the cash flow statement in several farming situations, based on data obtained in a study of a specific farm situation.

## Objectives of Study

The general objective of the study was to demonstrate how a cash flow statement can be developed from physical data and enterprise budgets and to demonstrate the usefulness of the cash flow statement as a financial management tool by:

(1) Showing that, when borrowing is necessary, interest cost can be minimized by borrowing as needed rather than borrowing the total annual amount required at the beginning of the year,

(2) Showing that, by using a cash flow statement, a farmer can project expected receipts and expenses and use this information to analyze the intermediate and long-term debt repayment capacity of a farm organization, and

(3) Showing that the cash flow statement provides information useful in a capital investment decision.

## Procedure

To develop cash flow statements, data were taken from a farm of approximately 1,100 acres located in Marengo County, Alabama. Based on discussion with the farm owner, enterprise budgets were developed for each crop and type of livestock likely to be produced on the subject farm. These budgets served as the basis for developing cash flow statements. A detailed analysis of enterprise expenses and receipts was undertaken to develop cash flow statements.

A computer model was used to develop cash flow statements for a given farm plan. Three different methods of borrowing operating capital were compared to show differences in interest cost of the three methods and how net cash income was affected.

Cash flow statements were developed for two different farm combinations of enterprises. Projected prices were used to determine which farm organization could best service intermediate and long term debt requirements.

Cash flows for a beef feedlot and a farrow-to-finish swine enterprise were analyzed to determine which would be a better capital

investment. Cash flows were analyzed with respect to stability of cash flows over time and recovery of the initial investment, to provide a basis for accepting one investment over the other.

## DEVELOPING A CASH FLOW STATEMENT

Data from an actual farm were used rather than simulated data to get as realistic a representation as possible of the principles of constructing a cash flow statement. Budgets and cash flow statements were constructed with the use of a computer model which, when supplied with input information, performed necessary calculations and printed output as a readable budget.[1]

### Enterprises Considered

Enterprises considered were typical of those usually undertaken in the area, considering soil type, fertility, and topography of the land. Because of labor requirements, the use of only one cotton picker, and the preferences of the farm owner, cotton was limited to a maximum of 300 acres. All other enterprises were limited by available land or labor.

Some row crops budgeted for this study could be sold directly or used as feed for the livestock enterprises. Crops for sale were corn, soybeans, wheat, and cotton. Corn would be used as feed for livestock, as grain, or as silage. Other crops considered were johnsongrass for hay and sorghum for grain or silage. Summer pasture was dallisgrass. Winter pasture was dallisgrass overseeded with ryegrass. Livestock enterprises considered were cow-calf, stockers, feeders, and market hogs.

### Enterprise Budgets

Budgets were developed for all enterprises likely to be undertaken on the farm, appendix tables 13-23. Product prices were based on estimates by the Department of Agricultural Economics and Rural Sociology staff of expected supply and demand of the products considered for 1976. Product prices are shown in Table 1 and machinery and equipment prices in Table 2. Current prices were used for inputs. Budgets included receipts, if the product was to be sold, and cash and non-cash expenses for each enterprise.

[1] DARRELL D. KLETKE. 1975. Operations Manual for the Oklahoma State University Enterprise Budget Generator. Okla. State Univ. Agr. Exp. Sta. Research Rep. P-179.

TABLE 1. ROW CROP AND LIVESTOCK PRICES USED IN DEVELOPING ENTERPRISE BUDGETS FOR SELECTED FARM, ALABAMA, 1976

| Product | Price per unit |
|---|---|
| Row crops | |
| Soybeans | $ 4.50/bushel |
| Wheat | 3.40/bushel |
| Corn | 2.50/bushel |
| Cotton lint | .50/pound |
| Cotton seed | 80.00/ton |
| Livestock | |
| Weaned calves (steers) | 32.00/cwt. |
| Stocker calves | 32.00/cwt. |
| Slaughter steers | 46.00/cwt. |
| Market hogs | 47.50/cwt. |

TABLE 2. MACHINERY AND EQUIPMENT LIST AND PURCHASE PRICE FOR SUBJECT FARM, ALABAMA, 1976[1]

| Machine | List price | Purchase price |
|---|---|---|
| | *Dol.* | *Dol.* |
| Tractor, 125-hp. | 22,437 | 16,800 |
| Tractor, 125-hp. | 25,547 | 19,680 |
| Planter, 30-in. | 5,589 | 4,297 |
| Chisel plow, 14-ft. | 2,144 | 1,800 |
| Rotary mower, 15-ft. | 4,968 | 4,180 |
| Hydraulic disk, 21-ft. | 7,329 | 6,625 |
| Grain drill, 21-ft. | 3,267 | 2,857 |
| Hay baler | 5,034 | 4,000 |
| Mower-conditioner, 9-ft. | 4,896 | 3,900 |
| Forage harvester, 2-row | 7,949 | 6,500 |
| Combine, 4-row | 35,560 | 29,000 |
| Two forage wagons | 8,109 | 5,400 |

[1] Source-data supplied by operator of the farm used.

Labor, machinery, and equipment requirements were determined by the computer model. Budgets for row and forage crops are on a per acre basis. Livestock budgets are on unit basis where a selected number of head make up a single unit.

The base unit of the stocker enterprise consisted of 14 steer calves purchased at weaning. Calves entered the program at 425 pounds, were carried 180 days with gain of 1.5 pounds per day, and then sold at 700 pounds. The feed program was based on feed produced on the farm — cool season pasture or a combination of pasture and sorghum or corn silage or hay. Confined feeding of stockers was not considered because cool season grazing was more profitable and land was available for pasture.

The feeder budget also was based on a 14-steer unit. Steers weighed 700 pounds when put on the program and were fed to

1,000 pounds. Average daily gain was 2.24 pounds for the 134-day program. The steers were fed a ration of corn, protein supplement, and silage, and they were confined when fed. The type of feeding equipment used was specified, with all labor and equipment requirements and costs computed by the programming model.

In the case of the swine budget the basic unit was 80 sows, with 1,320 hogs produced and marketed annually. This total was based on two litters per year averaging 8.5 pigs per litter. Half of the sows were considered to be replaced each year. Twenty acres of pasture were considered available for sows, and corn for the hogs was produced on the farm.

The cow-calf budget was based on one bull unit of 30 brood cows. One system of production considered was winter-dropped calves weaned and sold in August at an average weight of 425 pounds. A 90 percent calf crop was estimated, providing 14 steer calves and 13 heifers. Six heifers were kept as replacements for five cows and one yearling heifer that were culled. The bull was kept for 4 years. Feed requirements were based on research done by Auburn University Agricultural Experiment Station.

### Steps in Developing a Cash Flow Statement

To construct a cash flow statement, the quantities of crops and livestock to be produced must be determined or already known. This forms the projected farm plan. Conditions that must be considered when developing the farm plan include preferences of the owner, the labor situation, quantity and type of land available, and the availability of markets.

For this study, no formal attempt was made to develop a farm plan. The combination of enterprises considered consisted either of a plan based on preferences of the owner or an enterprise mix that showed a profit and proved useful in demonstrating the techniques of the cash flow analysis.

The combination of enterprises considered in this section was selected for the purpose of illustrating the construction of a general cash flow statement. No attempt was made to maximize income or net worth or meet any other criteria except a typical farming situation.

Enterprises for the row crop and stocker farm were 200 acres of corn, 400 acres of soybeans, and 37.5 units (525 head) of stockers. These enterprises required the labor of three men. Computer gen-

TABLE 3. FERTILIZER, SEED, CHEMICAL, AND MACHINERY COSTS, BY CROP FOR ROW CROP AND STOCKER FARM ORGANIZATION, ALABAMA, 1976

| Crop | Acres | Fertilizer | | | Seed | | Chemicals | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Analysis | Rate per acre | Total | Rate per acre | Total | Kind | Rate per acre | Total |
| | | | *Cwt.* | *Cwt.* | | | | | |
| Corn | 200 | 33-0-0 | 3.75 | 750 | 18 lb. | 3,600 lb. | herbicide | 5 pt. | 125 gal. |
| | | 0-46-0 | 1.3 | 260 | | | | | |
| Soybeans | 400 | 0-46-0 | 1.7 | 680 | 1 bu. | 400 bu. | herbicide | 4 pt. | 200 gal. |
| | | | | | | | insecticide | 4 lb. | 1,600 lb. |
| Pasture | 310 | 33-0-0 | 3.8 | 1,178 | 20 lb. | 6,200 lb. | | | |
| | | 0-46-0 | 1.3 | 403 | | | | | |

SUMMARY OF COSTS

| Fertilizer | | | | Seed | | | Chemicals | | | Power and machinery | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Analysis | Requirement | When needed | Cost | Requirement | When needed | Cost | Requirement | When needed | Cost | Requirement | Cost |
| | *Cwt.* | | *Dol.* | | | *Dol.* | | | *Dol.* | | *Dol.* |
| 33-0-0 | 1,928 | Feb. Apr. July | 17,004 | 36 cwt. | Apr. | 2,088 | herbicide 325 gal. | Apr. July | 2,500 | fuel and oil | 3,419 |
| 0-46-0 | 1,343 | Apr. | 8,122 | 400 bu. | Apr. | 2,800 | insecticide | June Sept. | 3,200 | | |
| | | | | 62 cwt. | Oct. | 2,790 | 1,600 lb. | | | | |
| Total | | | 25,126 | | | 7,678 | | | 5,700 | | 3,419 |

erated budgets were used to show the mechanics of constructing a cash flow statement; however, computer generated cash flow statements were not used.

Steps in constructing a farm cash flow statement are shown in tables 3 through 7. Fertilizer, seed, and chemical costs are shown in Table 3. In the first two columns the crops to be grown and the acreage of each are listed. The next three columns are for listing fertilizer, seed, and chemical requirements. Fertilizer for corn was ammonium nitrate (33-0-0) applied at a rate of 3.75 hundredweight per acre over 200 acres (a total of 750 hundredweight) and superphosphate (0-46-0) applied at a rate of 1.3 hundredweight per acre (a total of 260 hundredweight). Seed were applied at 18 pounds per acre. A total of 250 gallons of herbicide was required for the 200 acres of corn. Requirements for each crop are listed in this manner.

The bottom half of Table 3 is a summary of all crop costs, giving the total amount of each input required and the month in which it is used. Total cost for each input was computed and listed. In the fertilizer column, the analysis of the fertilizer used was 33-0-0 and 0-46-0. Next is the total amount required of each type and the month when it is used. For 33-0-0 (ammonium nitrate), 1,928 hundredweight was used in February, April, and July. Seed and chemical entries in the table were made similarly. Costs for power and machinery requirements (fuel and oil) can be extrapolated from previous years' farm records.

TABLE 4. CROP USE AND FEED REQUIREMENTS BY ENTERPRISE FOR ROW CROP AND STOCKER FARM ORGANIZATION, ALABAMA, 1976

| Enterprise | Beginning inventory | Production | | Sales | Month of sales | Ending inventory |
|---|---|---|---|---|---|---|
| | | Per acre | Total | | | |
| | | *Bu.* | *Bu.* | *Bu.* | | |
| **Row crops** | | | | | | |
| Corn | 0 | 60 | 12,000 | 12,000 | September | 0 |
| Soybeans | 0 | 30 | 12,000 | 12,000 | October | 0 |

| | Livestock inventory | | Supplement | Hay |
|---|---|---|---|---|
| | Beginning | Ending | | |
| | | | *Tons* | *Tons* |
| **Livestock** | | | | |
| Stockers | 0 | 0 | 0 | 155 |
| Total feeding requirements | | | 0 | 155 |

TABLE 5. LIVESTOCK PLAN FOR ROW CROP AND STOCKER FARM ORGANIZATION, ALABAMA, 1976

| Kind | Beginning inventory | | Purchases | | | Sales | | | Ending inventory | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Value | Head | Cost | Month | Head | Value | Month | Number | Value |
| Stockers | 0 | | 525 | $71,400 | Jan. | 525[1] | $117,600 | July | 0 | |

[1] No death loss assumed.

TABLE 6. CASH FLOW STATEMENT FOR ROW CROP AND STOCKER FARM, ALABAMA, 1976

| Receipts and expenses | Cash flow, by month | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
| | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* |
| **Operating receipts** | | | | | | | | | | | | | |
| Crops | 75,000 | | | | | | | | | 30,000 | 45,000 | | |
| Livestock | 117,600 | | | | | | | 117,600 | | | | | |
| TOTAL | 192,600 | | | | | | | 117,600 | | 30,000 | 45,000 | | |
| **Operating expenses** | | | | | | | | | | | | | |
| Salary | 30,000 | 2,500 | 2,500 | 2,500 | 2,500 | 2,500 | 2,500 | 2,500 | 2,500 | 2,500 | 2,500 | 2,500 | 2,500 |
| Seed | 7,678 | | | | 2,088 | 2,800 | | | | | 2,790 | | |
| Repairs | 5,803 | | 126 | 50 | 445 | 288 | 304 | 259 | 3,112 | 354 | 810 | 55 | |
| Livestock expenses | 2,448 | 2,343 | | | | | | 105 | | | | | |
| Fertilizer | 25,176 | | 2,092 | | 12,126 | 5,100 | | 3,766 | | | | 2,092 | |
| Fuel, oil | 3,419 | | 222 | 92 | 358 | 196 | 250 | 420 | 280 | 572 | 949 | 80 | |
| Chemicals | 5,700 | | | | 1,000 | 1,500 | 800 | 800 | 800 | 800 | | | |
| Stocker purchase | 71,400 | 71,400 | | | | | | | | | | | |
| TOTAL | 151,624 | 76,243 | 4,940 | 2,642 | 18,517 | 12,384 | 3,854 | 7,850 | 6,692 | 4,226 | 7,049 | 4,727 | 2,500 |

Crop use and feed requirements for livestock are recorded in Table 4. The crop grown and expected total yield from the acreage in production are listed along with expected sales, the month in which the sale will occur, and any unsold production, i.e., ending inventory. Here corn and soybeans have an expected production and sales of 12,000 bushels each. Corn is to be sold in September and soybeans in October. The bottom half of the table lists the type of livestock held for sale, any beginning and ending inventory, and feed requirements. In this case stockers were fed 155 tons of hay during the production period.

The farm livestock plan is summarized in Table 5. There was no beginning or ending inventory to be listed since stockers were purchased, fed, and sold in about 180 days. In January, 525 head were purchased at a cost of $71,400. Assuming no death loss, these steers were sold in July for $117,600.

The cash flow statement, Table 6, includes operating receipts and expenses. Capital receipts and expenses would have been included if any had occurred. In this case receipts occurred in July, September, and October. Total receipts amounted to $192,600. Expenses occurred in every month and totaled $151,624.

The information in Table 7 reflects the credit needs of the farm. Total receipts and expenses are entered in the months they occurred. Any deficit indicates the need for borrowing in that month; any surplus is used to pay outstanding debt. Here the expenses build up to a peak of $118,580 in June. Receipts in July enabled the debt to be reduced to $13,175. Borrowing occurred in August to increase the debt to $19,867. In September the debt was paid, leaving a positive balance at the end of the month of $5,577 and a balance at the end of the year of $36,301.

Profitable use of credit should be a main objective of both borrower and lender. The farm cash flow statement provides both borrower and lender with information on the productivity of the farm through projected yields and receipts, on the costs of production through projected expenses, and on the credit requirements of the farm by showing how much capital needs to be borrowed in each month and when the debt can be paid.

By collecting the data necessary to construct the cash flow statement, the farmer is forced to make estimates of yields and quantities of inputs to be used. This gives an increased awareness of the productivity of the farm and provides the farmer with information on where improvements could be made.

TABLE 7. CASH FLOW SUMMARY FOR ROW CROP AND STOCKER FARM, ALABAMA, 1976

| Receipts | Total | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* |
| Operating receipts | 192,000 | | | | | | | 117,600 | | 30,000 | 45,000 | | |
| Capital sales | | | | | | | | | | | | | |
| Total cash receipts | 192,600 | | | | | | | 117,600 | | 30,000 | 45,000 | | |
| Total operating expenses | 151,624 | 76,243 | 4,940 | 2,642 | 18,517 | 12,384 | 3,854 | 7,850 | 6,692 | 4,226 | 7,049 | 4,727 | 2,500 |
| Cash deficit or surplus | | −76,243 | −4,940 | −2,642 | −18,517 | −12,384 | −3,854 | −7,850 | −6,692 | 25,774 | 37,951 | −4,727 | −2,500 |
| Borrowing to maintain $0 balance | | 76,243 | 4,940 | 2,642 | 18,517 | 12,384 | 3,854 | | 6,692 | | | | |
| Debt principal | 128,647 | | | | | | | 105,405 | | 19,867 | | | |
| Payment interest | 4,687 | | | | | | | 4,345 | | 330 | | | |
| Balance end of period | | | | | | | | | | 5,577 | 43,528 | 38,801 | 36,301 |
| Accumulated borrowings | | 76,243 | 81,183 | 83,825 | 102,342 | 114,726 | 118,580 | 13,175 | 19,867 | | | | |

## USING THE CASH FLOW STATEMENT FOR FORWARD PLANNING TO REDUCE INTEREST COST

When the need to borrow operating capital is recognized, the farmer can minimize interest cost by borrowing as needed during the production period and paying back as soon as possible rather than by borrowing the total amount required at the beginning of the year and paying back at the end of the year. The cash flow statement provides information on how much capital needs to be borrowed and when this borrowing is needed. This information provides the opportunity to do some forward planning concerning credit needs.

### Enterprises Considered

To show how the farmer can save on interest costs, this case considered a farming situation based on producing 450 acres of wheat, 37.5 units of stockers (525 head), 310 acres of dallisgrass overseeded with ryegrass used as fall and winter pasture, 200 acres of cotton, and 400 acres of no-till soybeans. The cotton budget was based on a 700-pound per acre yield harvested in October and November. No-till soybeans planted in wheat stubble had a projected yield of 25 bushels per acre because of the risks associated with no-till planting. This method of cultivating soybeans is still in the experimental stage.[2] The wheat budget was based on a yield of 28 bushels per acre harvested early in May. The 310 acres of overseeded dallisgrass pasture provided about 0.6 acre per head for stocker grazing.

The stockers were put on pasture early in January and sold in early July. Costs for cutting hay in August after calves are removed from the pasture were included in the budget. Since the farm is an ongoing concern, hay from the previous year's program was available to be fed to stockers in the year budgeted.

### Comparison of Alternative Methods of Borrowing

With the assumed farming situation, no receipts were realized until May when wheat was harvested and sold. However, expenses from other enterprises started in January and occurred in every month, accumulating to $103,632 in April. Loan payments in

[2] HOWARD T. ROGERS. 1971. Soybean Production — Recent Research Findings. Auburn Univ. (Ala.) Agr. Exp. Sta. Bull. 413.

May amounted to $25,891 on principal and $2,703 on interest. The sale in July of the stockers provided for a loan payment of $84,764 on principal and $1,219 on interest, leaving a cash balance at the end of July of $16,323. This amount covered all expenses in August and left a $3,433 ending balance for the month. September expenses required borrowing $19,598 that was paid off in October with an interest charge of $147. November receipts from cotton sales covered November and December expenses, leaving a net cash income at the end of the year of $78,317.

There are two alternatives to borrowing when needed and paying back as soon as cash is available. One method would be to borrow the total production cost at the beginning of the year and pay it back at the end of the year.

In situations where a cash flow statement is not used, the farmer does not know the amount of funds needed to be borrowed and can only estimate his cost of production. If budgeting is used, the farmer has an accurate estimate of production costs.

Using the first method — borrowing the total production cost at the beginning of the year and paying back when receipts permit — $202,654 was borrowed in January. Interest was charged on that amount through April, amounting to $6,090. A principal payment of $36,760 and interest payment of $6,090 made from wheat receipts left a balance of $159,814 outstanding in May. This amount was charged interest for 2 months, until a payment was made from stocker receipts in July. Interest paid was $2,397 along with a principal payment of $115,202. This left an outstanding loan balance of $44,611. Interest charged on this amount through September was $699. October receipts from cotton were adequate to retire the debt. Total interest paid for the year was $9,146 and net cash income was $73,239.

Using the second method — borrowing the total production costs at the beginning of the year and paying it back at the end

TABLE 8. EFFECT OF THREE DIFFERENT METHODS OF BORROWING ON INTEREST PAID AND NET CASH INCOME

| Method of borrowing | Interest | Net cash income |
|---|---|---|
| | *Dol.* | *Dol.* |
| Monthly using cash flow | 4,069 | 78,317 |
| Beginning of year, paying back as receipts permit | 9,146 | 73,239 |
| Beginning of year, paying back at end of year | 18,239 | 64,146 |

of the year — the entire cost of production, $202,654, was borrowed as in the previous case. When borrowed in January and paid back in December, interest paid was $18,239 and net cash income was $64,446. A comparison of the three different methods of borrowing operating capital is shown in Table 8.

If the cash flow statement is not used to plan credit needs, the farmer will pay an unnecessary amount of interest. In this case, up to $14,170 extra interest can be paid, thus reducing the net cash income by that amount.

## THE EFFECT OF ENTERPRISE SELECTION ON CASH FLOW

The beginning farmer's choice of enterprises will determine whether the farm will be a profitable operation and able to make debt payments or unprofitable and unable to meet obligations. If obligations cannot be met, the farmer will be forced to discontinue operations. Different farm organizations can give drastically different cash flows from alternative farm organizations and affect the financial stability of the farm.

### Enterprises Considered

To examine the effects of these different cash flows on the financial stability of a farm, two farm organizations and the cash flows resulting from each were examined with regard to the ability of each to meet intermediate and long-term debt obligations.

TABLE 9. PRICES USED FOR CASH FLOW PROJECTIONS FOR ROW CROP—STOCKER AND BEEF—SOYBEAN FARM ORGANIZATIONS, ALABAMA, 1976

| Item and unit | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|
| | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* |
| Ammonium nitrate, ton | 135.00 | 130.00 | 125.00 | 120.00 | 120.00 | 120.00 |
| Superphosphate, ton | 150.00 | 140.00 | 130.00 | 125.00 | 125.00 | 125.00 |
| Wheat grain, bu. | 3.40 | 3.20 | 3.00 | 3.00 | 3.00 | 3.00 |
| Wheat seed, bu. | 7.50 | 7.25 | 7.00 | 7.00 | 7.00 | 7.00 |
| Soybean grain, bu. | 4.50 | 4.25 | 4.15 | 3.90 | 3.90 | 3.90 |
| Soybean seed, bu. | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 |
| Cotton lint, lb. | .50 | .50 | .50 | .45 | .45 | .45 |
| Cotton seed (sell), ton | 80.00 | 80.00 | 80.00 | 70.00 | 70.00 | 70.00 |
| Cotton seed (buy), lb. | .38 | .38 | .38 | .35 | .35 | .35 |
| Ryegrass seed, lb. | .45 | .45 | .45 | .40 | .40 | .40 |
| Steer calves, cwt. | 32.00 | 37.00 | 37.00 | 40.00 | 40.00 | 40.00 |
| Heifer calves, cwt. | 30.00 | 35.00 | 35.00 | 38.00 | 38.00 | 38.00 |
| Cull cows, cwt. | 22.00 | 25.00 | 25.00 | 27.00 | 27.00 | 27.00 |
| Yearling heifer, cwt. | 23.00 | 27.00 | 27.00 | 29.00 | 29.00 | 29.00 |
| Bull, cwt. | 25.00 | 29.00 | 29.00 | 30.00 | 30.00 | 30.00 |

The general difference between the two organizations was largely the degree of diversification. Enterprises in the row crop and stocker farm organization were soybeans and wheat double-cropped on 450 acres, 200 acres of cotton, 310 acres of dallisgrass overseeded with ryegrass, and 37.5 units (525 head) of stockers. The beef and soybean farm organization enterprises were 17 units (510 head) of brood cows, 153 acres of johnsongrass hay, 487 acres of dallisgrass pasture, and 450 acres of soybeans.

Budgets and cash flow statements were based on prices projected ahead 5 years. The prices listed in Table 9 were assumed to represent typical price relationships under normal circumstances. Both farming situations required the labor of an operator and two hired laborers. The operator paid himself a salary of $1,250 per month and each hired laborer $625 per month.

### Financial Environment of Each Organization

Each situation was considered to be a farm just starting operations requiring intermediate and long-term financing, which was assumed to be available through a Production Credit Association (PCA) and Federal Land Bank Association (FLBA). For both farm organizations, a 20 percent down payment was considered to be made on machinery before farming operations started. This amounted to $22,247 for the row crop and stocker organization and $17,047 for the beef and soybean organization. Annual payments on the row crop and stocker farm machinery loan at 9 percent interest were $27,468 for 4 years. The beef and soybean organization machinery loan annual payments were $21,048 for the 4-year period. The land being used was the same in both cases, therefore the loan for land was $300,000 for 20 years at 8.5 percent. Principal and interest payments were $31,701.

In some cases, farmers are able to obtain land mortgages where only interest payments have to be made during the first few years of operations. In this instance, interest payment on the land loan amounted to $25,500. In addition to machinery and land financing, the beef and soybean farm required a loan of $154,904 to acquire a brood cow herd. Production Credit Associations sometimes allow loans for brood stock to be repaid on an "as able" basis with the unpaid balance of the loan being refinanced annually. This allows loan repayment flexibility on the part of the farmer.

## Cash Flow Analysis for Row Crop and Stocker Organization

Annual cash flow summaries for the row crop and stocker organization with the required debt payments made are shown in Table 10. The loan payments listed are for the intermediate-term machinery loan and long-term land mortgage. All short-term operating loans were paid back from cash inflow to the farm during the production period. Net cash income (NCI) is cash available for intermediate and long-term debt repayment and reinvestment.

TABLE 10. YEARLY SUMMARY OF NET CASH INCOME AND CASH BALANCE AFTER LOAN PAYMENTS FOR THE ROW CROP AND STOCKER FARM ORGANIZATION, ALABAMA, 1976

| Receipts and expenses | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|
| | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* |
| **Enterprise receipts** | | | | | | |
| Soybeans, 450 acres | 60,750 | 57,375 | 56,025 | 52,650 | 52,650 | 52,650 |
| Cotton, 200 acres | 79,600 | 79,600 | 79,600 | 71,400 | 71,400 | 71,400 |
| Wheat, 450 acres | | 40,320 | 37,800 | 37,800 | 37,800 | 37,800 |
| Stockers, 525 head | 117,600 | 128,625 | 135,975 | 147,000 | 147,000 | 147,000 |
| **Enterprise expenses** | | | | | | |
| Soybeans, 450 acres | 22,980 | 22,597 | 22,215 | 22,023 | 22,023 | 22,023 |
| Pasture, 310 acres | 15,056 | 14,560 | 14,064 | 13,359 | 13,359 | 13,359 |
| Cotton, 200 acres | 32,828 | 32,558 | 32,288 | 31,981 | 31,981 | 31,981 |
| Wheat, 450 acres | 22,635 | 21,662 | 20,689 | 20,104 | 20,104 | 20,104 |
| Stockers, 525 head | 83,678 | 83,678 | 83,678 | 83,678 | 83,678 | 83,678 |
| Labor | 30,000 | 30,000 | 30,000 | 30,000 | 30,000 | 30,000 |
| Interest on operating capital | 5,547 | 3,986 | 3,941 | 3,868 | 3,868 | 3,868 |
| NET CASH INCOME | 45,226 | 96,879 | 102,525 | 103,837 | 103,837 | 103,837 |
| Loan payments | | | | | | |
| Machinery | 27,468 | 27,468 | 27,468 | 27,468 | | |
| Land | 25,500[1] | 31,701 | 31,701 | 31,701 | 31,701 | 31,701 |
| Total loan payments | 52,968 | 59,169 | 59,169 | 59,169 | 31,701 | 31,701 |
| Cash balance after loan payments | −7,742 | 37,710 | 43,356 | 44,668 | 72,136 | 72,136 |

[1] Interest only.

The first year of operations did not generate sufficient cash to meet minimum debt requirements of the $27,486 machinery loan payment and $25,500 interest on land mortgage. Therefore, the operator was required to supply $7,742 from other sources of cash. The cause of this situation was that no wheat was harvested during the year but expenses for the wheat crop to be harvested the next calendar year were incurred. The second year of operations generated $96,879 available for debt payments and reinvestment. Debt payments of $27,468 on machinery and $31,701 on land (principal and interest) were made, leaving $37,710 before taxes available for reinvestment to stimulate growth or for alternative

investment opportunities. All subsequent years had substantial cash balances after meeting all debt requirements.

### Cash Flow Analysis for Beef and Soybean Organization

Annual cash flow summaries for the beef and soybean organization, Table 11, show a drastic difference in the ability of this farm organization to generate enough cash to service minimum debt obligations. As in the previous organization, all operating capital loans were repaid during the year by cash inflows from operations. Net cash available for repayment of intermediate and long-term debt was inadequate in some years.

The first year's operations generated $42,974 net cash income. To meet the minimum debt requirements of $21,048 principal and interest on the machinery loan, $25,500 interest on the land mortgage, and $13,941 interest on the brood cow loan, the op-

TABLE 11. YEARLY SUMMARY OF NET CASH INCOME AND CASH BALANCE AFTER LOAN PAYMENTS FOR BEEF-SOYBEAN FARM ORGANIZATION, ALABAMA, 1976

| Receipts and expenses | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|
| | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* |
| **Enterprise receipts** | | | | | | |
| Soybeans, 450 acres | 60,750 | 57,375 | 56,025 | 52,650 | 52,650 | 52,650 |
| Cow-calf, 510 head | 72,726 | 83,394 | 83,394 | 90,083 | 90,083 | 90,083 |
| **Enterprise expenses** | | | | | | |
| Hay, 153 acres | 11,720 | 11,391 | 11,062 | 10,783 | 10,783 | 10,783 |
| Soybeans, 450 acres | 22,980 | 22,597 | 22,215 | 22,023 | 22,023 | 22,023 |
| Cow-calf, 510 head | 12,441 | 12,441 | 12,441 | 12,441 | 12,441 | 12,441 |
| Pasture, 487 acres | 11,593 | 11,057 | 10,521 | 10,143 | 10,143 | 10,143 |
| Labor | 30,000 | 30,000 | 30,000 | 30,000 | 30,000 | 30,000 |
| Interest on operating capital | 1,768 | 1,717 | 1,683 | 1,662 | 1,662 | 1,662 |
| NET CASH INCOME | 42,974 | 51,566 | 51,497 | 55,681 | 55,681 | 55,681 |
| Loan payments | | | | | | |
| Machinery | 21,048 | 21,048 | 21,048 | 21,048 | | |
| Land | 25,500[1] | 25,500[1] | 25,500[1] | 25,500[1] | 31,701 | 31,701 |
| Total loan payments | 46,548 | 46,548 | 46,548 | 46,548 | 31,701 | 31,701 |
| Net cash income minus loan payments | −3,575 | 5,018 | 4,949 | 9,133 | 23,980 | 23,980 |
| Cash required from operator | 3,575 | | | | | |
| Increase in brood cow loan | 13,941 | 10,178 | 11,163 | 7,983 | | |
| Amount of brood cow loan (end of year) | 168,845 | 179,023 | 190,186 | 198,169 | 192,024 | 185,326 |
| Cash balance after brood cow loan payment | 0[2] | 0[2] | 0[2] | 0[2] | 0 | 0 |

[1] Interest only.
[2] Additional funds required from refinancing.

erator had to supply $3,575 from his $15,000 living expense and the brood cow loan was increased by the amount of the interest charge.

It was assumed the operator was able to refinance the brood cow loan, including the interest, in the first year. Cash flows in the second year were also inadequate to meet the other debt requirements and pay the interest on the brood cow loan. Cash was available to pay $5,018 on the interest, leaving $10,178 to be refinanced. Increasing the brood cow loan each year occurred until the fifth year when $23,980 became available for principal and interest payment. At this point it would require 16 years to retire the brood cow loan and release cash for reinvestment.

### Comparison of the Two Farm Organizations

The most noticeable difference between the two farm organizations was that while the row crop and stocker organization had a cash flow that stimulated growth, the beef and soybean organization was facing one of three undesirable situations: (1) the cash flow schedule shows the organization is increasing debt the first 4 years by refinancing the brood cow loan that includes unpaid interest, thus increasing the length of the loan and future interest cost; (2) the operator would have to supply enough capital to meet interest payments on the brood cow loan from his salary, thus reducing money for family consumption; and (3) the farm would have to liquidate because of the inability to pay debts if the PCA was unwilling to refinance the brood cow loan. Neither situation offers any chance for farm growth.

Alternatives open to the beginning beef producer would be to (1) consider starting on a much smaller scale to reduce financing requirements and generate cash for slower growth, or (2) finance the assets over long periods to reduce annual payments. In either case, growth would not be as rapid as in the row crop and stocker organization because of the lack of available funds for reinvestment.

There are constraints to growth that operators of either of these organizations should be aware of: non-farm drains on cash flow, farm resources, market demand, external financing, and financial risk.[3]

[3] HOPKIN, JOHN A., PETER J. BARRY, AND C. B. BAKER. 1973. Financial Management in Agriculture. The Interstate Printers and Publishers, Danville, Ill., pp. 153-162.

Since family consumption is not considered a non-farm drain on cash flow because the operator draws a salary, the biggest non-farm drain would be income tax. This drain in cash flow can greatly influence reinvestment in the farm. The goal should not be to minimize taxes, but to maximize returns after tax to render more cash available for reinvestment. If the farm has cash reserves to reinvest, growth still may not occur because of the lack of the right resources to invest in or, if resources are available, a lag in the ability of the operator to properly manage the new resources to achieve maximum production or returns.

Also to be considered is the lumpiness of some assets. This includes tracts of land, buildings, feeding systems, irrigation system, and others. The limited capital available influences the timing and allocation of capital for investment. Even if expansion in assets occurs and the farm's ability to produce is increased, there must be markets for the additional production. Factors affecting the dynamics of supply and demand for products affect the earnings of the farm and therefore the cash available for reinvestment and growth.

External financing can influence the rate and direction of growth. In the beef and soybean organization, external financing results in no growth for 20 years of operations. Also, other lenders would probably discriminate against it either by refusing to lend or by charging higher interest rates that would further retard growth. By financing through external means, the operator is exposing himself to more risk. Any change in prices or yields has a greater impact on returns to, or loss of, equity capital. The operator of the row crop and stocker organization may want to consider greater leverage[4] because of the favorable cash flows. Any loss could be more easily handled by this organization than by the beef and soybean organization. In the latter case, leverage caused a lack of growth and possible liquidation even when prices were at a relatively normal level. The risks of leverage and the ability of the farm to withstand unfavorable price and yield situations should be carefully considered by the operator.

The beginning farmer should be aware of the different cash flows generated by different combinations of enterprises. Cash flow analysis of the farm organization can reveal financial weaknesses in the organization and aid in correcting or improving the

[4] Financial leverage is usually expressed as the ratio of debt to equity.

situation. Cash flows give a strong indication of the probable success or failure of the farm organization.

## USING CASH FLOW STATEMENTS TO EVALUATE CAPITAL INVESTMENT PROPOSALS

Analyzing the cash flows of alternative capital investment opportunities can be useful in determining the relative merits of the investments. Some criteria for selection must be defined and used as a basis for the decision to accept or reject one investment opportunity over another. Two possible criteria are the stability of cash flows over time and rapid recovery of the initial investment, i.e., short payback period. A cash flow statement for a proposed capital investment can be a useful decision making tool. Two investment proposals and possible decisions concerning their acceptance or rejection based on the two decision criteria above are considered in this section.

### Decision Criteria

The payback period for an investment proposal is the number of years required for the net cash flow to pay back the amount of the initial investment. If this decision criterion is used to evaluate a proposal, the decision to accept or reject the proposal is based on whether the initial investment can be recovered in a given period of time. If the payback period is less than the maximum acceptable, the proposal is accepted; if not, it is rejected. It should be noted that the payback period is not a good measure of the profitability of an investment. Its usefulness here is as a tool for comparison of alternative investments. Since farmers normally borrow a large portion of their operating capital and usually finance capital investments for intermediate periods (1 to 7 years), the cash position of the farmer at any one time is usually low; therefore, any investment should have a rapid cash recovery or payback period. Another drawback of the payback method of evaluating investments is that it does not consider cash flows from the investment after the end of the payback period. Since the payback method does not account for differences in the amount and timing of cash flows, another decision criterion that accounts for these occurrences should be defined and used. This criterion would be the stability of cash flows over time.

Two alternative investments were considered and their cash

flows analyzed to determine what action could be taken on each with respect to the two decision criteria discussed, payback period and stability.

## Alternative Investments

It was assumed that the farm had land, labor, and capital available to consider adding one of two possible enterprises, a beef feedlot feeding 480 head or a farrow-to-finish swine operation based on 80 sows. Each of these operations would require approximately 276 acres of row crop land to produce corn for grain and silage, based on yields of 60 bushels of grain per acre and 15 tons of silage per acre. Projected prices were used to reflect what was considered to be a normal situation and remained constant after 4 years. In using projected prices, stability of cash flow was artificially enforced over time; however, the uncertainty associated with price variability over time should still be considered in the decision criteria. The amount and timing of returns were also enforced by making price projections in this manner, but uncertainty was present in these situations also and should be considered in the decision criteria.

Investment requirements for each enterprise were based on what new equipment would have to be added to the farm if the enterprise was added. Existing equipment that could be used on the new enterprise was not considered as an investment for the

TABLE 12. ESTIMATED INVESTMENT REQUIREMENTS FOR 80-SOW FARROW-TO-FINISH ENTERPRISE, ALABAMA, 1976

| Item | Cost |
|---|---|
| | *Dol.* |
| Buildings and equipment | |
| Nursery | 20,747 |
| Lagoon | 4,330 |
| Farrowing house | 35,015 |
| Finishing house | 25,710 |
| Feed mill building | 4,200 |
| Feed mill | 4,842 |
| Water lines | 2,147 |
| Bins and augers | 3,101 |
| Sow shelter and fence | 5,333 |
| Boar shelter and fence | 400 |
| TOTAL | 105,825 |
| Broodstock | |
| Sows | 12,000 |
| Boars | 1,300 |
| TOTAL | 13,300 |
| TOTAL INVESTMENT | 119,125 |

TABLE 13. ESTIMATED INVESTMENT REQUIREMENTS FOR 250-HEAD FEEDLOT, ALABAMA, 1976

| Item | Cost |
|---|---|
| | *Dol.* |
| Silo and feed equipment | 31,500 |
| Shelter, feed bunks | 10,000 |
| Concrete apron around bunks | 9,000 |
| Water tanks, gates, pens | 6,500 |
| Alleys, chute, scales | 3,600 |
| TOTAL INVESTMENT | 60,600 |

enterprise. Total capital investment for the swine operation was $119,125, Table 12, and for the beef feedlot was $60,600, Table 13.

## Evaluation of the Investments

The cash flow statement for the farrow-to-finish enterprise was based on starting the enterprise in January. Sows would start farrowing in January with the first sales in July. Sows are bred so that 20 will farrow every 6 weeks. Annual cash flow statements for the enterprise are given in appendix tables 1-6. Because the first sales do not occur until July, operating capital must be borrowed for feed until produced corn is harvested. The outstanding loan increases to a peak of $43,776 in June. Hog sales in July provide cash to pay off some of the outstanding operating loan, reducing it to $37,439. Regular sales occurring after July provide enough cash to reduce the operating loan to $1,674, with no payment on sow and equipment loan by the end of the year. Thus, there was a zero cash balance at the end of the year with the outstanding operating loan of $1,674. Since produced feed is not available for the hogs until after September, corn must be purchased up to that time. The expense for purchased corn gradually increases from $2,750 in February to $4,331 in July and August because of increasing number and size of pigs.

The second-year cash flow statement, Appendix Table 2, shows the regularity of cash inflows of the farrow-to-finish enterprise. There were hog sales every 6 weeks, with March, June, September, and December the only months with no sales. Because of this relatively constant cash inflow, the outstanding balance of the operating loan from the first year was repaid and no additional operating capital was required to be borrowed. The cash balance at the end of the year was $67,893. Subsequent annual cash flow statements show the continued regularity of cash inflows and indicate no need to borrow operating capital.

Equipment, housing, and the original 80 sows for the farrow-to-finish enterprise were financed with payments arranged to repay the loan as quickly as possible. An $8,000 minimum balance after loan payments was required to reflect an approximate 7 percent return on the investment. Cash was not adequate in the first year to make any payment on the sow and equipment loan so the loan was refinanced for the second year to include unpaid interest from the first year. This increased the amount of the loan to $129,846. Net cash income in succeeding years was sufficient to pay $59,893 in the second year, $61,560 in the third year, and final payment of $29,894 in the fourth year. Annual summaries of the cash flows for the enterprise are given in Table 14.

TABLE 14. ANNUAL CASH FLOW SUMMARY FOR 80-SOW FARROW-TO-FINISH ENTERPRISE IN ALABAMA FOR 6 YEARS

| Receipts and expenses | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|
| | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* |
| **Enterprise receipts** | | | | | | |
| Sows, 80 head | 62,700 | 108,688 | 108,688 | 95,332 | 95,332 | 95,332 |
| **Enterprise expenses** | | | | | | |
| Sows, 80 head | 46,647 | 23,645 | 24,114 | 23,645 | 23,645 | 23,645 |
| Corn, 276 acres | 15,898 | 15,453 | 15,014 | 14,664 | 14,664 | 14,664 |
| NET CASH INCOME | 155 | 69,590 | 69,560 | 57,023 | 57,023 | 57,023 |
| Loan payments | — | 59,893 | 61,560 | 29,894 | — | — |
| Cash balance after loan payments | 0 | 8,000 | 8,000 | 27,129 | 57,023 | 57,023 |

Investment in the farrow-to-finish enterprise appears favorable in light of the decision criteria specified. The payback period is a relatively short 3.5 years and the inflow of cash is relatively constant throughout the year. Even if returns were reduced as much as 10 percent there would be little effect on the payback period. No change in the pattern of inflows would be expected unless caused by a major event that results in the interruption of operations. Another favorable aspect of the farrow-to-finish enterprise is that, after the first month of the second year of operations, the enterprise generates its own operating capital.

In the first year of the feedlot operation, there was only one group of steers purchased and fed. These were purchased in late September after corn was harvested. Two groups of approximately 240 head each were fed annually after the first year with the first group being purchased in January and sold in May and the second group bought in August and sold in December. Annual cash flow

statements for the feedlot enterprise are given in appendix tables 7-12.

Equipment for the enterprise was financed to be repaid as quickly as possible. If the equipment had been financed so that equal annual payments would be made over 10 years, payments would equal $11,219 a year. Net cash income would be inadequate to meet this debt obligation after the third year, making the enterprise unprofitable. Principal and interest payments were scheduled so as to leave at least $4,000 available after payments. This represents an approximate 7 percent return on the investment.

The annual cash flow statement for the first year, Appendix Table 7, shows monthly receipts and expenses for the enterprise. Sales did not occur until December, requiring operating capital to be borrowed until that time. Borrowing reached a peak of $86,943 in September and remained at that level until a payment in December. Interest was $3,647. Net cash income for the year was $13,370. The second year cash flow statement, Appendix Table 8, indicates the pattern of cash flows with both groups of steers being fed. Borrowing reached a peak in April of $85,837. Cash receipts in May were enough to repay accumulated borrowing up to that time and pay expenses for June. No expenses or receipts occurred in July. The purchase of another group of feeder steers in August required additional borrowing of $61,006. An additional $3,409 was required in September to cover feedlot and crop costs. No receipts were available to repay this loan until

TABLE 15. ANNUAL CASH FLOW SUMMARY FOR 480-STEER FINISHING ENTERPRISE IN ALABAMA FOR 6 YEARS

| Receipts and expenses | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|
| | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* |
| **Enterprise receipts** | | | | | | |
| Steers, 483 head | 221,180 | 212,520 | 207,690 | 202,860 | 207,690 | 207,690 |
| **Enterprise expenses** | | | | | | |
| Steers, 483 head[1] | 78,246 | 160,160 | 170,303 | 177,065 | 187,208 | 187,208 |
| Corn, 259 acres | 14,868 | 14,458 | 14,047 | 13,720 | 13,720 | 13,720 |
| Silage, 17 acres | 957 | 929 | 902 | 880 | 880 | 880 |
| NET CASH INCOME | 13,370 | 32,809 | 17,757 | 6,103 | 338 | 338 |
| Loan payment (principal and interest) | 9,370 | 28,809 | 13,757 | 2,103 | 338 | 338 |
| Cash balance after loan payments | 4,000 | 4,000 | 4,000 | 0 | 0 | 0 |

[1] 240 head only are fed in the first year.

December when steers were sold. Net cash income for the year was $32,809. The third-year cash flow statement, Appendix Table 9, indicates the same general pattern of cash flows as the second year. Each succeeding year shows a decline in the amount of net cash income. Annual cash flow summaries for the enterprise are in Table 15.

Investment in the feedlot does not appear favorable in light of the two decision criteria presented. The payback period for the investment is over 40 years, and after 4 years all net cash income is applied to loan payments. When considering the uncertainty associated with later time periods and the possibility of the enterprise having a negative net cash flow, an investor would not consider the enterprise a suitable investment.

### Comparison of the Two Investments

Based on the decision criteria presented, the beef feedlot investment would be rejected in favor of a farrow-to-finish enterprise. The feedlot had a payback period of over 40 years, whereas for the farrow-to-finish enterprise it was only 3.5 years. Amount of cash inflows to the feedlot also underwent a steady decline over time.

Other considerations may enter the decision criteria of the investor. The beef feedlot has an initial investment lower than the farrow-to-finish enterprise, $60,000 as opposed to $119,125. During 3 months when the feedlot is empty, the operator may take advantage of some off time or distribute farm labor more efficiently throughout the year. Less skilled labor would be required by the feedlot than for the swine enterprise. Although these may make the feedlot more desirable, low return in comparison with the swine enterprise represents a major disadvantage. The feedlot enterprise is not nearly as profitable as the swine enterprise. The feedlot is just breaking even in later years when the swine enterprise is producing $57,023 above cost. The low returns to the feedlot in the later years would probably not encourage the investor to undertake the risk and uncertainty associated with this later time.

## SUMMARY

The general objective of this study was to show the development of cash flow statements from the information provided by enterprise budgets and physical production data and to demon-

strate the usefulness of the cash flow statement as a financial management tool.

Enterprise budgets for crops and livestock common to the area were generated using data from a farm located in Marengo County, Alabama. A computer model was used to generate budgets based on input information consisting of yield and prices for production and quantities and prices of inputs. Cash flow statements for the study were also developed using the computer model. No attempt was made to develop optimum farm plans. Cash flow statements were based on typical farming situations.

The cash flow statement was used to compare alternative methods of borrowing for a farm organization consisting of various acreages of cotton, soybeans, wheat, pasture, and a stocker program. Of three methods examined for borrowing operating capital, the method which resulted in the lowest interest cost was that which employed the cash flow statement with interest charged on the unpaid balance. By borrowing at the beginning of the year and paying back at the end of the year, $18,239 was paid in interest compared to only $4,096 when using the cash flow statement and paying interest on the unpaid balance.

Projected cash flow statements were used to study the effects of two different combinations of enterprises on farm cash flow. A farm organization consisting of a brood cow herd and soybeans did not generate enough cash in the first year of operations to make minimum first-year loan payments on brood cows, machinery, and land. When required payments on the machinery and land loans were made, there was not enough cash available to make payments on the brood cow loan, which forced the loan to be refinanced until the fifth year when $23,980 became available to make principal and interest payments. This represented all of the net cash income generated by the farm organization. With all of the net cash income used to make payments, it would require 16 years to retire the debt and cash would not be available for reinvestment.

A combination of enterprises including row crops and a stocker program proved highly profitable. Because of limited receipts in the first year the operator needed to supply $7,742 to make required debt payments and leave cash available for reinvestment. By using all the net cash income for loan payments, the machinery loan was repaid in 4 years. Net cash income after 4 years was

projected to remain constant at $103,837, leaving $72,136 after the land loan payment available for reinvestment.

The cash flows of two capital investment opportunities, a beef feedlot and a farrow-to-finish swine operation, were analyzed. Two decision criteria — short payback period and the amount of cash flows being stable over time — were defined and used as the basis for determining which investment should be chosen. The swine enterprise appeared favorable considering both criteria. The payback period was 3.5 years and cash flows were stable and regular, providing a projected $57,023 net cash income per year after 3 years of operations. The beef feedlot did not appear favorable by either of the decision criteria discussed. The payback period was over 40 years and net cash income declined steadily from $32,809 in the second year to $338 in the fourth year.

## CONCLUSIONS

The cash flow statements demonstrated in this study should prove useful to Alabama farmers in helping improve financial management on the farm. Substantial savings in interest are possible by using cash flow statements, because their use permits borrowing operating capital when it is needed and repaying the debt as receipts permit rather than borrowing at the beginning of the year and repaying at the end of the year. Cash flow statements also provide information that can assist farmers in determining financial weaknesses in the farm organization and planning possible solutions, such as changing the enterprise mix or changing the timing of receipts and expenditures. Cash flow analysis can also reveal growth limiting factors on the farm. Information is provided on drains on cash flow, such as income tax, and on the timing and allocation of available cash for reinvestment.

Another possible use of cash flow statements demonstrated in this study involves using information about future cash flows of alternative capital investment opportunities to assist the farmer in making the decision to accept or reject the investment. When certain decision criteria are given, an analysis of the cash flow of the investment will indicate whether the investment meets the criteria and should be accepted or rejected. The cash flow also provides other information that may not be directly associated with the decision criteria but may be helpful in evaluating the investment.

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# APPENDIX

APPENDIX TABLE 1. ANNUAL CASH FLOW STATEMENT FOR 80-SOW FARROW-TO-FINISH ENTERPRISE, FIRST YEAR

| Receipts and expenses | Month | | | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* |
| **Enterprise receipts** | | | | | | | | | | | | | |
| Swine finishing, 1.0 unit[1] | | | | | | | 15,675 | 15,675 | | 15,675 | 15,675 | | 62,700 |
| TOTAL | | | | | | | 15,675 | 15,675 | | 15,675 | 15,675 | | 62,700 |
| **Enterprise expenses** | | | | | | | | | | | | | |
| Swine finishing, 1.0 unit[1] | 5,058 | 2,800 | 3,350 | 7,793 | 4,037 | 5,372 | 8,265 | 4,509 | 50 | 5,185 | 178 | 50 | 46,647 |
| Corn, 276 acres | | 310 | 197 | 14,458 | | 401 | | | 532 | | | | 15,898 |
| TOTAL | 5,058 | 3,110 | 3,547 | 22,251 | 4,037 | 5,773 | 8,265 | 4,509 | 582 | 5,185 | 178 | 50 | 62,545 |
| Cash balance beginning of month | | | | | | | | | | | | | |
| Receipts minus expenses | −5,058 | −3,110 | −3,547 | −22,251 | −4,037 | −5,773 | 7,410 | 11,166 | −582 | −10,490 | 15,497 | −50 | 155 |
| Money borrowed in month | 5,058 | 3,110 | 3,547 | 22,251 | 4,037 | 5,773 | | | 582 | | | 50 | |
| Payments on loan[2] | | | | | | | 6,336 | 10,903 | | 10,115 | 15,378 | | |
| Interest paid | | | | | | | 1,073 | 262 | | 375 | 119 | | |
| Cash balance end of month | | | | | | | | | | | | | |
| Accumulated borrowing | 5,058 | 8,168 | 11,715 | 33,966 | 38,003 | 43,776 | 37,439 | 26,535 | 27,117 | 17,002 | 1,624 | 1,674 | |

[1] Unit based on 80 sows.
[2] Payments on operating loan only.

APPENDIX TABLE 2. ANNUAL CASH FLOW STATEMENT FOR 80-SOW FARROW-TO-FINISH ENTERPRISE, SECOND YEAR

| Receipts and expenses | Month | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Total |
| | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* |
| **Enterprise receipts** | | | | | | | | | | | | | |
| Swine finishing, | | | | | | | | | | | | | |
| 1.0 unit[1] | 14,252 | 13,200 | | 13,272 | 14,180 | | 13,272 | 13,200 | | 14,112 | 13,200 | | 108,688 |
| TOTAL | 14,252 | 13,200 | | 13,272 | 14,180 | | 13,272 | 13,200 | | 14,112 | 13,200 | | 108,688 |
| **Enterprise expenses** | | | | | | | | | | | | | |
| Swine finishing, | | | | | | | | | | | | | |
| 1.0 unit[1] | 8,001 | 178 | 50 | 4,052 | 178 | 1,338 | 4,052 | 178 | 50 | 5,340 | 178 | 50 | 23,645 |
| Corn, 276 acres | | 310 | 197 | 14,019 | | 401 | | | 526 | | | | 15,453 |
| TOTAL | 8,001 | 488 | 247 | 18,071 | 178 | 1,739 | 4,052 | 178 | 576 | 5,340 | 178 | 50 | 39,097 |
| Cash balance beginning of month | | 4,554 | 17,266 | 17,019 | 12,220 | 26,222 | 24,483 | 33,703 | 46,725 | 46,149 | 54,921 | 67,943 | |
| Receipts minus expenses | 6,251 | 12,712 | —247 | —4,799 | 14,002 | —1,739 | 9,220 | 13,022 | —576 | 8,772 | 13,022 | —50 | 67,893 |
| Money borrowed in month | | | | | | | | | | | | | |
| Payments on loan[2] | 1,674 | | | | | | | | | | | | |
| Interest paid | 23 | | | | | | | | | | | | |
| Cash balance end of month | 4,554 | 17,266 | 17,019 | 12,220 | 26,222 | 24,483 | 33,703 | 46,725 | 46,149 | 54,921 | 67,943 | 67,893 | |
| Accumulated borrowing | | | | | | | | | | | | | |

[1] Unit based on 80 sows.
[2] Payments on operating loan only.

APPENDIX TABLE 3. ANNUAL CASH FLOW STATEMENT FOR 80-SOW FARROW-TO-FINISH ENTERPRISE, THIRD YEAR

| Receipts and expenses | Month | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Total |
| | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* |
| **Enterprise receipts** | | | | | | | | | | | | | |
| Swine finishing, | | | | | | | | | | | | | |
| 1.0 unit[1] | 14,252 | 13,200 | | 13,272 | 14,180 | | 13,272 | 13,200 | | 14,112 | 13,200 | | 108,688 |
| TOTAL | 14,252 | 13,200 | | 13,272 | 14,180 | | 13,272 | 13,200 | | 14,112 | 13,200 | | 108,688 |
| **Enterprise expenses** | | | | | | | | | | | | | |
| Swine finishing, | | | | | | | | | | | | | |
| 1.0 unit[1] | 8,118 | 178 | 50 | 4,169 | 178 | 1,338 | 4,169 | 178 | 50 | 5,457 | 178 | 50 | 24,114 |
| Corn, 276 acres | | 310 | 197 | 13,580 | | 401 | | | 526 | | | | 15,014 |
| TOTAL | 8,118 | 488 | 247 | 17,749 | 178 | 1,739 | 4,169 | 178 | 576 | 5,457 | 178 | 50 | 39,128 |
| Cash balance beginning of month | | 6,134 | 18,846 | 18,599 | 14,122 | 28,124 | 26,385 | 35,487 | 48,509 | 47,934 | 56,588 | 69,610 | |
| Receipts minus expenses | 6,134 | 12,712 | −247 | −4,477 | 14,002 | −1,739 | 9,103 | 13,022 | −576 | 8,655 | 13,022 | −50 | 69,560 |
| Money borrowed in month | | | | | | | | | | | | | |
| Payments on loan[2] | | | | | | | | | | | | | |
| Interest paid | | | | | | | | | | | | | |
| Cash balance end of month | 6,134 | 18,846 | 18,599 | 14,122 | 28,124 | 26,385 | 35,487 | 48,509 | 47,934 | 56,588 | 69,610 | 69,560 | |
| Accumulated borrowing | | | | | | | | | | | | | |

[1] Unit based on 80 sows.
[2] Payments on operating loan only.

APPENDIX TABLE 4. ANNUAL CASH FLOW STATEMENT FOR 80-SOW FARROW-TO-FINISH ENTERPRISE, FOURTH YEAR

| Receipts and expenses | Month | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Total |
| | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* |
| **Enterprise receipts** | | | | | | | | | | | | | |
| Swine finishing, 1.0 unit[1] | 12,549 | 11,550 | | 11,618 | 12,481 | | 11,618 | 11,550 | | 12,416 | 11,550 | | 95,332 |
| TOTAL | 12,549 | 11,550 | | 11,618 | 12,481 | | 11,618 | 11,550 | | 12,416 | 11,550 | | 95,332 |
| **Enterprise expenses** | | | | | | | | | | | | | |
| Swine finishing, 1.0 unit[1] | 8,001 | 178 | 50 | 4,052 | 178 | 1,338 | 4,052 | 178 | 50 | 5,340 | 178 | 50 | 23,645 |
| Corn, 276 acres | | 310 | 197 | 13,231 | | 401 | | | 526 | | | | 14,664 |
| TOTAL | 8,001 | 488 | 247 | 17,283 | 178 | 1,739 | 4,052 | 178 | 576 | 5,340 | 178 | 50 | 38,309 |
| Cash balance beginning of month | | 4,548 | 15,610 | 15,363 | 9,699 | 22,002 | 20,263 | 27,829 | 39,201 | 38,625 | 45,701 | 57,073 | |
| Receipts minus expenses | 4,548 | 11,062 | −247 | −5,665 | 12,303 | −1,739 | 7,566 | 11,372 | −576 | 7,076 | 11,372 | −50 | 57,023 |
| Money borrowed in month | | | | | | | | | | | | | |
| Payments on loan[2] | | | | | | | | | | | | | |
| Interest paid | | | | | | | | | | | | | |
| Cash balance end of month | 4,548 | 15,610 | 15,363 | 9,699 | 22,002 | 20,263 | 27,829 | 39,201 | 38,625 | 45,701 | 57,073 | 57,023 | |
| Accumulated borrowing | | | | | | | | | | | | | |

[1] Unit based on 80 sows.
[2] Payments on operating loan only.

APPENDIX TABLE 5. ANNUAL CASH FLOW STATEMENT FOR 80-SOW FARROW-TO-FINISH ENTERPRISE, FIFTH YEAR

| Receipts and expenses | Month | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Total |
| | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* |
| **Enterprise receipts** | | | | | | | | | | | | | |
| Swine finishing, 1.0 unit[1] | 12,549 | 11,550 | | 11,618 | 12,481 | | 11,618 | 11,550 | | 12,416 | 11,550 | | 95,332 |
| TOTAL | 12,549 | 11,550 | | 11,618 | 12,481 | | 11,618 | 11,550 | | 12,416 | 11,550 | | 95,332 |
| **Enterprise expenses** | | | | | | | | | | | | | |
| Swine finishing, 1.0 unit[1] | 8,001 | 178 | 50 | 4,052 | 178 | 1,338 | 4,052 | 178 | 50 | 5,340 | 178 | 50 | 23,645 |
| Corn, 276 acres | | 310 | 197 | 13,231 | | 401 | | | 526 | | | | 14,664 |
| TOTAL | 8,001 | 488 | 247 | 17,283 | 178 | 1,739 | 4,052 | 178 | 576 | 5,340 | 178 | 50 | 38,309 |
| Cash balance beginning of month | | 4,548 | 15,610 | 15,363 | 9,699 | 22,002 | 20,263 | 27,829 | 39,201 | 38,625 | 45,701 | 57,073 | |
| Receipts minus expenses | 4,548 | 11,062 | —247 | —5,665 | 12,303 | —1,739 | 7,566 | 11,372 | —576 | 7,076 | 11,372 | —50 | 57,023 |
| Money borrowed in month | | | | | | | | | | | | | |
| Payments on loan[2] | | | | | | | | | | | | | |
| Interest paid | | | | | | | | | | | | | |
| Cash balance end of month | 4,548 | 15,610 | 15,363 | 9,699 | 22,002 | 20,263 | 27,829 | 39,201 | 38,625 | 45,701 | 57,073 | 57,023 | |
| Accumulated borrowing | | | | | | | | | | | | | |

[1] Unit based on 80 sows.
[2] Payments on operating loan only.

APPENDIX TABLE 6. ANNUAL CASH FLOW STATEMENT FOR 80-SOW FARROW-TO-FINISH ENTERPRISE, SIXTH YEAR

| Receipts and expenses | Month | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Total |
| | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* |
| **Enterprise receipts** | | | | | | | | | | | | | |
| Swine finishing, 1.0 unit[1] | 12,549 | 11,550 | | 11,618 | 12,481 | | 11,618 | 11,550 | | 12,416 | 11,550 | | 95,332 |
| TOTAL | 12,549 | 11,550 | | 11,618 | 12,481 | | 11,618 | 11,550 | | 12,416 | 11,550 | | 95,332 |
| **Enterprise expenses** | | | | | | | | | | | | | |
| Swine finishing, 1.0 unit[1] | 8,001 | 178 | 50 | 4,052 | 178 | 1,338 | 4,052 | 178 | 50 | 5,340 | 178 | 50 | 23,645 |
| Corn, 276 acres | | 310 | 197 | 13,231 | | 401 | | | 526 | | | | 14,664 |
| TOTAL | 8,001 | 488 | 247 | 17,283 | 178 | 1,739 | 4,052 | 178 | 576 | 5,340 | 178 | 50 | 38,309 |
| Cash balance beginning of month | | 4,548 | 15,610 | 15,363 | 9,699 | 22,002 | 20,263 | 27,829 | 39,201 | 38,625 | 45,701 | 57,073 | |
| Receipts minus expenses | 4,548 | 11,062 | —247 | —5,665 | 12,303 | —1,739 | 7,566 | 11,372 | —576 | 7,076 | 11,372 | —50 | 57,023 |
| Money borrowed in month | | | | | | | | | | | | | |
| Payments on loan[2] | | | | | | | | | | | | | |
| Interest paid | | | | | | | | | | | | | |
| Cash balance end of month | 4,548 | 15,610 | 15,363 | 9,699 | 22,002 | 20,263 | 27,829 | 39,201 | 38,625 | 45,701 | 57,073 | 57,023 | |
| Accumulated borrowing | | | | | | | | | | | | | |

[1] Unit based on 80 sows.
[2] Payments on operating loan only.

APPENDIX TABLE 7. ANNUAL CASH FLOW STATEMENT FOR 480-HEAD FEEDLOT ENTERPRISE, FIRST YEAR

| Receipts and expenses | Month | | | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* |
| **Enterprise receipts** | | | | | | | | | | | | | |
| Feeders, 240 head | | | | | | | | | | | | 111,090 | 111,090 |
| TOTAL | | | | | | | | | | | | 111,090 | 111,090 |
| **Enterprise expenses** | | | | | | | | | | | | | |
| Feeders, 240 head | | | | | | | | | 71,118 | | | 7,129 | 78,246 |
| Corn, 259 acres | | 290 | 184 | 13,527 | | 375 | | | 492 | | | | 14,868 |
| Silage, 17 acres | | 20 | 12 | 838 | | | | | 87 | | | | 957 |
| TOTAL | | 310 | 196 | 14,365 | | 375 | | | 71,697 | | | 7,129 | 94,071 |
| Cash balance beginning of month | | | | | | | | | | | | | |
| Receipts minus expenses | | −310 | −196 | −14,365 | | −375 | | | −71,697 | | | 103,961 | 17,019 |
| Money borrowed in month | | 310 | 196 | 14,365 | | 375 | | | 71,697 | | | | |
| Payments on loan[1] | | | | | | | | | | | | 86,943 | |
| Interest paid | | | | | | | | | | | | 3,647 | |
| Cash balance end of month | | | | | | | | | | | | 13,370 | |
| Accumulated borrowing | | 310 | 506 | 14,871 | 14,871 | 15,246 | 15,246 | 15,246 | 86,943 | 86,943 | 86,943 | | |

[1] Payments on operating loan only.

APPENDIX TABLE 8. ANNUAL CASH FLOW STATEMENT FOR 480-HEAD FEEDLOT ENTERPRISE, SECOND YEAR

| Receipts and expenses | Month | | | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* |
| **Enterprise receipts** | | | | | | | | | | | | | |
| Feedlot beef, 483 head | | | | | 106,260 | | | | | | | 106,260 | 212,520 |
| TOTAL | | | | | 106,260 | | | | | | | 106,260 | 212,520 |
| **Enterprise expenses** | | | | | | | | | | | | | |
| Feedlot beef, 483 head | 71,404 | | | | 7,129 | | | 71,669 | 2,830 | | | 7,129 | 160,160 |
| Corn, 259 acres | | 290 | 184 | 13,116 | | 375 | | | 492 | | | | 14,458 |
| Silage, 17 acres | | 20 | 12 | 811 | | | | | 87 | | | | 929 |
| TOTAL | 71,414 | 310 | 196 | 13,927 | 7,129 | 375 | | 71,669 | 3,409 | | | 7,129 | 175,547 |
| Cash balance beginning of month | | | | | | 11,038 | 10,663 | 10,663 | | | | | |
| Receipts minus expenses | −71,404 | −310 | −196 | −13,927 | 99,131 | −375 | | −71,669 | −3,409 | | | 99,131 | 36,973 |
| Money borrowed in month | 71,404 | 310 | 196 | 13,927 | | | | 61,006 | 3,409 | | | | |
| Payments on loan[1] | | | | | 85,837 | | | | | | | 64,415 | |
| Interest paid | | | | | 2,256 | | | | | | | 1,907 | |
| Cash balance end of month | | | | | 11,038 | 10,663 | 10,663 | | | | | 32,809 | |
| Accumulated borrowing | 71,404 | 71,713 | 71,910 | 85,837 | | | | 61,006 | 64,415 | 64,415 | 64,415 | | |

[1] Payments on operating loan only.

APPENDIX TABLE 9. ANNUAL CASH FLOW STATEMENT FOR 480-HEAD FEEDLOT ENTERPRISE, THIRD YEAR

| Receipts and expenses | Month | | | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* |
| **Enterprise receipts** | | | | | | | | | | | | | |
| Feedlot beef, 483 head | | | | | 103,845 | | | | | | | 103,845 | 207,690 |
| TOTAL | | | | | 103,845 | | | | | | | 103,845 | 207,690 |
| **Enterprise expenses** | | | | | | | | | | | | | |
| Feedlot beef, 483 head | 76,475 | | | | 7,129 | | | 76,741 | 2,830 | | | 7,129 | 170,303 |
| Corn, 259 acres | | 290 | 184 | 12,706 | | 375 | | | 492 | | | | 14,047 |
| Silage, 17 acres | | 20 | 12 | 784 | | | | | 87 | | | | 902 |
| TOTAL | 76,475 | 310 | 196 | 13,489 | 7,129 | 375 | | 76,741 | 3,409 | | | 7,129 | 185,252 |
| Cash balance beginning of month | | | | | | 3,841 | 3,466 | 3,466 | | | | | |
| Receipts minus expenses | −76,475 | −310 | −196 | −13,489 | 96,716 | −375 | | −76,741 | −3,409 | | | 96,716 | 22,438 |
| Money borrowed in month | 76,475 | 310 | 196 | 13,489 | | | | 73,275 | 3,409 | | | | |
| Payments on loan[1] | | | | | 90,470 | | | | | | | 76,684 | |
| Interest paid | | | | | 2,405 | | | | | | | 2,275 | |
| Cash balance end of month | | | | | 3,841 | 3,466 | 3,466 | | | | | 17,757 | |
| Accumulated borrowing | 76,475 | 76,785 | 76,981 | 90,470 | | | | 73,275 | 76,684 | 76,684 | 76,684 | | |

[1] Payments on operating loan only.

APPENDIX TABLE 10. ANNUAL CASH FLOW STATEMENT FOR 480-HEAD FEEDLOT ENTERPRISE, FOURTH YEAR

| Receipts and expenses | Month | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Total |
| | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* |
| **Enterprise receipts** | | | | | | | | | | | | | |
| Feedlot beef, 483 head | | | | | 101,430 | | | | | | | 101,430 | 202,860 |
| TOTAL | | | | | 101,430 | | | | | | | 101,430 | 202,860 |
| **Enterprise expenses** | | | | | | | | | | | | | |
| Feedlot beef, 483 head | 79,856 | | | | 7,129 | | | 80,122 | 2,830 | | | 7,129 | 177,065 |
| Corn, 259 acres | | 290 | 184 | 12,379 | | 375 | | | 492 | | | | 13,720 |
| Silage, 17 acres | | 20 | 12 | 762 | | | | | 87 | | | | 880 |
| TOTAL | 79,856 | 310 | 196 | 13,141 | 7,129 | 375 | | 80,122 | 3,409 | | | 7,129 | 191,666 |
| Cash balance beginning of month | | | | | | | | | | | | | |
| Receipts minus expenses | —79,856 | —310 | —196 | —13,141 | 94,301 | —375 | | —80,122 | —3,409 | | | 94,301 | 11,194 |
| Money borrowed in month | 79,856 | 310 | 196 | 13,141 | | 375 | | 80,122 | 3,409 | | | | |
| Payments on loan[1] | | | | | 91,797 | | | | | | | 85,612 | |
| Interest paid | | | | | 2,504 | | | | | | | 2,587 | |
| Cash balance end of month | | | | | | | | | | | | 6,103 | |
| Accumulated borrowing | 79,856 | 80,166 | 80,362 | 93,503 | 1,706 | 2,081 | 2,081 | 82,203 | 85,612 | 85,612 | 85,612 | | |

[1] Payments on operating loan only.

APPENDIX TABLE 11. ANNUAL CASH FLOW STATEMENT FOR 480-HEAD FEEDLOT ENTERPRISE, FIFTH YEAR

| Receipts and expenses | Month | | | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | |
| | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* |
| **Enterprise receipts** | | | | | | | | | | | | | |
| Feedlot beef, 483 head | | | | | 103,845 | | | | | | | 103,845 | 207,690 |
| TOTAL | | | | | 103,845 | | | | | | | 103,845 | 207,690 |
| **Enterprise expenses** | | | | | | | | | | | | | |
| Feedlot beef, 483 head | 84,928 | | | | 7,129 | | | 85,193 | 2,830 | | | 7,129 | 187,208 |
| Corn, 259 acres | | 290 | 184 | 12,379 | | 375 | | | 492 | | | | 13,720 |
| Silage, 17 acres | | 20 | 12 | 762 | | | | | 87 | | | | 880 |
| TOTAL | 84,928 | 310 | 196 | 13,141 | 7,129 | 375 | | 85,193 | 3,409 | | | 7,129 | 201,809 |
| Cash balance beginning of month | | | | | | | | | | | | | |
| Receipts minus expenses | −84,928 | −310 | −196 | −13,141 | 96,716 | −375 | | −85,193 | −3,409 | | | 96,716 | 5,881 |
| Money borrowed in month | 84,928 | 310 | 196 | 13,141 | | 375 | | 85,193 | 3,409 | | | | |
| Payments on loan[1] | | | | | 94,060 | | | | | | | 93,492 | |
| Interest paid | | | | | 2,656 | | | | | | | 2,886 | |
| Cash balance end of month | | | | | | | | | | | | | |
| Accumulated borrowing | 84,928 | 85,237 | 85,434 | 98,574 | 4,514 | 4,890 | 4,890 | 90,083 | 93,492 | 93,492 | 93,492 | | |

[1] Payments on operating loan only.

APPENDIX TABLE 12. ANNUAL CASH FLOW STATEMENT FOR 480-HEAD FEEDLOT ENTERPRISE, SIXTH YEAR

| Receipts and expenses | Month | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Total |
| | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* | *Dol.* |
| **Enterprise receipts** | | | | | | | | | | | | | |
| Feedlot beef, 483 head | | | | | 103,845 | | | | | | | 103,845 | 207,690 |
| TOTAL | | | | | 103,845 | | | | | | | 103,845 | 207,690 |
| **Enterprise expenses** | | | | | | | | | | | | | |
| Feedlot beef, 483 head | 84,928 | | | | 7,129 | | | 85,193 | 2,830 | | | 7,129 | 187,208 |
| Corn, 259 acres | | 290 | 184 | 12,379 | | 375 | | | 492 | | | | 13,720 |
| Silage, 17 acres | | 20 | 12 | 762 | | | | | 87 | | | | 880 |
| TOTAL | 84,928 | 310 | 196 | 13,141 | 7,129 | 375 | | 85,193 | 3,409 | | | 7,129 | 201,809 |
| Cash balance beginning of month | | | | | | | | | | | | | |
| Receipts minus expenses | —84,928 | —310 | —196 | —13,141 | 96,716 | —375 | | —85,193 | —3,409 | | | 96,716 | 5,881 |
| Money borrowed in month | 84,928 | 310 | 196 | 13,141 | | 375 | | 85,193 | 3,409 | | | | |
| Payments on loan[1] | | | | | 94,060 | | | | | | | 93,492 | |
| Interest paid | | | | | 2,656 | | | | | | | 2,886 | |
| Cash balance end of month | | | | | | | | | | | | | |
| Accumulated borrowing | 84,928 | 85,237 | 85,434 | 98,574 | 4,514 | 4,890 | 4,890 | 90,083 | 93,492 | 93,492 | 93,492 | | |

[1] Payments on operating loan only.

APPENDIX TABLE 13. CORN SILAGE, ESTIMATED COST PER ACRE, RECOMMENDED MANAGEMENT PRACTICES, ALABAMA,[1] 1976

| Item | Unit | Rate | Quantity | Amount |
|---|---|---|---|---|
| | | *Dol.* | | *Dol.* |
| **Variable costs** | | | | |
| Preharvest | | | | |
| Corn seed | bu. | 29.00 | 0.19 | 5.51 |
| Ammonium nitrate | cwt. | 6.75 | 3.75 | 25.31 |
| Phosphate | cwt. | 7.50 | 1.30 | 9.75 |
| Preemerge herbicide | pt. | 1.00 | 5.00 | 5.00 |
| Machinery | acre | .81 | 1.00 | .81 |
| Tractors | acre | 4.18 | 1.00 | 4.18 |
| Interest on operating capital | dol. | .09 | 21.31 | 1.92 |
| Subtotal, preharvest | | | | 52.48 |
| Harvest | | | | |
| Machinery | acre | 4.29 | 1.00 | 4.29 |
| Tractors | acre | .76 | 1.00 | .76 |
| Subtotal, harvest | | | | 5.05 |
| TOTAL | | | | 57.53 |
| **Fixed costs** | | | | |
| Machinery | acre | 12.69 | 1.00 | 12.69 |
| Tractors | acre | 4.55 | 1.00 | 4.55 |
| TOTAL | | | | 17.25 |
| TOTAL COSTS | | | | 74.79 |

[1] Black Belt soil requiring 120-60-0, Marengo County.

APPENDIX TABLE 14. CORN GRAIN, ESTIMATED COSTS AND RETURNS PER ACRE, RECOMMENDED MANAGEMENT PRACTICES, ALABAMA,[1] 1976

| Item | Unit | Rate | Quantity | Amount |
|---|---|---|---|---|
| | | *Dol.* | | *Dol.* |
| **Gross receipts** | | | | |
| Corn | bu. | 2.50 | 60.00 | 150.00 |
| TOTAL | | | | 150.00 |
| **Variable costs** | | | | |
| Preharvest | | | | |
| Corn seed | bu. | 29.00 | .18 | 5.22 |
| Ammonium nitrate | cwt. | 6.75 | 3.75 | 25.31 |
| Phosphate | cwt. | 7.50 | 1.30 | 9.75 |
| Preemerge herbicide | pt. | 1.00 | 5.00 | 5.00 |
| Machinery | acre | .83 | 1.00 | .83 |
| Tractors | acre | 4.24 | 1.00 | 4.24 |
| Interest on operating capital | dol. | .09 | 20.98 | 1.89 |
| Subtotal, preharvest | | | | 52.24 |
| Harvest | | | | |
| Machinery | acre | 1.90 | 1.00 | 1.90 |
| Subtotal, harvest | | | | 1.90 |
| TOTAL | | | | 54.14 |
| Income above variable costs | | | | 95.86 |
| **Fixed costs** | | | | |
| Machinery | acre | 10.37 | 1.00 | 10.37 |
| Tractors | acre | 3.73 | 1.00 | 3.73 |
| TOTAL | | | | 14.10 |
| TOTAL COSTS | | | | 68.24 |
| Net returns to land, labor, and management | | | | 81.76 |

[1] Black Belt soil requiring 120-60-0, Marengo County.

APPENDIX TABLE 15. WHEAT, ESTIMATED COSTS AND RETURNS PER ACRE, RECOMMENDED MANAGEMENT PRACTICES, ALABAMA,[1] 1976

| Item | Unit | Rate | Quantity | Amount |
|---|---|---|---|---|
| | | *Dol.* | | *Dol.* |
| **Gross receipts** | | | | |
| Wheat | bu. | 3.40 | 28.00 | 95.20 |
| TOTAL | | | | 95.20 |
| **Variable costs** | | | | |
| Preharvest | | | | |
| Wheat seed | bu. | 7.50 | 1.25 | 9.38 |
| Ammonium nitrate | cwt. | 6.75 | 3.00 | 20.25 |
| Phosphate | cwt. | 7.50 | 2.20 | 16.50 |
| Machinery | acre | .16 | 1.00 | .16 |
| Tractors | acre | .99 | 1.00 | .99 |
| Interest on operating capital | dol. | .09 | 32.46 | 2.92 |
| Subtotal, preharvest | | | | 50.20 |
| Harvest | | | | |
| Machinery | acre | 3.02 | 1.00 | 3.02 |
| Subtotal, harvest | | | | 3.02 |
| TOTAL | | | | 53.22 |
| Income above variable costs | | | | 41.98 |
| **Fixed costs** | | | | |
| Machinery | acre | 11.87 | 1.00 | 11.87 |
| Tractors | acre | .88 | 1.00 | .88 |
| TOTAL | | | | 12.76 |
| TOTAL COSTS | | | | 65.98 |
| Net returns to land, labor, and management | | | | 29.22 |

[1] Black Belt soil requiring 100-100-0, Marengo County.

APPENDIX TABLE 16. SOYBEANS, ESTIMATED COSTS AND RETURNS PER ACRE, RECOMMENDED MANAGEMENT PRACTICES, ALABAMA,[1] 1976

| Item | Unit | Rate | Quantity | Amount |
|---|---|---|---|---|
| | | *Dol.* | | *Dol.* |
| **Gross receipts** | | | | |
| Soybeans | bu. | 4.50 | 30.00 | 135.00 |
| TOTAL | | | | 135.00 |
| **Variable costs** | | | | |
| Preharvest | | | | |
| Soybean seed | bu. | 9.00 | 1.00 | 9.00 |
| Phosphate | cwt. | 7.50 | 1.70 | 12.75 |
| Preemerge | pt. | 2.50 | 2.00 | 5.00 |
| Herbicide | pt. | 2.50 | 2.00 | 5.00 |
| Insecticide | lb. | 2.00 | 4.00 | 8.00 |
| Machinery | acre | .88 | 1.00 | .88 |
| Tractors | acre | 6.86 | 1.00 | 6.86 |
| Interest on operating capital | dol. | .09 | 19.20 | 1.73 |
| Subtotal, preharvest | | | | 49.21 |
| Harvest | | | | |
| Machinery | acre | 3.58 | 1.00 | 3.58 |
| Subtotal, harvest | | | | 3.58 |
| TOTAL | | | | 52.79 |
| Income above variable costs | | | | 82.21 |
| **Fixed costs** | | | | |
| Machinery | acre | 17.69 | 1.00 | 17.69 |
| Tractors | acre | 6.38 | 1.00 | 6.38 |
| TOTAL | | | | 24.07 |
| TOTAL COSTS | | | | 76.87 |
| Net returns to land, labor, and management | | | | 58.13 |

[1] Black Belt soil requiring 0-80-0, Marengo County.

APPENDIX TABLE 17. NO-TILL SOYBEANS, ESTIMATED COSTS AND RETURNS PER ACRE, RECOMMENDED MANAGEMENT PRACTICES, ALABAMA,[1] 1976

| Item | Unit | Rate | Quantity | Amount |
|---|---|---|---|---|
| | | *Dol.* | | *Dol.* |
| **Gross receipts** | | | | |
| Soybeans | bu. | 4.50 | 25.00 | 112.50 |
| TOTAL | | | | 112.50 |
| **Variable costs** | | | | |
| Preharvest | | | | |
| Soybean seed | bu. | 9.00 | 1.00 | 9.00 |
| Phosphate | cwt. | 7.50 | 1.70 | 12.75 |
| Preemerge herbicide | pt. | 2.50 | 2.00 | 5.00 |
| Herbicide | pt. | 2.50 | 2.00 | 5.00 |
| Insecticide | lb. | 2.00 | 4.00 | 8.00 |
| Machinery | acre | .53 | 1.00 | .53 |
| Tractors | acre | 4.79 | 1.00 | 4.79 |
| Interest on operating capital | dol. | .09 | 14.65 | 1.32 |
| Subtotal, preharvest | | | | 46.40 |
| Harvest | | | | |
| Machinery | acre | 3.58 | 1.00 | 3.58 |
| Subtotal, harvest | | | | 3.58 |
| TOTAL | | | | 47.98 |
| Income above variable costs | | | | 62.52 |
| **Fixed costs** | | | | |
| Machinery | acre | 15.29 | 1.00 | 15.29 |
| Tractors | acre | 4.58 | 1.00 | 4.58 |
| TOTAL | | | | 19.86 |
| TOTAL COSTS | | | | 69.84 |
| Net returns to land, labor, and management | | | | 42.66 |

[1] Black Belt soil requiring 0-80-0, Marengo County.

APPENDIX TABLE 18. DALLISGRASS OVERSEEDED WITH RYEGRASS, ESTIMATED COSTS PER ACRE, RECOMMENDED MANAGEMENT PRACTICES, ALABAMA,[1] 1976

| Item | Unit | Rate | Quantity | Amount |
|---|---|---|---|---|
| | | *Dol.* | | *Dol.* |
| **Variable costs** | | | | |
| Seed | lb. | 0.45 | 20.00 | 9.00 |
| Ammonium nitrate | cwt. | 6.75 | 3.80 | 25.65 |
| Phosphate | cwt. | 7.50 | 1.30 | 9.75 |
| Machinery | acre | .93 | 1.00 | .93 |
| Tractors | acre | 3.23 | 1.00 | 3.23 |
| Interest on operating capital | dol. | .09 | 21.87 | 1.97 |
| TOTAL | | | | 50.54 |
| **Fixed costs** | | | | |
| Machinery | acre | 3.12 | 1.00 | 3.12 |
| Tractors | acre | 3.09 | 1.00 | 3.09 |
| TOTAL | | | | 6.21 |
| TOTAL COSTS | | | | 56.74 |

[1] Black Belt soil, Marengo County.

APPENDIX TABLE 19. DALLISGRASS PASTURE, ANNUAL MAINTENANCE COSTS PER ACRE, RECOMMENDED MANAGEMENT PRACTICES, ALABAMA,[1] 1976

| Item | Unit | Rate | Quantity | Amount |
|---|---|---|---|---|
| | | *Dol.* | | *Dol.* |
| **Variable costs** | | | | |
| Ammonium nitrate | cwt. | 6.75 | 1.80 | 12.15 |
| Phosphate | cwt. | 7.50 | 1.30 | 9.75 |
| Machinery | acre | .42 | 1.00 | .42 |
| Tractors | acre | 1.45 | 1.00 | 1.45 |
| Interest on operating capital | dol. | .09 | 8.34 | .75 |
| TOTAL | | | | 24.53 |
| **Fixed costs** | | | | |
| Machinery | acre | 1.98 | 1.00 | 1.98 |
| Tractors | acre | 1.39 | 1.00 | 1.39 |
| TOTAL | | | | 3.37 |
| TOTAL COSTS | | | | 29.70 |

[1] Black Belt soil requiring 60-60-0, Marengo County.

APPENDIX TABLE 20. JOHNSONGRASS HAY, ESTIMATED COSTS PER ACRE, RECOMMENDED MANAGEMENT PRACTICES, ALABAMA,[1] 1976

| Item | Unit | Rate | Quantity | Amount |
|---|---|---|---|---|
| | | *Dol.* | | *Dol.* |
| **Variable costs** | | | | |
| Ammonium nitrate | cwt. | 6.75 | 6.00 | 40.50 |
| Phosphate | cwt. | 7.50 | 1.30 | 9.75 |
| Machinery | acre | 9.36 | 1.00 | 9.36 |
| Tractors | acre | 16.99 | 1.00 | 16.99 |
| Interest on operating capital | dol. | .09 | 20.27 | 1.82 |
| TOTAL | | | | 78.43 |
| **Fixed costs** | | | | |
| Machinery | acre | 23.51 | 1.00 | 23.51 |
| Tractors | acre | 15.74 | 1.00 | 15.74 |
| TOTAL | | | | 39.25 |
| TOTAL COSTS | | | | 117.68 |

[1] Black Belt soil, Marengo County.

APPENDIX TABLE 21. 80-SOW FARROW-TO-FINISH, ESTIMATED COSTS AND RETURNS, RECOMMENDED MANAGEMENT PRACTICES, ALABAMA, 1976

| Item | Unit | Rate | Quantity | Amount |
|---|---|---|---|---|
| | | *Dol.* | | *Dol.* |
| **Gross receipts** | | | | |
| Slaughter hogs[1] | cwt. | 47.50 | 2,640.00 | 125,400.00 |
| Sows[1] | cwt. | 30.00 | 40.00 | 4,200.00 |
| Boar[1] | cwt. | 20.00 | 4.00 | 320.00 |
| TOTAL | | | | 129,920.00 |
| **Variable costs** | | | | |
| Corn | acre | 54.14 | 276.50 | 14,969.71 |
| Protein supplement | cwt. | 8.00 | 1,878.10 | 15,027.19 |
| Creep | cwt. | 8.50 | 441.60 | 3,753.60 |
| Other | dol. | 1.00 | 1,296.80 | 1,296.80 |
| Veterinary supplies | head | 1.00 | 1,364.00 | 1,364.00 |
| Utilities | dol. | 1.00 | 600.00 | 600.00 |
| Custom hauling | head | .75 | 1,364.00 | 1,023.00 |
| Interest on operating capital | dol. | .09 | 11,390.35 | 1,025.13 |
| TOTAL | | | | 39,059.12 |
| Income above variable cost | | | | 90,860.00 |
| **Fixed costs** | | | | |
| Interest on livestock capital | dol. | .09 | 12,974.99 | 1,167.75 |
| Interest on other equipment | dol. | .09 | 21,946.01 | 2,245.14 |
| Depreciation on boar | dol. | | | 162.50 |
| Depreciation on other equipment | dol. | | | 2,649.35 |
| Other fixed costs, machines, and equipment | dol. | | | 1,746.21 |
| TOTAL | | | | 7,970.94 |
| TOTAL COSTS | | | | 47,030.37 |
| Net returns to land, labor, and management | | | | 82,889.60 |

[1] Per animal weights are 200 pounds for slaughter hogs, 350 pounds for sows, and 400 pounds for boars.

APPENDIX TABLE 22. STOCKERS, 14 HEAD, ESTIMATED COSTS AND RETURNS, RECOMMENDED MANAGEMENT PRACTICES, ALABAMA, 1976

| Item | Unit | Rate | Quantity | Amount |
|---|---|---|---|---|
| | | *Dol.* | | *Dol.* |
| **Gross receipts** | | | | |
| Steer calves[1] | cwt. | 32.00 | 14.00 | 3,136.00 |
| TOTAL | | | | 3,136.00 |
| **Variable costs** | | | | |
| Steer calves[2] | cwt. | 32.00 | 14.00 | 1,904.00 |
| Pasture | acre | 50.54 | 9.30 | 470.02 |
| Salt and minerals | cwt. | 5.00 | .45 | 31.50 |
| Veterinarian and medicine | head | 1.00 | 14.00 | 14.00 |
| Chemicals | head | .50 | 14.00 | 7.00 |
| Custom hauling | head | .75 | 14.00 | 10.50 |
| Custom hauling | head | .75 | 14.00 | 10.50 |
| Sales commission | dol. | 1.00 | 6.72 | 94.08 |
| Tractors (fuel, lube, repairs) | dol. | | | 109.67 |
| Machinery (fuel, lube, repairs) | dol. | | | 48.07 |
| Equipment (fuel, lube, repairs) | dol. | | | 2.10 |
| Interest on operating capital | dol. | .09 | 1,128.62 | 101.58 |
| TOTAL[3] | | | | 2,803.02 |
| Income above variable costs | | | | 332.97 |
| **Fixed costs** | | | | |
| Pasture | acre | 6.20 | 9.30 | 57.66 |
| Interest on other equipment | dol. | .09 | 87.50 | 7.87 |
| Depreciation on other equipment | dol. | | | 7.00 |
| Other fixed costs, machinery and equipment | dol. | | | 259.49 |
| TOTAL | | | | 332.03 |
| TOTAL COSTS | | | | 3,135.05 |
| Net returns to land, labor, and management | | | | .95 |

[1] Weight, 700 pounds each.
[2] Weight, 425 pounds each.
[3] Cost includes cutting hay after calves have been removed from pasture.

APPENDIX TABLE 23. COW-CALF, 30-COW HERD, ESTIMATED COSTS AND RETURNS, RECOMMENDED MANAGEMENT PRACTICES, ALABAMA,[1] 1976

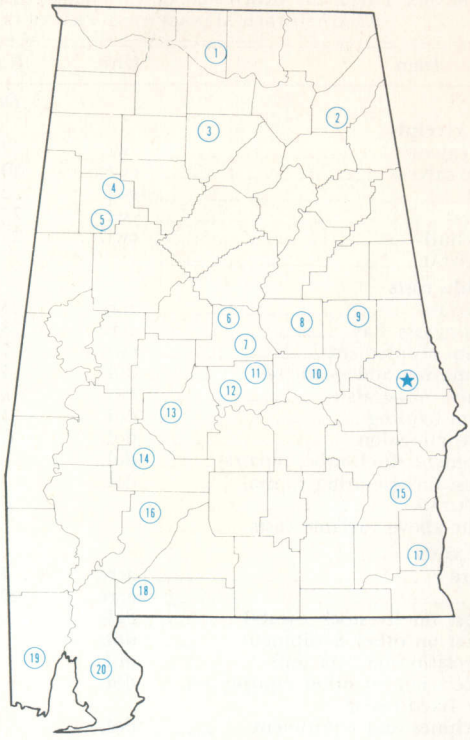
| Item | Unit | Rate | Quantity | Amount |
|---|---|---|---|---|
| | | *Dol.* | | *Dol.* |
| **Gross receipts** | | | | |
| Steer calves[2] | cwt. | 32.00 | 14.00 | 1,904.00 |
| Heifer calves[2] | cwt. | 30.00 | 8.00 | 960.00 |
| Cows[2] | cwt. | 22.00 | 5.00 | 1,100.00 |
| Heifers[2] | cwt. | 27.00 | 1.00 | 189.00 |
| Aged bull[2] | cwt. | 25.00 | .25 | 125.00 |
| TOTAL | | | | 4,278.00 |
| **Variable costs** | | | | |
| Dallisgrass | acre | 25.00 | .96 | 720.00 |
| Johnsongrass hay | acre | 78.00 | .30 | 702.00 |
| Protein supplement | cwt. | 7.50 | 1.80 | 405.00 |
| Veterinarian and medicine | dol. | 1.00 | 3.00 | 90.00 |
| Salt and minerals | cwt. | 5.00 | .44 | 66.00 |
| Custom hauling | dol. | 1.00 | 1.75 | 49.00 |
| Sales commission | dol. | 1.00 | 3.80 | 106.00 |
| Equipment (fuel, lube, repairs) | dol. | | | 15.43 |
| Interest on operating capital | dol. | .09 | 308.95 | 27.81 |
| TOTAL | | | | 2,181.64 |
| Income above variable costs | | | | 2,096.36 |
| **Fixed costs** | | | | |
| Pasture | acre | 1.50 | 28.80 | 43.20 |
| Hay | acre | 45.82 | 9.00 | 412.38 |
| Interest on livestock capital | dol. | .09 | 9,112.49 | 820.12 |
| Interest on other equipment | dol. | .09 | 2,087.50 | 187.87 |
| Depreciation on beef bull | dol. | | | 12.50 |
| Depreciation on other equipment | dol. | | | 140.33 |
| Other fixed costs, machines and equipment | dol. | | | 146.12 |
| TOTAL | | | | 1,762.54 |
| TOTAL COSTS | | | | 3,944.18 |
| Net returns to land, labor, and management | | | | 333.82 |

[1] Dallisgrass pasture and winter hay feeding is basis for feeding herd.

[2] Per animal weight is 425 pounds for steer calves, 400 pounds for heifer calves, 1,000 pounds for cows, 700 pounds for heifers, and 2,000 pounds for aged bull.

# Alabama's Agricultural Experiment Station System
## AUBURN UNIVERSITY

With an agricultural research unit in every major soil area, Auburn University serves the needs of field crop, livestock, forestry, and horticultural producers in each region in Alabama. Every citizen of the State has a stake in this research program, since any advantage from new and more economical ways of producing and handling farm products directly benefits the consuming public.




**Research Unit Identification**

★ Main Agricultural Experiment Station, Auburn.

1. Tennessee Valley Substation, Belle Mina.
2. Sand Mountain Substation, Crossville.
3. North Alabama Horticulture Substation, Cullman.
4. Upper Coastal Plain Substation, Winfield.
5. Forestry Unit, Fayette County.
6. Thorsby Foundation Seed Stocks Farm, Thorsby.
7. Chilton Area Horticulture Substation, Clanton.
8. Forestry Unit, Coosa County.
9. Piedmont Substation, Camp Hill.
10. Plant Breeding Unit, Tallassee.
11. Forestry Unit, Autauga County.
12. Prattville Experiment Field, Prattville.
13. Black Belt Substation, Marion Junction.
14. Lower Coastal Plain Substation, Camden.
15. Forestry Unit, Barbour County.
16. Monroeville Experiment Field, Monroeville.
17. Wiregrass Substation, Headland.
18. Brewton Experiment Field, Brewton.
19. Ornamental Horticulture Field Station, Spring Hill.
20. Gulf Coast Substation, Fairhope.