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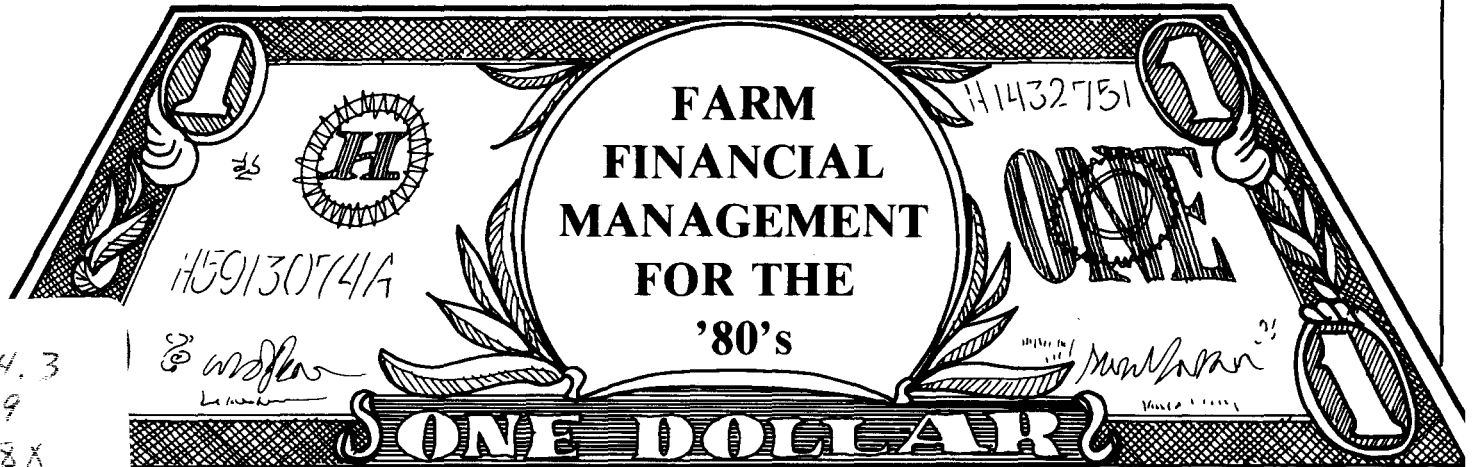
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Your Cash Flow Budget

A Future Performance Planning Tool

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YOUR CASH FLOW BUDGET
A Future Performance Planning Tool

YOUR FINANCIAL TOOL KIT

Managing money is an important part of operating a farm. As this management becomes more important to you, your financial tools become more valuable.

The three most common financial tools include the balance sheet, the income statement, and the cash flow budget.

This circular shows you how to prepare a cash flow budget and how to use it in making financial decisions. It supplements Extension circulars 818, "Your Balance Sheet," and 819 "Your Income Statement" as part of the financial tool kit.

**CASH FLOW BUDGET —
A FORWARD PLANNING TOOL**

The cash flow budget is a document that indicates where cash will come from in the farm business and when, and where it is going. Just as it would not be wise to attempt a long car trip without reference to a road map, it is not financially wise to begin another business year without first charting your course. You should think of the cash flow budget as a month by month (or quarter by quarter) money map that indicates how you intend to manage your dollars in the year ahead.

Cash comes into the farm business from:

- Cash on hand at the beginning of the year
- Operating income (sale of farm products)
- Government program payments
- Sale of capital assets (machinery, buildings, land)
- Money borrowed
- Nonfarm sources (wages, income from investments, and gifts)

Cash leaves the farm business through:

- Operating expenses
- Purchases of capital assets

- Principal payments on loans
- Family living expenses
- Taxes

This circular describes the cash flow **budget**, which is an estimate of cash inflows and cash outflows for the coming year depending upon your future plans. A cash flow **statement** is a record of where cash came from and where it went during the past year and serves as the first step in developing a cash flow plan for next year.

Traditionally, lenders have extended credit by referring to a farmer's balance sheet; that is, total assets compared with total liabilities. However, the declining value of intermediate and fixed assets in recent years along with the high degree of variability in farm income due to changes in government programs, fluctuating commodity prices, and erratic weather patterns has resulted in making the cash flow budget the most important indicator of repayment ability.

The basic purpose of the cash flow budget is to alert the farm operator and lender to times when cash is likely to be either in short or surplus supply throughout the coming year. The balance sheet and income statement provide information on past performance of the farm business. However, it is the future over which you and your lender want to have control. The cash flow budget is an effective tool for planning and evaluating the future performance of your farm operation.

The information found on the cash flow budget will help you make the following determinations:

- Whether cash will be available when needed
- Whether surplus funds should be invested or placed in savings
- The timing and extent to which borrowed funds will be needed
- Whether marketing plans should be adjusted according to cash requirements

A Short-Run Financial Management Aid

While lenders are usually interested in extending credit to farm operators that have recorded profits over time, they are most concerned about how and when the farm operator can repay the money he intends to borrow on a short-term (one-year) basis.

The operator should ask the following management questions:

- Will the operation be profitable in the long run?
- Will the operation be feasible in the short run?

Long-run profitability refers to a period of three to five years or more and is usually determined through the use of budgets for all enterprises on the farm. Enterprise budgets are plans that compare projected income from an enterprise with planned cash and non-cash expenses. This type of budgeting allows for the fact that capital expenditures (machinery, buildings, and land) must be spread over the expected life of the capital asset.

Short-run feasibility refers to the ability of the farm business to generate income in a short period of time (usually one to three years). It is best evaluated through the use of a cash flow budget. Estimated cash inflows and outflows can be compared and the lender can determine whether the operator can meet payment requirements. Often a farm operation is capable of being profitable in the long-run, but is not able to meet short-run demands for cash. This is especially true when the payments for capital items (machinery, buildings, land) are concentrated in the early years of the investment. Conversely, some farm operations may generate adequate cash in the short-run to meet obligations even though the business is unprofitable. This could be done by selling down inventories, selling intermediate or fixed assets, or postponing necessary purchases. **It is important to remember that profitability cannot be determined from the cash flow budget since only cash items are included in it. Profitability is determined from the income statement.**

The Cash Flow Plan As Part Of Your Marketing Plan

Development of a cash flow plan is a major part of developing a marketing plan. A marketing plan is also a significant part of a cash flow plan. They go hand in hand. (For a detailed description of a marketing plan see Extension circular 809, "Developing A Marketing Plan.")

Being an efficient producer of crops and livestock does not guarantee that all cash needs will be met throughout the year. Farm products must be marketed. Often the timing of marketing decisions does not coincide with the period of highest cash re-

quirements. A decision often needs to be made whether a sale of farm products should be made or borrowed funds should be used to meet current cash requirements.

For example, if a farm operator does not have adequate cash or financing at harvest time, he might be forced to sell grain off the field instead of holding the grain in inventory and selling it at anticipated higher prices. With adequate cash available, the operator would have more freedom in developing a marketing plan. Normally, your cash flow plan will be for one year in the future. But, if you are anticipating a major change in your farming operation you may want to project for a longer period.

HOW TO PREPARE A CASH FLOW BUDGET

Two methods can be used to develop a projected cash flow budget for your operation. The first method involves detailed budgeting of cash inflows and outflows on an item-by-item basis. This is not an easy task. It involves many planning decisions and a significant time commitment. Anyone who has been involved in extensive planning of farm operations knows there are many factors influencing decisions in farming that cannot be foreseen (weather, prices, interest rates) and it is impossible to predict receipts and expenditures exactly. However, successful farm management today demands that operators use their best judgment of expectations and make plans early in the business year. These plans form a basic structure for business operations that can be adjusted throughout the year as new yield, price and cost information becomes available.

Preparing a cash flow budget early in the year:

- Forces you to plan on a step-by-step basis
- Helps you control expenses
- Helps evaluate borrowing and repayment plans
- Provides information for a projected income budget

The second method of developing a cash flow statement assumes you intend to operate your farm business similar to the past year. A record of the actual dollars received and spent during the past year is assembled on an item-by-item basis. Then, the amount of change likely in the year ahead for each item is estimated. This approach works well if prices, yields and government programs are relatively stable and you are in a comfortable enough equity position so that detailed planning is unnecessary.

The first method used in developing a projected cash flow budget is illustrated in Appendix 1 for Bob and Betty Farmer.

EXAMPLE CASH FLOW BUDGET: METHOD 1

Early in the business year Bob and Betty Farmer decide to estimate what their cash flow needs will be in the year ahead. They begin by following a step-by-step process of making production plans, marketing plans, and cost estimations for each of their farm enterprises using Schedules A through K (Appendix 1). Refer to these schedules in following through the steps below.

The eight steps involved in the cash flow planning process are:

- Planning the cropping program
- Estimating cash receipts from grain sales
- Summarizing crop costs
- Planning the livestock program
- Summarizing livestock costs
- Planning purchases and sales of capital assets associated with the farm enterprise
- Projecting intermediate and long-term loan payments
- Planning the family living budget

Step 1 — Planning the Cropping Program (Schedule A)

There are many considerations involved in cropping decisions as illustrated in Figure 1. Bob and Betty consider each of these factors and decide that a combination of wheat, barley, sunflower and alfalfa will best fit their farm situation in the year ahead. They identify and group each field according to the crop to be planted and list the tillable acres of each field in column 1 of Schedule A. Tillable acres of each crop are totaled and listed in column 2.

They estimate the expected yield per acre for each field using average yields from previous years and their ASCS proven yields based on the last five years. These are recorded in Schedule A, column 3. Bob and Betty estimate the spring wheat yield to be 35 bushels per acre on fields A and D and 32 bushels per acre on field B. The winter wheat yield on field C

is projected to be 40 bushels per acre. Barley production is estimated to be 60 bushels per acre on field G and 55 bushels per acre on field H. The sunflower yield estimate is 12 hundredweight per acre on both fields E and F. They feel alfalfa production in the year ahead will be 1.5 tons per acre.

Total crop production from each field is determined by multiplying column 1 \times column 3 (acres times yield) and is recorded in column 4. Production of hard red spring wheat is expected to be 2,800 bushels from field A and 1,920 bushels from field B. Since Bob and Betty are renting field D on $\frac{2}{3}$ shares, their share of wheat from this field is $160 \times 35 \times \frac{2}{3} = 3,733$ bushels. The total estimated spring wheat production in the coming year is 8,453 bushels (column 5). Crop production from the other fields is determined in the same way.

Step 2. Estimating Cash Receipts From Grain Sales (Schedule B)

The cash flow budget requires estimates of receipts from the sale of farm products for each month of the upcoming year. Therefore, the farm operator must anticipate when he is most likely to "cash in" on his grain inventory and his grain to be produced. He must also determine an acceptable price for the crops he produces. These are some of the components of a marketing plan. Many factors need to be considered in developing a marketing plan (see Figure 1) and the planning process may be imprecise, but the alternative — no marketing plan — is not the prudent way to operate a business.

Bob and Betty begin the year with 5,000 bushels of spring wheat on inventory. This is listed in column 1 of Schedule B. They plan to use 500 bushels for seed (column 3), leaving 4,500 bushels available for sale (column 4). They intend to market the entire 4,500 bushels during February at a price of \$3.80 per bushel (columns 5, 6, 7, and 8). The value of the sale (quantity times price) is \$17,100 (column 9). The estimated new crop spring wheat production of 8,453 bushels (column 5, Schedule A) is transferred to line 2, column 2 of Schedule B. Bob and Betty do not plan to use any of this production for seed or feed. In October they plan to sell 40 percent of the spring wheat crop available for sale [$8,453 \times .40 = 3,381$ bu. (column 7)]. Their price target is \$3.70 per bushel (column 8). The value of the sale is \$12,510 (column 9) and 5,072 bushels of new crop wheat will remain on inventory at the end of October (column 12). During November they plan to sell another 40 percent of total production (3,381 bushels) at a price of \$3.75 per bushel. The value of this sale is \$12,679 and 1,691 bushels will be carried into next year.

Bob and Betty anticipate that their entire winter wheat crop will be sold in September at a price of \$3.50 per bushel [$4,000$ bu. \times $\$3.50 = \$14,000$ (columns 7, 8 and 9)].

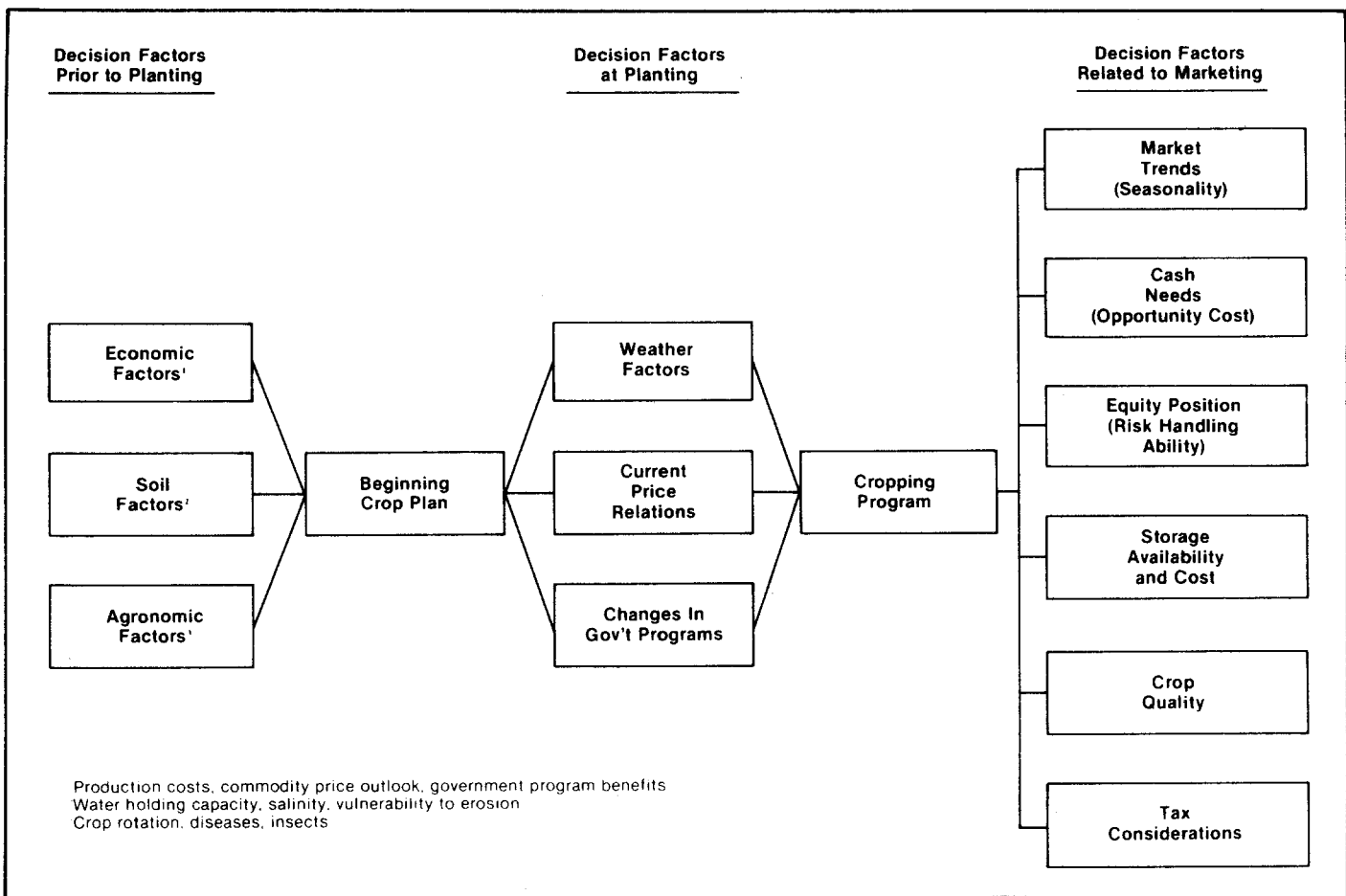


Figure 1. Factors Involved In Crop Production and Marketing Decisions.

To determine the quantity of barley available for sale they must first plan their livestock program. (This is step five in the cash flow planning process.) From their livestock plan they estimate 1,140 bushels of old crop barley will be required for feed until harvest (from Schedule G, column 6). The remaining 1,860 bushels will be sold in January at a price of \$2.20 per bushel. New crop barley production is estimated at 8,933 bushels. Of this amount, 250 bushels will be needed for feed through the end of December (Schedule G, column 7). Of the remaining inventory (8,683 bushels), one-half will be sold in August for \$2.00 per bushel (\$8,864). The other half will be carried into next year.

Old crop sunflower on inventory will be sold in March (50 cwt. x \$16 = \$800). New crop sunflower (1,893 cwt.) will be sold in the fall — 30 percent in November (568 cwt. x \$13 = \$7,384), 20 percent in December (379 cwt. x \$14 = \$5,306). The other half of the sunflower crop (946 cwt.) will be sold next year.

Bob and Betty plan to use all but about 6 tons of hay on inventory (from Schedule G, column 6). This hay will be sold in April at a price of \$60/ton. No cash receipts will be derived from the new hay crop as

they plan to feed 54 tons this year and carry 66 tons into next year.

Often grain sales are made but cash is not received until after January 1 for tax planning purposes. This reduces the amount of cash available for the current calendar year and affects the cash flow plan. Column 10 of Schedule B is provided to account for deferred payments. If Bob and Betty elect to defer a portion of the grain sales shown in column 9, they enter the deferred payment amount in column 10. The dollar values of crop sales minus deferred payments are listed in column 11 and are the amounts used for cash flow planning. Since Bob and Betty often defer a portion of their grain sales for tax purposes, they list a deferred payment of \$1,000 from their December sunflower sale (line 18).

Schedule B should be as complete as necessary to reflect the number of sales projected for the year ahead. Some operators will have a marketing program that calls for several sales of each crop throughout the year rather than two or three as shown for Bob and Betty farmer. A complete record of **actual** crop sales including sale dates, quantities and prices should be recorded as the year unfolds. A

crop sales and inventory monitoring record (Schedule B-1) is provided for this purpose. By having this information in summary form one can make a meaningful analysis of the variations of actual results from budget expectations.

Step 3. Summarizing crop costs (Schedules C and D)

Schedules C and D summarize the major cash costs associated with crop production. The use of major crop inputs varies considerably throughout North Dakota. Seed, fertilizer and chemical inputs per acre for a specific crop may be very different from farm to farm or even from field to field.

Schedule C

Bob and Betty list seed, fertilizer and chemical requirements and costs for the coming year in Schedule C.

Information for Schedule C came from:

- Farm records
- Local seed, fertilizer and chemical suppliers
- "Crop Production Costs" and other NDSU Extension circulars available from their county agent.

Schedule D

Schedule D uses the IRS 1040-F format to summarize crop costs on a monthly basis. Hired labor (line 1) and repairs (line 2) for crop production are approximated by reviewing last year's records and Bob and Betty's "feel" for labor and repair costs during the coming year. Any scheduled cash rent payments for cropland are to be entered on line 3. The cash outlay figures for seed, fertilizer, and chemicals are transferred from Schedule C to Schedule D according to their best estimate of when they will be paid. Farm records and knowledge of expected changes are used in estimating the amount and timing of other expenses associated with crop production such as custom hire, supplies, fuel, and crop insurance. (Schedule D, lines 7 through 10).

Step 4. Planning the livestock program (Schedule E and F)

Schedule E

Schedule E is used to develop Bob and Betty's livestock production plan for the coming year. The planning process begins by listing current inventory figures including number, weights and value for

each kind of livestock in columns 1 through 4 of Schedule E. Bob and Betty begin the year with 48 wintering calves, 50 cows and two bulls. Information related to expected purchases of livestock is recorded in columns 5 through 9. They plan to buy a bull in March for \$1,750. The number of animals born from breeding stock are listed in column 10. They anticipate 48 live calves from their 50 cows. Transfers of young stock to breeding stock are accounted for in column 11. Four heifers are transferred out of the winter calves category and listed as replacement heifers. Column 11 should always total zero because livestock transferred out carry a negative sign and livestock transferred in a positive sign. The total appearance of livestock (column 12) is determined by adding columns 1 + 6 + 10 + 11.

Schedule F

Schedule F is used to develop Bob and Betty's livestock marketing program. Livestock appearance is transferred from Schedule E column 12 to Schedule F column 1. Anticipated death loss is listed in column 2. The month of the expected sale, number to be sold, weight per head, expected price, and value are recorded in columns 3 through 7. The number of livestock on hand at the end of the year (column 8) is calculated by subtracting columns 2 and 4 (death losses and sales) from column 1 (appearance). Bob and Betty plan to sell 43 calves in March. They expect the average weight of the calves will be 6.9 hundredweight and estimate a selling price of \$62.50 per hundredweight. The value of the sale is \$18,520. They also plan to sell two cows in May (line 2) and a bull in April (line 4).

A livestock sales and inventory monitoring record (Schedule F-1) is provided to record **actual** sale dates, quantities, prices and inventory information.

Step 5. Summarizing Livestock Costs (Schedules G and H)

Schedule G

Schedule G is used to list feed needs of each kind of livestock. Several AGNET (Agricultural Computer Network) programs — COWCOST, FEEDMIX, BEEF GROWER, GRASSFAT — available through the local county Extension office may be used to estimate feed requirements per animal unit. Bob and Betty plan to hold their wintering calves through March. The type and amount of feed needed by each of these calves in the January through March period is listed in Schedule G, columns 1 and 3 (lines 1, 2 & 3). Feed needs for the cow and new calf during the first six months of the year (pre-harvest) are listed in columns 1 and 3 (lines 5 through 8). Feed needs for the cow-calf unit during the last half of the year (post-harvest) are listed in columns 1 and 3 (lines 15 through 19). Feed needs of each animal unit (column

3) are multiplied by the number of animal units (column 4) to determine feed needs for each kind of livestock and are listed in column 5. These feed requirements are totaled according to the type of feed and listed in column 6, "before harvest feed needs," or column 7, "after harvest feed needs." By comparing before harvest and after harvest feed needs with current and projected feed inventories (Schedule B), estimates of feed purchases can be made. These are listed in column 8. The months when outlays for feed will be made are listed in column 9. The cost of feed per unit is listed in column 10 and total feed cost is listed in column 11. Bob and Betty had adequate pasture, alfalfa and barley to meet their needs. They plan to purchase oats in September. Purchases of protein, mineral and salt will occur in January and July.

Schedule H

Schedule H is used to summarize livestock costs on a monthly basis. Outlays for feed are transferred from Schedule G, column 11. Other expenses associated with the livestock enterprise (e.g., hired labor, repairs, rent, custom hire, supplies, breeding and veterinary services, fuel, trucking and commission) are estimated by referring to past records and Extension publications.

Step 6. Planning Purchases and Sales of Capital Assets Associated With The Farm Enterprise (Schedule I)

Schedule I is used to list anticipated cash outlays and cash receipts from purchases and sales of capital items. These would include buildings, machinery, farm vehicles, fences — anything that would be entered on a depreciation schedule and expensed over time. Land would also be classified as a capital item. A major repair is considered a capital expenditure when it appreciably increases the value of an asset. Bob and Betty plan a major overhaul of their tractor in February (line 1) and anticipate construction of a pole barn in June (line 2). They plan to sell their swather in July and expect to receive \$3,000 for it (line 3).

Step 7. Projecting Intermediate and Long-Term Loan Payments (Schedule J)

Schedule J is used to help organize Bob and Betty's debt commitments. They contacted their intermediate and long-term lenders to find out what the principal and accrued interest was at the beginning of the year, the payments to be made during the year, and balances at the end of the year.

If Bob and Betty's capital expenditure plan called for new intermediate or long-term borrowing, the

principal and interest due this year on these new loans would also be listed in Schedule J.

Step 8. Planning the Family Living Budget (Schedule K)

Schedule K is used to systematically make projections of the cash required for family living needs. Bob and Betty have a separate checking account for family living expenses. This account helps them summarize past cash outflows for food, clothing, housing and other family living expenses on a month-by-month basis and provides some guidance for future estimates.

The personal savings item listed in Schedule K is not used to meet operating capital requirements of the farm business. The business savings account is listed separately on the cash flow statement.

PREPARING YOUR CASH FLOW BUDGET

The Bob and Betty Farmer example (Appendix 1) is used to illustrate the budgeting process. At this point you should complete this process for your crop and livestock enterprises. Blank schedules are provided in Appendix 2 to aid in the process of planning your farm operation for the coming year.

Once the planning process is complete, the cash flow budget can be developed. The following is a discussion of the "how tos" of filling out the cash flow budget. The actual cash that flowed in and out of the farm operation last year according to the type of receipt or expenditure is identified in column 1 of the cash flow budget (see the example cash flow budget, CFB-1, Appendix 1). The numbers needed to complete column 1 are available from your income tax return and other financial records.

The projected **total** cash inflows and outflows resulting from various types of receipts and expenditures in the year ahead are listed in column 2 of the cash flow budget. Columns 3 through 14 contain **monthly** estimates of receipts and expenditures.

The following is an explanation of how to fill out the cash flow budget on a line-by-line basis.

Cash Inflows

Record all cash inflows, both farm and non-farm, on lines 1 through 11 of the cash flow budget. Bob

and Betty did this by transferring income totals from schedules B, F and I to column 2, and then spreading the income to the appropriate months (columns 3 through 14) according to their marketing plan, which is also on these same schedules.

Line	Item	Explanation
1.	Beginning checkbook balance	The checkbook balance January 1 (\$3,955) is entered in column 2 and also in column 3. Balances for the other months will be determined month by month while working through the cash flow budget.
2.	Livestock receipts	Expected livestock receipts (Schedule F, column 7) are \$20,269. Monthly income from livestock sales are transferred from Schedule F column 7 according to the month listed in column 3.
3.	Crop receipts	Expected crop receipts (Schedule B, col 11) are \$81,915. Monthly income from crops are transferred from Schedule B column 11 according to the month listed in column 5.
4.	Custom work	Bob and Betty do not plan to do any custom work; no entry is made.
5.	Patronage dividends	The cash portion of patronage dividends is estimated from past experience.
6.	Gov't. program payments	Cash government program payments depend on the degree of participation. Bob and Betty checked with their ASCS office to receive an estimate of the dates and amounts of cash payments. Computer programs and budgets available from their county Extension office helped in developing their participation plans.
7.	Other farm receipts	These receipts might include withdrawals from a hedging account, storage payments received from individuals, rents from farm business property, etc.
8.	Farm capital sales	Sales of farm capital items are transferred from Schedule I, columns 5, 6 and 7. Bob and Betty will sell their swather in July and expect to receive \$3,000.
9.	Non-farm income	Any income from off-farm wages, interest on savings accounts, gifts, or cash inheritances are listed here. Bob and Betty expect \$250 during the year.

10.	Received from non-farm investments	Anticipated income from rents, stock dividends, sale of stocks and other non-farm investment income is listed here. Past records and experience help in making these entries.
11.	Other income	Other special sources of income would be recorded here.
12.	Total cash available	Bob and Betty add lines 1 through 11 of column 2 to obtain the total projected cash available. Column 3 (January) should also be added. Columns 4 through 14 cannot be totaled at this time since the beginning checkbook balance (line 1) must be determined by working through to line 37 a month at a time. Line 37, the ending checkbook balance, becomes line 1, the beginning monthly checkbook balance for the following month.

Cash Outflows

Schedules D, E, H, I, J, and K along with information from tax statements, tax advisors, insurance agents, and farm records are used to fill out lines 13 through 28 of the cash flow budget. Expenses are usually easier to predict than farm revenues. Bob and Betty enter the totals in column 2 and the monthly amounts in column 3 through 14.

Line	Item	Explanation
13.	Crop expenses	Cash outlays associated with crop production are recorded in Schedule D. Bob and Betty transferred monthly totals from Schedule D line 18 to the corresponding months on line 13 of the cash flow budget.
14.	Livestock expenses	Cash outlays associated with livestock production are recorded in Schedule H. Monthly totals from Schedule H line 18 are transferred to line 14 of the cash flow budget.
15.	Real estate taxes	Taxes will be \$2,000 according to the tax statement from their county treasurer.
16.	Insurance	Bob and Betty's insurance agent helps them estimate property and liability insurance premiums for the year.
17.	Utilities (farm share)	The farm share of utilities is estimated and transferred to this line. The home share is included in "family living" (Schedule K).
18.	Auto (farm share)	Like utilities, the farm share of auto expenses are estimated here. The home share is included in "Family Living" (Schedule K).

19. Other cash expenses Bob and Betty believe they have accounted for all expenses and make no entry here.
20. Total Cash Expenses When all cash expenses for operating the business are entered on lines 13 through 19 and in each monthly column, the columns are totaled. Bob and Betty check to see if any errors have been made by comparing the amount on line 20, column 2 (\$45,877) with the sum of line 20, columns 3 through 14, also \$45,877. (If the amounts aren't the same, recheck your addition first. If there is still a discrepancy, go back to the schedules to find where the error occurred.)
21. Livestock purchases (breeding and feeding) Bob and Betty plan to purchase a bull and transfer the amount from Schedule E, column 9.
22. Farm capital purchases Purchases from Schedule I are entered.
23. Family living The monthly and annual family living expenses are transferred from Schedule K.
24. Outlays for non-farm investments Non-farm investments include rental property, stocks, bonds, etc. They do not include personal savings or investment in retirement accounts (these are included in Schedule K).
25. Income and Social Security Taxes Bob and Betty consult with their tax advisor and estimate the taxes to be paid by March 1 to be \$5,000.
26. Intermediate and long term principal payments Bob and Betty transfer the principal payments from Schedule J.
27. Intermediate and long term interest payments Interest payments on these obligations are also on Schedule J.
28. Other cash outlays Any other cash outlay item would be recorded here.
29. Total Cash Required Bob and Betty add lines 20 through 28 for each of columns 2 through 14. They check for errors again by comparing the amount on line 29, column 2 (\$107,795) with the sum of columns 3 through 14. The two totals agree, so no errors have occurred.
30. Cash Surplus (+) or Cash Deficit (-) Bob and Betty now subtract line 29 from line 12 in columns 2 and 3. Columns 4 through 14 cannot be completed until lines 31 through 37 are completed one month at a time. Based on their cash flow plan Bob and Betty find there will be a cash surplus of \$4,294 at year's end, and a cash surplus at the end of January of \$5,945.

The bottom part of the cash flow budget is where the financing plan for your operation is developed (lines 31 through 37). Projected operating loan balances (or savings account balances) at the end of each month are determined. For easier accounting assume that transfers between farm checking and savings accounts and operating loan borrowing and repayment are made on the last day of each month. Interest on operating capital is paid at the end of the year or when the entire loan balance is paid.

Line	Item	Explanation
31.	Transfers from savings to checking	With a cash surplus at the end of January (\$5,945) Bob and Betty are not concerned with this item. If there had been a cash deficit at the end of January and if they had money in a savings account, they might have decided to transfer some of their savings to cover part or all of the January deficit.
32.	Cash position after transfer	The amount resulting from adding lines 30 and 31.
33.	Operating money to be borrowed	If line 32 is negative, operating funds will need to be borrowed. The amount borrowed will have to cover the deficit and allow some carryover in the checking account (as shown in column 4 for February).
34.	Operating loan principal payments	For January, Bob and Betty have a cash surplus (\$5,945, line 30) and decide to pay \$5,000 on their operating loan balance (which is \$10,000) carried over from the last year (line 39). The payment reduces the loan balance to \$5,000 (line 39, column 3). They could have also elected to transfer part of the \$5,945 to savings, or just kept it in the checking account. By paying part of the operating loan balance they will reduce interest charges for the year.
35.	Operating loan interest payments	Interest payments will not be made until the year end, or when the loan is fully paid. Bob and Betty will pay this in December.
36.	Transfers from checking to savings	If there is a cash surplus (line 30) and no operating loan balance to pay, money is available to transfer from checking to savings.
37.	Ending checkbook balance	The ending checkbook balance is determined as follows: Line 32 + Line 33 - Line 34 - Line 35 - Line 36 = Line 37 The ending checkbook balance for one month becomes the beginning checkbook balance for the next month, i.e., the January ending balance (\$945) is February's beginning balance.

EXAMPLE CASH FLOW BUDGET: METHOD 2

38. Savings account balance Bob and Betty begin the year with nothing in the business savings account. Transfers from checking to savings (line 36) will increase the savings balance and transfer from savings to checking (line 31) will decrease it.
39. Operating loan balance Bob and Betty begin the year with \$10,000 still owed on their operating loan from last year. As money is borrowed (line 33) the balance owed will increase, and as portions of the loan are paid off (line 34) this balance will decrease. Bob and Betty pay \$5,000 on their operating loan in January, leaving a loan balance of \$5,000 at the end of the month.
- 40-42 Check for errors Bob and Betty check for arithmetic errors each month by adding total inflows (lines 12, 31 and 33) and comparing to total outflows (sum of lines 29, 34, 35, 36 and 37). If the two amounts are the same no addition or subtraction errors have occurred (the budgeting error is zero).

Bob and Betty complete the cash flow budget through December. It is apparent that money will need to be borrowed in February, April, May and June (line 33). Payments on the operating loan can be made in January, March, August, September, October, and November (line 34). Their peak loan balance (\$36,000) will occur in June and July (line 39).

They plan to pay the interest on their operating loan in December. When the cash flow plan is completed and the operating loan balance for each month is determined they calculate the interest that will be due in December. The monthly loan balance (line 39) times the projected annual interest rate (14 percent) divided by 12 equals the cost of operating capital for each month. Monthly interest is totaled to obtain the yearly total, and the amount is recorded on line 35, column 14. Bob and Betty's projection of interest on operating capital is \$2,718.33 (see below).

Month	Balance at beginning of month	Rate	Monthly accrued interest
Jan.	\$10,000 ×	.14 ÷ 12 =	\$116.67
Feb.	5,000 ×	.14 ÷ 12 =	58.33
Mar.	18,000 ×	.14 ÷ 12 =	210.00
Apr.	5,000 ×	.14 ÷ 12 =	58.33
May	20,000 ×	.14 ÷ 12 =	233.33
June	25,000 ×	.14 ÷ 12 =	291.67
July	36,000 ×	.14 ÷ 12 =	420.00
Aug.	36,000 ×	.14 ÷ 12 =	420.00
Sept.	30,000 ×	.14 ÷ 12 =	350.00
Oct.	22,000 ×	.14 ÷ 12 =	256.67
Nov.	17,000 ×	.14 ÷ 12 =	198.33
Dec.	9,000 ×	.14 ÷ 12 =	105.00
TOTAL			\$2,718.33

The second approach to cash flow planning assumes a plan of operation similar to the past year (see CFB-2, Appendix 1). Last year's receipts and expenditure are listed in column 1. Using these figures as a guide, estimates of total receipts and expenditures in the year ahead are made on an item-by-item basis and listed in column 2. Once the projected total for each item is entered, the time period when cash will flow in or out is considered and the amount in Column 2 is spread among the appropriate months or quarterly periods.

For example, Jim and Judy Farmer do not foresee many changes in their farming operation in the year ahead and required only a general cash flow analysis. In January they meet with their tax consultant and prepare their income tax return. Using this and other farm records they complete the cash flow budget labeled CFB-2, (Appendix 1).

Cash Inflows. Jim and Judy recorded their checking account balance on January 1 of the previous year (\$3,631) on line 1, column 1. Last year's cash receipts from the sale of livestock and crops, custom work, patronage dividends, agricultural program payments, farm capital sales, non-farm investment proceeds, etc., are listed in column 1. Lines 1 through 11 are totaled to determine the cash available last year (\$115,244).

Cash Outflows. Cash expense figures from IRS Form 1040-F are transferred to the appropriate lines in column 1. Total cash operating expenses were \$42,009 (line 29, column 1). Other cash outflow figures are obtained from their farm records. These include livestock purchases, farm capital purchases, family living, outlays for non-farm investments, income and social security taxes, and intermediate and long-term principal and interest payments. Lines 29 through 37 are then totaled to determine the cash required last year. Cash available (\$115,244) minus cash required (\$103,424) resulted in a cash surplus of \$11,820 for Jim and Judy last year (line 39, column 1).

Jim and Judy anticipate cash receipts this year will be about the same and expenses will increase by about 5 percent. They complete column 2 of the cash flow statement under these assumptions. The cash surplus last year (\$11,820) is transferred to line 1, column 2 and column 3 as the beginning checkbook balance for the new year and for the first quarter. Estimates of cash inflows are made by rounding the cash receipt items in column 1 to the nearest \$100 and recording this figure in column 2. The amounts on lines 1 through 11 of column 2 are then totaled to determine the estimated cash available in the coming year (\$123,420). Projected cash outlays for operating expenses are made by multiplying each expense item in column 1 by 1.05, rounded to the nearest \$100, and recording this figure in column 2.

The expense projections in column 2 are then totaled and recorded on line 29 (\$43,900).

Planned livestock purchases are entered on line 30, column 2. Jim and Judy estimate a 10 percent increase in farm capital purchases, family living costs, outlays for non-farm investments, and income and social security taxes. Therefore, last year's figures for each of these items is multiplied by 1.10, rounded to the nearest \$100, and recorded in column 2. Payments due this year for principal and interest on intermediate and long-term loans are obtained from Jim and Judy's records. Total cash required (line 38) is determined by adding lines 29 through 37 of column 2 (\$108,332). Cash available (\$123,420) minus cash required (\$108,332) results in a cash surplus estimate of \$15,088 for the year (line 39). After arriving at the estimated amount of each cash receipt and expenditure for the year, Jim and Judy distribute these amounts into the quarterly columns according to their best estimate of **when** the receipts and expenditures will occur. Lines 1 through 11 of column 3 are then totaled as the estimate of cash available during the first quarter. Lines 13 through 28 of column 3 are totaled to determine cash outlays for operating expenses during the first quarter. The sum of lines 29 through 37 is the estimate of the cash required during the first quarter.

At this point Jim and Judy are able to develop their financing plan for the year ahead. By subtracting cash required (\$49,982) from cash available (\$46,720), a deficit of \$3,262 is projected at the end of the first quarter (line 39, column 3). Since Jim and Judy's savings account has a zero balance they need to borrow \$4,000 to cover this deficit (line 42). Subtracting \$3,262 from \$4,000 results in an ending checkbook balance of \$738 (line 46). This figure is the beginning checkbook balance for the second quarter (line 1, column 4).

To determine cash available in the second quarter they add lines 1 through 11 of column 4 (\$36,838). A cash surplus of \$9,438 is projected in the second quarter (line 39, column 4). Jim and Judy decide to pay off their operating loan of \$4,000 (line 43) and the interest accrued over three months (\$140, line 44). They also transfer \$5,000 into savings, leaving an ending checkbook balance of \$298.

In the third quarter a deficit of \$4,002 is projected. By transferring \$5,000 from savings to checking, \$998 remains in the checking account to begin the fourth quarter. Cash available minus cash required in the fourth quarter is \$14,948. The difference between this figure and the yearly cash surplus figure of \$15,088 (line 39, column 2) is \$140. This difference is due to the accounting of interest paid on operating capital in the financing plan section (lines 40 through 48) of CFB-2.

USING YOUR CASH FLOW BUDGET IN DECISION MAKING

Your cash flow budget is a powerful tool in the process of making production and financial management decisions for your farm and family. One use of this budget is to determine business liquidity. **Liquidity is the ability of the farm business to meet financial obligations when they are due.** A key indicator of liquidity from the cash flow budget is the operating loan balance. The operating loan should always be maintained at a manageable level. Some operations may have seasonal financing needs that require the continuous use of operating loans. However, most operating loans should be paid off sometime during the year. If the cash flow statement indicates the operator cannot pay all operating expenses, previous debt commitments, taxes and family living expenses without increasing his operating loan balance over last year, liquidity problems exist.

The following concepts and/or survival tactics should be used to keep the farm liquid during financially troubled times and on a healthy course during favorable financial times:

Cash flow needs versus profit — A farmer's cash flow needs may be greater than the profit earned from his farm enterprises. A profit occurs when income from a farm enterprise exceeds the total cost of production. But these profits may not be large enough to cover cash flow needs when family living, taxes and loan repayments are considered. In this case, profit margins must become wider, the farm size must be changed, or off-farm income must be used to make the operation viable.

Lock in profits — Development of a marketing plan in conjunction with your cash flow plan is necessary for you to know at what price levels you will need to market your commodities to meet your price targets. These price targets must at least be high enough to meet your cash flow requirements. This may require the use of hedging or forward contracting.

Look at cost control — After preparing your cash flow budget ask yourself, "Can I cut my costs of producing a crop or livestock enterprise without influencing my volume of production?" Be careful not to cut costs if doing so will result in a net loss of income (income loss exceeds cost savings). For example, could you eliminate a tillage operation without influencing the level of production?

Adjust land rents — Is it possible to share rent rather than cash rent land? Share renting reduces your risk in poor crop years. Have you considered flexible cash renting where cash rents vary based on yield and/or price fluctuations?

Reduce outlays for capital items — If your cash flow is extremely tight you should consider leasing equipment, fixing your old machine or buying used equipment rather than buying new equipment. Postponing equipment purchases altogether may be necessary to keep the farm liquid. Custom hiring of some field operations may improve your short term cash flow situation. Remember to “push the pencil” to determine whether you should buy, lease, or custom hire. There may not be a long run if you don’t survive the short run.

Use preventive maintenance on machinery — Preventive maintenance on machinery is always important in reducing cash outlays on the farm. When cash flow is very tight don’t skimp here; an “ounce of prevention is worth a pound of cure.”

Use crop insurance — Farming is a risky business. Adverse weather, pest populations and other disasters can create large variations in commodity yields and/or quality. Taking out all-risk crop insurance and/or hail insurance represents an opportunity to substitute a known cost (premiums) for unpredictable and irregular losses. Remember, the premium won’t break you, but if you are already in a tight cash flow situation, a loss might.

Farm programs — In developing your cash flow budget, analyze your most likely income situation with and without the government farm programs. Then ask yourself, “If my yields and/or commodity prices fall 10 percent, 20 percent or more below my expectations, what will my cash flow situation be?” In many years, farm programs can be thought of as “price insurance.” Consider crop insurance for “yield stability” and farm programs for “price stability.” Your specific cash flow situation will dictate how much yield or price variability you can handle.

Refinance — If you are in a tight cash flow situation but have significant long term asset holdings such as land, you may want to consider refinancing. Refinancing exchanges short term debt obligations for long term financing, usually at lower interest rates. Refinancing is no cure-all but it can improve the farm’s cash flow situation. Be careful that the farm operation has a positive cash flow projection after any refinancing proposal. If short term debts are refinanced with long term variable interest rate mortgages you should ask, “Will my cash flow withstand an increase in interest rates?” If the farm won’t provide a positive cash flow, erosion of your remaining equity could result. Refinancing is usually not an option for farms with very little long term asset holdings.

Custom Work — If a cash flow deficit is projected, the infusion of additional income will serve the same purpose as reducing cash outflow. Examine your work load and look for opportunities for additional income from custom work. Keep in mind, however,

that custom work shortens the life of your machinery and will result in earlier replacement than would otherwise be necessary. Careful planning is needed so that custom work does not interfere with timely completion of your own operation.

Shifting enterprises — Combining a cash flow budget with enterprise analysis may reveal a change in enterprise mix is in order. This examination may indicate that resources can be reallocated from low return enterprises to higher return enterprises. This is likely to work only if additional investments are not necessary.

Partial liquidation — Selling part of your assets, particularly land, may be painful to consider, but may be necessary for survival of the farm. If cash flow is very tight, part of the problem may be traced to high principal and interest payments on recent land purchases. Land typically returns 3 to 4 percent on investment, which is usually not enough to meet cash flow obligations. Partial liquidation is usually a “last resort” survival tactic. But remember other businesses often make the decision to liquidate fixed assets when it is to their advantage or when necessary for the firm’s survival.

Family living expenses — Most farm families in tight cash flow situations have already cut back or have even made substantial sacrifices in controlling family living expenses. However, for some families “tightening the belt” or lowering expectations may be necessary for the farm’s survival.

Summary Comments

The cash flow budget can be useful for farm businesses that make little use of borrowed funds as well as highly leveraged operations. The cash flow budget indicates when cash is available for investment purposes or for the assumption of debt. The ability to “cash flow” a particular investment is a critical aspect of investment analysis. Considerations of capital purchases or major changes in the farm operation must include the “cash” ramifications.

The most important use of a forward looking tool like the cash flow budget is that it allows the farm operator to set goals for the year ahead and aids in tracking the financial progress of the business throughout the year. If actual receipts from a particular farm enterprise are less than budgeted receipts, the operator must determine the cause. If actual expenditures are higher than budgeted expenditures, the operator should know why. Farm management is a continuous process. By periodically monitoring how well the farm is performing in relation to what was planned, the operator is better able to make decisions that will improve his business.