

Assessing and Improving Your Farm Cash Flow

What Is Liquidity?

Liquidity refers to the ability of your farm to generate enough cash to meet financial obligations as they come due without disrupting the normal operation of the farm business. Figure 1 illustrates this concept.

Cash flows into the business from various sources such as crop and livestock sales, other farm receipts, sale of capital assets, nonfarm receipts, and borrowed money. You use this money to meet financial obligations like production expenses, capital expenditures, loan payments, and family living expenditures. Inflows and outflows seldom coincide with each other. Consequently, farm managers need to manage a liquidity or cash reserve to prevent cash shortages from disrupting normal farm business operations and to prevent noninterest-earning cash reserves from building up.

Cash Inflows

- *Crop, livestock, and livestock product sales*, the primary source of cash for your farm business, are critical to maintaining the liquidity reserve of the farm business. Some enterprises, such as a dairy, generate a relatively even flow of cash into the farm business over the production year. Other enterprises like corn or feeder livestock result in sporadic cash inflows as sales are lumped into relatively few transactions during the course of the production period.

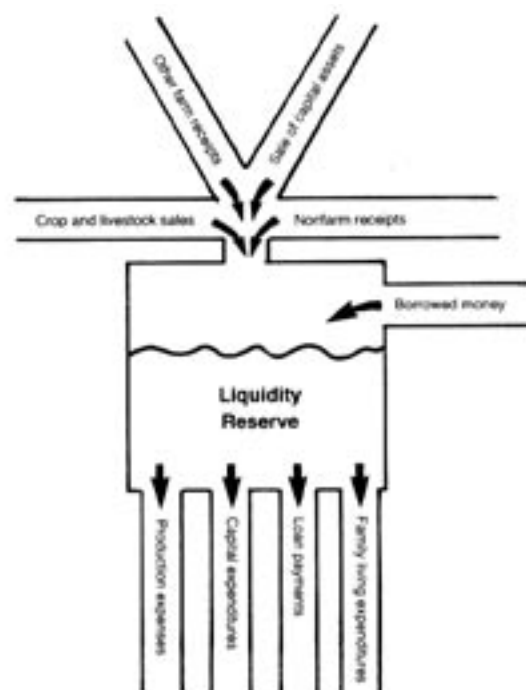


Figure 1. Farm Business Liquidity. (Cash flow)

Source: Cash Flow Planning and Management, Publication 933. Agricultural Extension Service: University of Tennessee, October 1983.

- *Other farm receipts* often constitute a substantial cash inflow to your farm business. Typical items include payments from participation in government commodity programs, income from custom work performed, and co-op dividends.
- *Nonfarm receipts* include items such as income from an off-farm job, cash infusion from nonfarm savings and investments, interest earned on nonfarm investments, and capital provided by outside investors.

- *Sale of capital assets* include the sporadic cash inflows from the sale of land, buildings, machinery, breeding livestock, and tools.
- *Borrowed money* is shown in Figure 1 as a cash inflow entering the liquidity reserve from the side rather than the top. Borrowed money is often considered a residual source of cash used to maintain your liquidity reserve when cash outflows exceed the sometimes sporadic inflows of the four sources mentioned previously. Borrowed money can take the form of short-term loans to cover operating costs, intermediate-term loans for assets such as machinery and livestock, or long-term loans such as farm mortgages on land and buildings.

Cash Outflows

- *Production expenses* constitute a relatively large draw on your liquidity reserve. These expenses include seed, fertilizer, chemicals, feed, hired labor, repairs and others. If you fail to maintain the liquidity reserve to meet these expenses, your farm production could immediately decrease or you could pay a bigger interest on borrowed money.
- *Capital expenditures* include cash outlays for replacing and adding machinery and breeding livestock, and purchase of land and buildings. These outlays are important for maintaining and increasing the growth of your farm business. These cash outflows are sporadic and often involve large amounts of money. Consequently, you need to carefully plan to ensure a liquidity reserve to meet these expenditures.
- *Loan payments* on borrowed money can be made when cash inflows from non-borrowed sources exceed cash outflows. Consider this when formulating your loan payment schedules.
- *Family living expenditures* are sometimes overlooked as being secondary to the other cash outflows. Actually, certain basic family living expenses must be covered as indicated by the fact that money earmarked for other uses in the

farm business sometimes finds its way into the family budget.

How Do I Use a Cash Flow Statement to Monitor Liquidity?

The best way to maintain your liquidity reserve is through cash flow planning. The tool used in this process is the “Cash Flow Statement.” It records the timing and size of cash inflows and outflows that occur over a given accounting period, normally one year. The accounting period is broken down into smaller periods, usually months.

You normally keep two kinds of cash flow statements for each accounting period: projected and actual. The projected cash flow statement is completed at the beginning of the accounting period and projects expected cash inflows and outflows for the period to estimate the liquidity reserve or ending cash balance for each month. If the ending cash balance is short in any month, you can make plans for borrowing or setting up a line of credit.

As the accounting period progresses, keep an actual cash flow statement to record cash transactions as they take place. Then compare the actual cash flow statement with the projected cash flow statement to see if things are going as planned, to devise remedies for solving previously unforeseen problems, or to take advantage of opportunities not anticipated. At the end of the accounting period, use the actual cash flow statement to estimate the projected cash flow statement for the next accounting period. The formats for cash flow statements vary but most contain similar information. Table 1 shows an example of a projected cash flow statement. Blank cash flow statements are also included for your use.

The sample projected cash flow statement summarizes monthly cash inflows and outflows for the fictitious Whitmer farm for one year. The first column lists the transactions. The second column summarizes the total cash inflows and outflows from the previous year. The next twelve columns project the monthly cash inflows and out-

flows for the coming year. The last column totals the monthly projections. The main categories of entries are: cash inflows, cash operating expenses, other cash outflows, cash flow summary, and loan balances end of period.

Cash Inflows

The Whitmer farm produces corn and soybeans. Some of the corn is used to feed purchased feeder pigs. The remaining corn and soybeans are sold. The farm receives subsidy payments from participation in government commodity programs. The owner is also employed in a part-time off-farm job during the winter. The cash inflow section shows that during the previous year the Whitmers generated \$139,510 (line 7) from these various sources. Their total projected cash inflow for the year is estimated at \$146,770 (line 7).

Cash Operating Expenses

The Whitmers' cash operating expenses last year total \$85,390 (line 21). Expenses are projected for the coming year based on last year's figures, expected price changes, and any changes in production that are expected for the coming year. Their total cash operating expenses for the year are projected to be \$89,600 (line 21).

Other Cash Outflows

In March, the Whitmers plan to replace a tractor. With a trade-in allowance on the old tractor, the cash "boot" of the new tractor will be \$29,700 (line 22). The Whitmers project family withdrawals to be \$1,300 a month (line 23). Taxes of \$4,200 (line 24) are projected to be paid in March. On lines 25 and 26, the intermediate loan principal and interest payments are listed for April and October. Principal and interest on the farm mortgage are paid in February and listed on lines 27 and 28. These cash outflows are totaled with cash operating expenses on line 29. The total cash outflow, including cash operating expenses for the year, is projected to be \$163,705, compared with \$117,305 for the previous year.

Cash Flow Summary

The cash flow summary is important because it projects the Whitmers' liquidity reserve for the coming year, which determines when cash surpluses and shortfalls might take place. New borrowings and loan payments can then be made to maintain a liquidity reserve—ending cash balance—for each month. The Whitmers wish to maintain a liquidity reserve of at least \$1,500 at all times. The cash flow summary shows how they maintain this reserve (many farm managers have a line of credit to reduce the liquidity reserve or maintain the liquidity reserve in an interest-bearing account).

The Whitmers begin with a January cash balance of \$1,500 (line 30), which is the ending cash balance from the previous December. They have cash inflows of \$15,200 for January (line 7) and cash outflows of \$3,200 (line 29). The difference of \$12,000 is listed on line 31. When added to the beginning balance, this creates a cash surplus of \$13,500 (line 32). The Whitmers have an operating loan balance from the previous year and have decided to use the cash surplus to pay off the \$11,250 principal and \$450 interest on this loan. This will leave them with an \$1,800 ending cash balance for January (line 38), which becomes the beginning cash balance for February.

In February, the difference in cash inflows and outflows is \$10,520. Adding this to the \$1,800 beginning cash balance results in a February ending cash balance of \$12,320. Because the Whitmers know they will have a cash shortfall in March, they plan to hold the entire \$12,320 to help cover this shortfall. In March, cash outflows are projected to exceed cash inflows by \$37,545, mainly because of the purchase of the new tractor. The Whitmers plan to meet this shortfall by using the surplus from February and by taking out a machinery loan for \$27,500 (line 34). This will leave an ending cash balance of \$2,275.

The Whitmers project their cash outflows from April through June to exceed cash inflows. They plan to maintain the \$1,500 ending cash balance each month by increasing the operating loan. Sale of market hogs in July will create a cash surplus for July and August. Another cash deficit in September will be covered by an increase

Table 1. A cash flow statement of the Whitmer farm
Cash Flow Statement Name Whitmer Farm

✓ Projected for 19 91

Period	Last Year	Jan.	Feb.	March	Apr
Cash Inflows					
1. Crop sales	98,210		15,500		
2. Livestock and livestock product sales	23,414	14,400			
3. Government payments	12,786		6,700	2,280	
4. Capital sales	2,300				
5. Other farm income					
6. Nonfarm income	2,800	800	800	800	
7. Total cash inflow (Lines 1 thru 6)	139,510	15,200	23,000	3,800	0
Cash Operating Expenses					
8. Seed	7,100				5,000
9. Fertilizer, lime, chemicals	25,800				
10. Feed	3,750	800		600	
11. Livestock purchased for resale	9,165			3,825	
12. Vet, medicine, breeding fees	250	50		50	
13. Fuel, oil, lubricants	4,250	350		350	
14. Utilities	1,740	200	200	150	150
15. Repairs	2,740	100	100	300	300
16. Taxes, insurance	3,625				
17. Hired labor	1,800				
18. Rent, leases	13,500				
19. Machine hire	10,500				
20. Supplies, miscellaneous, others	2,115	400	150	150	150
21. Total cash operating expenses (Lines 8 thru 20)	85,390	1,900	450	5,425	5,600
Other Cash Outflows					
22. Capital purchases				29,700	
23. Family living	14,400	1,300	1,300	1,300	1,300
24. Other withdrawals and income taxes	1,475			4,200	
25. Intermediate loan principal payments	3,600				1,800
26. Intermediate loan interest payments	1,710				870
27. Long-term loan principal payments	2,750		2,900		
28. Long-term loan interest payments	7,980		7,830		
29. Total cash outflow (Lines 21+22 thru 28)	117,305	3,200	12,480	40,625	9,600
Cash Flow Summary					
30. Beginning cash balance		1,500	1,800	12,320	2,200
31. Inflows - outflows (Lines 7-29)		12,000	10,520	(545)	(620)
32. Cash position (Lines 30+31)		13,500	12,320	(225)	(350)
33. New borrowing: operation					8,800
34. New borrowing: intermediate				27,500	
35. New borrowing: long-term					
36. Operating loan principal payments		11,250			
37. Operating loan interest payments		450			
38. Ending cash balance (Lines 32+33+34+35-36-37)		1,800	12,320	2,275	1,500
Loan Balances End of Period					
39. Operating (previous period line 39+33-36)	11,250	0	0	0	8,800
40. Intermediate (previous period line 40+34-25)	17,000	17,000	17,000	44,500	42,000
41. Long-term (previous period line 41+35-27)	88,700	88,700	85,800	85,800	85,800

in the operating loan. A cash surplus from crop sales in October will be used to reduce the operating loan and carry the Whitmers through November and December. They end the year with an ending cash balance of \$1,500.

Lines 33 to 35 list new borrowings for operating and for intermediate- and long-term loans. Lines 36 and 37 list payments of operating loan principal and interest. The question is sometimes asked why principal and interest payments for intermediate- and long-term loans are included in the “other cash outflows” section rather than the “cash flow summary” section. The reason is that intermediate- and long-term loan payments are usually scheduled for specific months when the loans are made, while operating loan payments remain flexible. In fact, using the “cash flow summary” in the cash flow statement is the best way to schedule operating loan payments. The operating loan acts as the primary tool for maintaining the level of cash reserve. For farms that operate on equity capital rather than operating loans, the cash flow statement determines when cash surpluses are available for alternative uses.

Loan Balances End of Period

The final section of the cash flow statement is the “loan balances end of period.” This section keeps a running total of operating and intermediate- and long-term loan principal balances. On the Whitmer farm, loan principal balances at the end of the previous year are \$11,250 (line 39) for operating loans, \$17,000 (line 40) for intermediate loans, and \$88,700 (line 41) for long-term loans. These balances are projected to fluctuate through the coming year as payments are made and new money is borrowed.

For example, the operating loan balance is decreased in January by subtracting the loan payment of \$11,250 and adding any additional borrowings (in the example there are none). These calculations continue for each successive month. On the Whitmer farm the operating loan balance increases in April through June and also in September. In October, it is reduced below the January starting level. Intermediate- and long-term loan

balances are projected to fluctuate through the year. The intermediate loan balance ends almost twice as high as the beginning balance because of the tractor purchase. The long-term loan balance ends at a lower level than the beginning balance.

Hints for Cash Flow Planning

The example projected a cash flow statement for the coming year. As the year progresses, the Whitmers will fill out an actual cash flow statement for each month, listing inflows and cash operating expenses and other cash outflows. They will then fill out the cash flow summary section showing actual loan balances in the “loan balances end of period” section. The actual cash flow statement can then be compared with their projections to improve the management of the farm. Thus, the actual cash flow statement from this year can be used to project the cash flow statement for next year. By doing this, the Whitmers will always know that they have a cash reserve and will not be surprised by cash shortfalls.

Projecting a cash flow statement for the first time is sometimes difficult. Farm records are the first place you look for information when you’re completing the cash flow statement (see Fact Sheet 542, “Developing and Improving Your Farm Records”). Your previous year’s actual entries from farm records, tax forms, or checkbook registers are useful sources of information. Good crop and livestock budgets provide necessary information for projecting future cash flows (see Fact Sheet 545, “Enterprise Budgeting in Farm Management Decisionmaking”).

Also, consider changes in the farm business that are expected to take place the coming year, such as crop rotations, new livestock enterprises, or sales and purchases of capital assets. Your first cash flow projection may not be as accurate as you would like, but it will provide important planning information. As cash flow statements are regularly developed, projections in future years will become more accurate.

Are There Ways to Solve Cash Flow Problems?

Some Helpful Suggestions

Most farms at one time or another experience cash flow problems. A cash flow statement is one of the best ways to pinpoint these problems, and there are ways to deal with them. No one strategy will work at all times. Rather, a combination of strategies is the basis for solving cash flow problems. However, in adopting methods to remedy these problems, be sure the strategies used do not adversely affect profitability. Treating cash flow problems at the expense of profitability is a short-term remedy that may have bad long-term effects.

Improving profitability. Cash flow problems may be the symptom of the greater problem of low profitability. In approaching cash flow problems, first analyze profits and profitability (see Fact Sheet 539, "Assessing and Improving Your Farm Profitability"). Increasing profits and profitability is often the best way to remedy cash flow problems. Once the farm is profitable, you can then concentrate on cash flow problems.

Identifying the problems beforehand. One way you can prevent cash flow problems is to have cash flow statements so you can identify problems before they occur. This gives you time to alter your plans and remedy the problems by timing cash inflows and cash outflows, if you want to maintain a liquidity reserve.

Changing production plans. Carefully look at the combination of enterprises on the farm. Perhaps another crop rotation or livestock enterprise would increase cash flow and allow you to maintain profitability at the same time. For example, introducing legume hay into a rotation may bring in some needed cash during the summer months. You can maintain profitability through lower nitrogen fertilizer costs for subsequent crops.

Managing expenditures. An effective way to improve your cash flow is through cost control. Frequently check to see if levels of inputs are economical. Are you using the best seeds and seeding rates? Is fertilization at an economically favorable level? Can you reduce

the use of commercial fertilizer through better management of livestock wastes? Will integrated pest management instead of routine spraying reduce pesticide costs? Can you lower purchased feed costs through improved management of forage costs and farm-produced concentrates? Is feed conversion being emphasized in forage testing and balancing feed rations?

Can you cut down on veterinary and medicine bills through careful management of herd health? Can you manage labor better to decrease expensive capital outlays? Is there better machinery that would improve labor efficiency? Can you cut down on machinery costs through reduced tillage methods? Can repair bills be reduced through onfarm repairs? Can you lower interest costs through better loan rates or timing of loans?

Scrutinize every cost to see if you can make reductions without adversely affecting profitability.

Improving marketing plans. For non-perishable commodities, you have some flexibility in timing sales. Improving farm profitability should be your main goal in formulating a marketing plan. However, you should also consider cash needs in timing sales.

Leasing or renting. The down payments and loan payments associated with purchasing land, buildings, and machinery sometimes put a heavy burden on cash flow. Leasing or rental payments on these may be considerably lower and will free cash that you need for other obligations. However, be sure to assess the impact of these leasing and rental arrangements on the profitability of your farm operation.

Reducing living expenses. Carefully review your family budget. Record all family expenditures. Many families are surprised by how much they spend for personal living expenses. Distinguish between necessities and wants. Postpone unneeded family expenditures. Base family spending on the performance of the farm business and/or off-farm income. Be realistic in determining the amount of family withdrawals the farm can support.

Taking an off-farm job. One or both spouses could seek part-time or full-time employment off the farm. More and more,

Cash Flow Statement

Name _____

Projected for 20 _____

Period	Last Year				
Cash Inflows					
1. Crop sales					
2. Livestock and livestock product sales					
3. Government payments					
4. Capital sales					
5. Other farm income					
6. Nonfarm income					
7. Total cash inflow (Lines 1 thru 6)					
Cash Operating Expenses					
8. Seed					
9. Fertilizer, lime, chemicals					
10. Feed					
11. Livestock purchased for resale					
12. Vet, medicine, breeding fees					
13. Fuel, oil, lubricants					
14. Utilities					
15. Repairs					
16. Taxes, insurance					
17. Hired Labor					
18. Rent, leases					
19. Machine hire					
20. Supplies, miscellaneous, others					
21. Total cash operating expenses (Lines 8 thru 20)					
Other Cash Outflows					
22. Capital purchases					
23. Family living					
24. Other withdrawals and income taxes					
25. Intermediate loan principal payments					
26. Intermediate loan interest payments					
27. Long-term loan principal payments					
28. Long-term loan interest payments					
29. Total cash outflow (Lines 21+22 thru 28)					
Cash Flow Summary					
30. Beginning cash balance					
31. Inflows - outflows (Lines 7-29)					
32. Cash position (Lines 30+31)					
33. New borrowing: operation					
34. New borrowing: intermediate					
35. New borrowing: long-term					
36. Operating loan principal payments					
37. Operating loan interest payments					
38. Ending cash balance (Lines 32+33+34+35-36-37)					
Loan Balances End of Period					
39. Operating (previous period line 39+33-36)					
40. Intermediate (previous period line 40+34-25)					
41. Long-term (previous period line 41+35-27)					

Cash Flow Statement

Name _____

Projected for 20_____

Period	Last Year				
Cash Inflows					
1. Crop sales					
2. Livestock and livestock product sales					
3. Government payments					
4. Capital sales					
5. Other farm income					
6. Nonfarm income					
7. Total cash inflow (Lines 1 thru 6)					
Cash Operating Expenses					
8. Seed					
9. Fertilizer, lime, chemicals					
10. Feed					
11. Livestock purchased for resale					
12. Vet, medicine, breeding fees					
13. Fuel, oil, lubricants					
14. Utilities					
15. Repairs					
16. Taxes, insurance					
17. Hired Labor					
18. Rent, leases					
19. Machine hire					
20. Supplies, miscellaneous, others					
21. Total cash operating expenses (Lines 8 thru 20)					
Other Cash Outflows					
22. Capital purchases					
23. Family living					
24. Other withdrawals and income taxes					
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30. Beginning cash balance					
31. Inflows - outflows (Lines 7-29)					
32. Cash position (Lines 30+31)					
33. New borrowing: operation					
34. New borrowing: intermediate					
35. New borrowing: long-term					
36. Operating loan principal payments					
37. Operating loan interest payments					
38. Ending cash balance (Lines 32+33+34+35-36-37)					
Loan Balances End of Period					
39. Operating (previous period line 39+33-36)					
40. Intermediate (previous period line 40+34-25)					
41. Long-term (previous period line 41+35-27)					

wives are taking an active role in the farm business operation, thus giving additional flexibility in deciding who can work off the farm. Carefully consider any additional expenses related to off-farm employment such as transportation, clothing, and child care.

Refinancing. Cash flow problems are sometimes caused by a poor balance of short-, intermediate-, and long-term debts on the farm. Some farmers use short-term loans to finance intermediate- and long-term assets. Normally, operating loans are used to purchase variable inputs such as seed, feed, fertilizer, and chemicals. The loans are then paid back as the commodities are sold.

However, don't use operating loans for intermediate- or long-term assets such as equipment, breeding livestock, buildings, and land because the receipts from one production period cannot be expected to cover the costs of assets that last for several production periods. The idea of self-liquidating loans suggests that a proper financing program for loans would match the input's life and pattern of earnings with the length of repayment schedule on the loan used to obtain the input. A farm implement that will last 5 to 7 years should be financed for 5 to 7 years. Financing it for a shorter period may cause you cash flow problems.

If a drought year results in insufficient receipts to cover the operating loan, rolling this loan over to the next year may cause cash flow problems. Perhaps you should refinance the loan over a longer period so the cash shortfall can be absorbed over several production periods.

Refinancing can effectively deal with cash flow problems but sometimes it may just be buying time for you. If the farm is not profitable, refinancing is an indication that the problem is just being prolonged.

Liquidating assets. Selling your assets is usually a more drastic measure for dealing with cash flow problems; however, it may be justified. Sell unprofitable assets first.

Excessive personal assets (boats, campers) and other assets such as timber, replacement stock, unused machinery, and unproductive land are good candidates. Then consider downsizing the operation through selling off breeding livestock, machinery, and land, but only after doing an in-depth long-term financial analysis of the impact of these corrective actions.

When selling assets, do not overlook the income tax consequences of capital gains. Also, do not sell assets without discussing it with creditors who have an interest in those assets.

Maintaining credit reserves. Manage debt to maintain a credit reserve. If you borrow to the limit and other cash inflows stop, then your liquidity reserve will dry up also. Bills will accumulate and creditors will line up at your door. When you're experiencing cash flow problems, let your creditors know what you are doing to solve the problems. Avoiding creditors may just aggravate the problem.

Can Computer Software Help with Farm Management?

The financial management of a farm is complex and time consuming. You need time to gather and organize data and formulate cash flow statements. Computer software is available that can be a big help to you. Maryland Cooperative Extension offers farmers computer assistance for cash flow planning through the FINPACK farm financial planning and analysis program. This program, developed by the University of Minnesota, does a complete financial analysis of your farm in addition to cash flow planning. It has been used on over 40,000 farms in 40 states. The FINFLO and FINTRAN components of this program provide a comprehensive cash flow analysis of the farm operation. To find out more about this program, see your Extension agent at your local county Extension office.

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