



Manitoba  
Agriculture  
and Food



# Analyzing a Farm Business

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A guide to help producers prepare, analyze and interpret farm business plans in order to make informed management decisions.

Many farm producers prepare a business plan each year, often for the purpose of renewing their credit requirements, or in support of a new loan application. Unfortunately, this task is too often viewed as something that must be done for the credit manager in order to get a loan. And, while this is often the case, producers need to realize that they can also greatly benefit from a well-prepared business plan. Preparing a business plan is probably one of the more important tasks that managers do in the course of over seeing a business. Time spent preparing a well thought-out plan can have a significant payback in both financial rewards and peace of mind.

The purpose of this article is to provide farm managers and other users of financial statements, a better understanding of how to prepare, analyze and interpret financial statements in a business plan. This may seem like a complicated task. However, the purpose of this article is to take some of the mystery out of this task, and hopefully provide users with the necessary tools to more effectively analyze financial statements and make informed business decisions.



Farmplan has been developed and released by Manitoba Agriculture and Food in order to assist farm producers in preparing a business plan. Much of this discussion will build on the information provided by this new planning program.

## What is Farmplan?

Farmplan is a new computer-planning program that has been developed by Farm Management Specialists with Manitoba Agriculture and Food. Farmplan is not a record-keeping system but rather a farm planning program, similar to programs used by financial institutions in support of loan applications and credit renewals.

It is a program that allows producers to prepare a business plan, utilizing co-ordinated financial statements including a pro-forma net worth, an accrual income statement, a cash flow statement and a debt servicing report.

Farmplan requires users to have a computer that runs in a Windows '95 environment or higher, have access to Microsoft Excel '97 or higher, and have a working knowledge of spread-sheets. Farmplan is a user-friendly program that offers on-screen tips and has easy-to-read screen layouts.

## What is a Business Plan?

A business plan is like a road map, which shows where the business is now, where the business would like to be over the next year(s), and how it will get there. The business plan commits to paper ideas you have in your mind, and how you plan to implement those ideas in the future. The business plan is directed towards the achievement of longer-term goals. Goals are longer-term results that are desirable and sought after, and reflecting underlying values held by the individual or business entity. A clear vision of where you want the farm to be in five to ten years can be a powerful driving force to keep the business plan on course. A well thought-out business plan will address the key management elements including the financial plan, the production and marketing plan, risk management, and human resource issues.



## Why prepare a Business Plan?

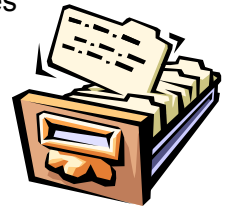
- ❑ It allows a manager to test on paper the viability of a proposed plan, before committing it to action. As has been said, "if it doesn't work on paper, it won't work in the field!"
- ❑ It allows the manager to make modifications and fine-tune a plan, in order to increase revenue and/or reduce costs.
- ❑ It necessitates giving careful thought to the key management responsibilities such as longer range goals and objectives, human resources, production, marketing, finance, profitability and risk issues.
- ❑ It allows management to forecast credit requirements, timing and the need for capital purchases, production alternatives and structural changes over the planning period.

## Good Records...the basis for a sound business plan!

Most farm managers understand the importance of good records. This is especially true in times of tight profit margins. Most producers do a good job of keeping records for income tax purposes. These records may, however, not contain sufficient information, which will allow for a complete business analysis.

The weak link in the record-keeping chain often relates to the failure to record non-cash information such as inventories, physical information such as feed consumption, keeping track of payables, receivables, and credit and loan balances.

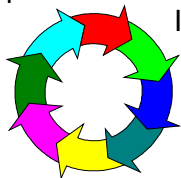
Completing a year-end inventory is necessary for any meaningful business analysis. Farm business managers must get into the habit of taking inventories at the end of each year. Non-farm businesses understand the need for taking inventory, not because they enjoy the task but, simply put, Revenue Canada does not allow them to file income tax on a cash basis without regard to inventory adjustments. Never the less, having inventory information is important for a number of non-tax reasons including business analysis and participation in agriculture programs such as AIDA.



Good farm records are also of great value when it comes time to prepare a farm business plan. Historical records, both physical and financial, provide a foundation for the business plan, and give the projected plan credibility in that the past results are consistent with the present situation and future expectations. A business plan builds on the past experience and projects forward the planned business activity. Having the projected results consistent with the past experience gives the business plan a higher degree of certainty and a better chance of success. In cases where there are no historical records, such as a new enterprise or new business, projections should be based on fairly conservative budget estimates and/or industry standards.

## What are Integrated Financial Statements?

Integrated financial statements is a concept of linking financial statements together, as pieces of a puzzle, to provide one comprehensive report, with each statement focussing on a specific aspect of the business.



Integrated financial statements help to ensure the overall accuracy and consistency of the financial report, as information in one report is common and linked to all of the other reports.

These statements provide both the detailed structure and the comprehensive or broad picture needed for business analysis. They also provide a number of important financial ratios which in turn provide important relationships for credit analysis and management decision-making.

Farmplan produces integrated financial statements in its business plan. We will now examine each of these statements in more detail.

## A. Net Worth Statement

This statement has been referred to as a net worth statement, a balance sheet, a statement of financial position, and an asset/liability statement. Most incorporated businesses refer to this statement as a balance sheet as opposed to a net worth statement. A net worth statement generally lists the assets at their 'fair market value', whereas a balance sheet lists the assets at their 'historical cost less depreciation' that has been charged as an expense against the assets. We will simply refer to this report as the net worth statement.



The net worth statement is one of the principal reports of any good accounting system. The purpose of this report is to describe the assets, liabilities, and equity (capital) of a business at a particular point in time. A net worth statement is a financial snapshot of the business, that reports financial information in a format that can be easily read and understood.

Whether assets should be listed at their 'historical cost' or at 'fair market value' has been debated over the years. As already mentioned, incorporated businesses, subject to more formal accounting standards generally list assets using the historical cost method. An asset is reported at this cost amount until another transaction provides objective evidence of a change in its value. Non-incorporated farm businesses, more interested in reporting the current value of the net worth, list the assets at their fair market value. Net worth statements that are prepared using the 'fair market value' require the valuation of the assets each time the statements are prepared. Depending on the purpose of the report, both methods have merit, but are used for different purposes.

### Structure of a Net Worth Statement

The structure of a net worth statement can vary but generally the assets are listed on the left-hand side, with the current assets at the top, intermediate in the middle, and long term at the bottom. Most non-farm financial statements refer to only two categories of assets and liabilities, that being the current and the fixed categories.

Assets that are most easily converted into cash are listed at the top with less liquid assets located beneath in descending order of liquidity. Current assets consist of cash, accounts receivable, and inventory including grain and market livestock that will be converted into cash or consumed within approximately one year. Current assets can also include fertilizer, herbicides, fuel, feed and other "in-put" assets associated with the agriculture production.

Intermediate assets or non-current assets are typically held and used for several years. They include the working assets such as the breeding stock, equipment and machinery used in the production of farm commodities. These assets generally have a life expectancy of more than one year and generally less than ten years.

Long term assets include those assets that have a useful life in excess of ten years and generally include assets such as land and buildings.

The liabilities are generally listed on the right-hand side of the report and are also divided into three categories: current, intermediate and long-term. The current liabilities are due now or will come due within the year, the intermediate liabilities generally have a repayment period of less than ten years, and the long-term liabilities have a repayment period of more than ten years. Current liabilities are generally used to finance the production inputs, intermediate liabilities are used to finance the working assets such as breeding livestock, equipment

and machinery, and long-term liabilities are used to finance the most permanent assets, such as land and buildings.

The net worth represents the difference in the value between the assets and the liabilities using the market value method. An incorporated business lists this equity (capital) under a number of different headings including the categories of capital shares, retained earnings and contributed surplus.

The Net Worth Statement is based on the following relationship:

$$\text{Assets} - \text{Liabilities} = \text{Net Worth...or} \\ \text{Assets} = \text{Liabilities} + \text{Net Worth}$$

Farmplan produces two different formats for the Net Worth Statement

### 1. Basic Net Worth Statement

- Net Worth Statement that lists the Assets, Liabilities, and Net Worth
- Includes as a current liability, the principal portion of the intermediate and long-term debt that will come due within the year.

### 2. Pro-forma Net Worth Statement

- Includes both the **opening** Net Worth Statement and a projected **ending** Net Worth Statement.

**Note:** The pro-forma statement does **not** include the principal portion of intermediate and long-term debt in the current liability section. The reason why the current portion of term debt is not shown as a current liability is because on a projected net worth statement it is impossible to determine the principal portion of the loan payments, since they fall outside of the accounting period covered in the projection. Despite this shortcoming, a pro-forma net worth statement does provide a great deal of very useful information.

- The pro-forma Net Worth Statement allows the user to compare structural changes in the business from the beginning to the end of the accounting period. Examining changes to the net worth from the beginning of the plan to the end of the plan is especially informative to the reader.
- Providing farm producers with a pro-forma net worth statement was one of the main driving forces behind the development of Farmplan. While there are many farm planning programs available on the market, very few are capable of producing a pro-forma net worth statement.

## Analyzing a Net Worth Statement

### Before you begin....

- Has the date of the statement been recorded?
- Are all the assets listed, and in the right category?
- Are the values placed on the assets reasonable?
- Have leased assets been included (by mistake)?
- Are all the liabilities listed and in the right category?
- Are the liabilities and loan balances correct as of the date of the statement?

Farm managers use performance indicators all the time. Yield per acre is one example, calving percentage is another. Almost every production performance activity in a farm business can be expressed by comparing two or more elements. The same can be done on the financial side of the business.

Analyzing the results contained in a business plan is simply a process of looking at specific information contained in the financial statements, interpreting the results, and drawing some meaningful conclusions from this information. The key is to know what to look for, how to make some sense out of this information, and then use this information in making informed management decisions.

One way to analyze financial statements is to look at different ratios. Ratios are simply relationships between two different sets of financial data or values. Properly interpreted ratios can point to areas requiring further investigation and inquiry. The analysis of a ratio can disclose relationships as well as form a basis of comparison that reveals conditions and trends that cannot be detected by an inspection of the individual components making up the ratio. Some ratios may be described as being desirable, others as being weak. The analyst shouldn't become a slave to the numerical value of certain ratios, since they often mean more when compared to the same measure of earlier years, similar farms, or industry standards. It is important to realize that no two farms are alike. Again, the trend of these ratios over time is often more important than the numerical value.

*Comparing actual results to historical trends is one of the best ways to keep on top of financial management.*

Another way to express the relationship between two or more sets of financial data or values is to state the relationship in terms of a percentage of one to the other(s). Having established this relationship, it is important to correctly interpret the relationship, so that a meaningful conclusion can be reached and a sound management decision made based on this information.

Whether you are using a ratio or a percentage analysis, it is important to keep in mind that the results and interpretation can be affected by the values placed on the assets, the type of business, and the size of the farm business.

With a little knowledge, some experience, and a measure of common sense, analyzing financial statements can become a valued management skill. Let's look now at some of these ratios and relationships as reported on a typical net worth statement.

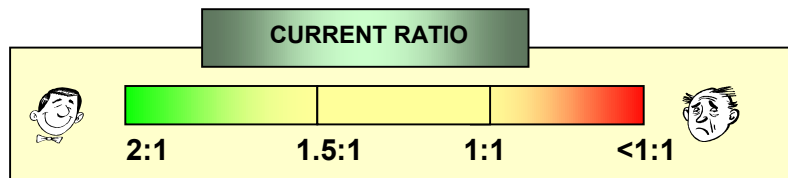
### 1. Current Ratio [Liquidity]

- ❑ Is a measure of a business' ability to meet current debt obligations as they come due, without disrupting normal operations.

- The ratio is calculated by **dividing the current assets by the current liabilities**.

$$\frac{\text{Current Assets}}{\text{Current Liabilities}}$$

- As a general rule, two dollars of current assets to one dollar of current liabilities represents a strong ratio. A current ratio of 1.5 to 1 is good, 1 to 1 is weak, and  $<1$  to 1 often results in cash flow problems.



- When analyzing the current ratio, be aware of...
  - ⇒ how saleable are the current assets,
  - ⇒ when will they be sold, and...
  - ⇒ when will the full price be realized?

For example, silage or hay may not be very saleable, grain sales may be subject to delivery restrictions and interim and final payments, and fall-applied fertilizer can not be converted into cash.

Therefore, the current ratio may be weaker than the value of the ratio would suggest. Interpreting this ratio may be as important as is the numerical value of the ratio.
- The working capital ratio is a modification of the current ratio and only considers the saleable assets in relation to the current liabilities. Saleable assets would exclude, among others, fall-applied fertilizer, farm supplies, and feed not held for resale.

### ***Keep in mind....***

- The time of year the net worth statement is prepared, in relationship to the production cycle, will have an effect on the financial ratios. A net worth statement prepared in June will look very different than one prepared after the harvest in fall.
- Assets on the net worth statement are listed on an 'as is basis' and the actual cash received may be reduced by marketing and transportation costs, commissions, income tax etc.
- Each farm enterprise has its own characteristics. For example, a dairy enterprise may show a weak current ratio, yet with high milk production, can maintain a strong cash flow.

## **2. Debt to Asset Ratio [Solvency]**

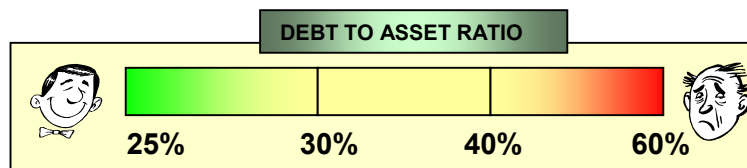
- € Is a measure of the business' ability to meet its total debt obligations, if all the assets were to be sold.
- € Provides an indication of the business' ability to continue in the event of severe financial adversity caused by perils such as drought, excess moisture or a decline in commodity prices.



- € Shows the percentage of the assets that are financed by outside creditors.
- € The ratio is calculated by **dividing the total liabilities by the total assets and is expressed as a percentage.**

$$\frac{\text{Total Liabilities}}{\text{Total Assets}} \times 100$$

- € As a general rule, a farm business having under 25% of its assets financed is in a fairly strong position, while between 25% to 40% is moderate, and between 40% and 60% is in an increasingly weaker position.
- € The higher the debt ratio, expressed as a percentage, the greater the financial risk as a result of the higher borrowing costs.



### *Keep in mind.....*

- The terms of the loans and the structure of the financing are important. Lower interest rates and extended loan repayment can lower the cost of borrowed funds and therefore the business can support a higher debt-to-asset ratio.
- The type of enterprise being analyzed can affect the amount of debt it can safely cash flow. Example: a broiler business vs. grain or hogs
- The profitability of the business...a highly profitable business can generally support more debt.

**Note:** We have looked at the debt to asset ratio as a measure of solvency. Other solvency ratios are expressed as follows:

**Equity / Asset Ratio** and...  
**Debt / Equity Ratio** [Leverage Ratio]

Regardless of which ratio is chosen, they all speak to the same issue of the farm's ability to meet its total debt obligations. The desired ratios will depend upon the level of income, volatility of income from year to year and factors such as production risk. A farm with high income variability and/or greater business risk would benefit from a stronger solvency ratio.



### 3. Earned Financial Progress: [Profitability]

Earned financial progress refers to the increase in the farm business' net worth from the beginning of the period to the end of the period as a result of the income earned by the business. The key word is 'earned', which excludes changes in net worth as a result of an owner's contributions to the business, the gain on the sale of the assets, or the re-evaluation of the assets including land, buildings and breeding stock. Providing the net worth increases as a result of profit earned by the business, the increase in the value of the net worth represents 'earned' financial progress. And, while any increase to net worth is positive, for the purpose of this profitability analysis, it is important to track the increases to net worth that relate directly to income earned by the business as opposed to other adjustments or transactions.



The pro-forma net worth statement produced by Farmplan shows the beginning net worth and the projected ending net worth. Provided that the change in net worth is a result of earned financial progress, tracking this growth in net worth from one year to the next is an excellent measure of financial progress (or the lack of it).

***Keep in mind....***

- Changes in net worth do occur in a farm business over time as a result of factors not related to profit or loss in business activity. For example, inflation in land values, losses or gains on the sale of machinery, contingency costs, tax liabilities, etc. However....
- For the purpose of this analysis, we are primarily interested in how much change does occur as a result of earned income.
- Earned financial progress is only one measure of financial progress and should not be analyzed in isolation of other factors. For example, the net worth could increase in value and at the same time the working capital could decline. Not a good situation!

### As the Loan Manager Sees It:

Throughout this report we also want to look at farm business analysis "as the loans manager sees it...". Since most farm managers use credit either from a financial institution, farm supplier, finance company or a government-lending agency, we need to also see the business plan 'through their eyes' as well. What do they look for when they examine net worth statements, income and cash flow reports. What information is meaningful and what information causes a red flag to appear in their mind's eye. Loan managers may not always comment on which information they are looking at, however, be sure they are forming an opinion that will in the end either support the approve or decline a credit proposal. So, to begin, let's take a look at a net worth statement 'as the loan manager sees it'.

**The Net Worth Statement**

**As the loan manager sees it.....**



- ✓ Is the net worth statement complete and are the values reasonable?
- ✓ How do the values compare to previous years and are differences explainable?
- ✓ Has the working capital changed over the past year and why?
- ✓ Has the net worth changed over the past year and why?
- ✓ Are the loan payments current?
- ✓ How much trade credit is being used and has this changed from previous years? What interest is being charged?
- ✓ Has the lending institution's security position changed?

## B. Income Statement

Other names used for this important accounting statement include: a profit-and-loss statement, an operating statement, and an income and expense statement.

The income statement lists the income and expenses of a business over a period of time, called the **accounting period**. The accounting period for most farm businesses is the calendar year, since they report income for tax purposes on the calendar year. The income statement measures the profitability of the business over this period. It is a capsule view of what the farm produced over the time period and what it cost to produce it. The difference between these two categories is called the net income, profit or loss for the period.

### Structure of an Income Statement

The most common income statement for farm producers is called the **cash income** statement, since it is this statement that is prepared in support of an income tax return. The cash income statement considers only cash transactions at the time they are made, be that income or expenses. The other type of income statement is called an **accrual income** statement. The accrual income statement lists all the income when the goods are produced, not necessarily when they are sold. Expenses are recorded when they are incurred, not necessarily when they are paid for. The accrual income statement does a much better job of reporting income and expenses as they relate to the production cycle, and this provides the basis for a more thorough analysis of the income and expenses. In most cases, producers prepare a cash income statement, and make the accrual adjustments for inventory changes, accounts receivable and payable, etc.

*Cash income statements can show some huge distortions in income from one year to the next, and may not have any bearing on the actual profitability.*

Farmplan follows this format by reporting the cash income and expenses and then making all the adjustments to this cash statement to produce an accrual income statement.

### Net Farm Income

Net Farm Income refers to the 'bottom line' profit that is earned (or projected to earn) by the business during the accounting period. It represents the business' return (calculated on an accrual basis) to the producers labour, management, and capital. Net Farm Income is calculated by taking the cash income less the cash expenses, including the depreciation for the period, and then making the appropriate accrual adjustments to this cash income. The accrual adjustments include change to inventory and supplies, accounts payable and accounts receivable, and outstanding interest from the beginning to the end of the period.

The Net Farm Income provides the answer to the question of how much profit the farm has made or is projected to make, in the business plan.

The Net Farm Income must be large enough (unless there are other sources of income) to cover additional items such as the principal portion of the loan payments, the producer's NISA contribution, the personal draw for living, income taxes, and a residual for savings or growth.

### Analyzing Net Farm Income

Whether you analyze the Net Farm Income from previous years or a projected Net Farm Income for the coming year, you need to ask yourself a number of questions: "Am I satisfied with the current Net Farm Income?"; "Can the value of the farm production be increased or the costs reduced to improved the income?"; "What went well and what can be done better to improve the overall profitability?"; "How do my results stack up against the plan prepared last year, other similar farms in the area, and bench-mark costs of production for similar enterprises?"

An in-depth analysis will involve looking at each enterprise and each source of revenue and expense to see what could be done to improve the overall income. Analyzing this information on an enterprise basis and on a per unit basis can provide a great deal of insight as to how much it costs to produce an acre of grain, a market hog, a litre of milk, or a tonne of forage. Knowing your costs is the first step to improving the bottom line. Focussing on production issues, marketing, cost control, and risk reduction, is the next logical step to improve Net Farm Income. This critical analysis takes time and effort but can also be very rewarding and absolutely essential for not only learning from the past, but also for planning for the future. This information and analysis is also critical to your lender in helping gain insight into your business and providing credit support.



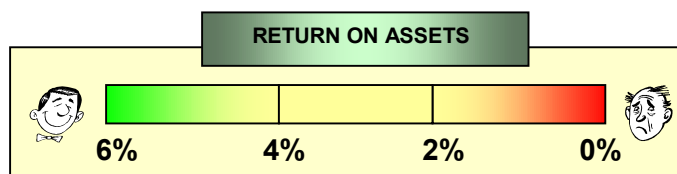
Analyzing the Net Farm Income as a return on the farm assets and equity (net worth) can also be informative. Since the Net Farm Income represents the return the farm earns on your investment, you will be interested to know the value of this return

### Return on Assets (ROA) [Profitability]

- ❑ Is a measure of profitability, measuring the rate of return that the farm business earns on its average asset base over the period. The higher the return, the more profitable the farm business.
- ❑ Information for calculating this ratio comes from both the net worth statement and the income statement.

- ROA is calculated by **dividing the net farm income plus the interest expense, less the unpaid labour/management costs, by the average value of the farm assets for the period, and is expressed as a percentage.** An appropriate unpaid labor/management cost must be subtracted from the Net Farm Income, in order to get a net return to only the capital invested in the business. Income before interest is used because interest is considered part of the return on your investment and was claimed as an expense in determining the Net Farm Income..

$$\frac{\text{Net Farm Income} + \text{Interest expense} - \text{labour}}{\text{Total Farm Assets (average)}} \times 100$$



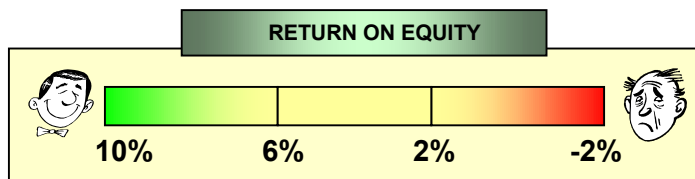
- Typical ROA's for many farms are in the 2% to 5% range.

### Return on Equity (ROE)

- Is a measure of the return to the net worth (equity) in the business. The farm equity is the capital that could be invested elsewhere (if you were not farming), and so this analysis provides an interesting perspective to see just how good a return you are receiving on your investment in farming, as compared to other alternatives.
- Is calculated by **dividing the Net Farm Income less the unpaid labour/management costs, by the average value of the farm equity (net worth) for the period, and is expressed as a percentage.**

$$\frac{\text{Net Farm Income} - \text{labour}}{\text{Farm Equity (average)}} \times 100$$

- This return can show huge swings from year to year, especially if the farm operates with a large amount of borrowed capital and has little equity in the farm business.



- A typical ROE for many farms is in the 4% to 8% range.

- A return on equity exceeding the return on assets indicates an economical use of borrowed funds. In other words, it paid to borrow money because the return on this borrowed capital was greater than the cost of borrowing.

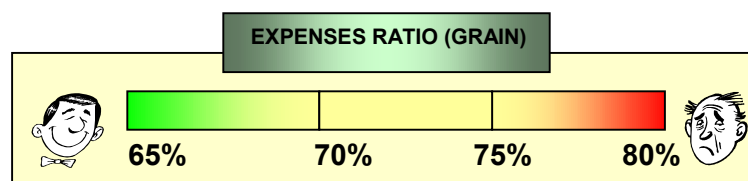
### *Keep in mind.....*

- Valuing assets at their original costs, as opposed to the fair market value, provides a more meaningful measurement of ROE.
- A high rate of return on a low equity business is not very meaningful, and...can just as quickly turn negative, with a slightest downturn in the economy.

### Expense/Revenue Ratio

- € Shows the percentage of the farm income that is required to cover the operating expenses, excluding the principal and interest payments.
- € The ratio is calculated by **dividing the operating expenses by the value of the farm production, and is expressed as a percentage.**
- € The value of farm production is the total value of the farm sales less the cost of purchased feeds, grain, and market livestock.

$$\frac{\text{Operating Expenses}}{\text{Value of Farm Production}} \times 100$$



- € This ratio will vary depending on the specific farm enterprise. For example, a dairy farm expense ratio will generally be between 53% to 60%, and for a typical grain farm this ratio will be between 65% and 80%.

## As the Loan Manager Sees It:

### The Income Statement

### As the loan manager sees it.....



- ✓ Is the value of farm production above or below similar sized farms for the area? Is it consistent from year to year?
- ✓ Are the costs of production similar to the previous years, other farms in the area, and budget guidelines for the enterprise?
- ✓ Have depreciation costs been recognized and are they reasonable, given the condition of the machinery and equipment?
- ✓ Has the production, marketing and financial risk been well managed?

## C. Cash Flow

Of all the statements that comprise a farm business plan, the cash flow statement is often the most challenging one to prepare. This statement covers all aspects of farming, and to do a good job requires a considerable amount of time, thought, and commitment. However, the time spent preparing this statement can also pay big dividends in charting the course towards a more profitable farm business.



The cash flow projection simulates the anticipated financial activity that will flow through the farm bank account during the accounting period. The cash flow projection simulates every dollar flowing into the bank account, and every dollar flowing out of the bank account, including both business and personal cash transactions and financial activity affecting the business bank account.

A cash flow projection is important because...

- It requires careful planning and thought in managing all aspects of the farm business, and allows the user to test ideas before they are put into practice.
- The cash flow projection addresses the question of whether or not the business plan will be feasible in the short run. Under some circumstances, it may be necessary to prepare a cash flow budget for more than one year to fully address feasibility issues and prolonged start-up costs.
- The cash flow statement provides information as to whether or not an operating line of credit will be required during the production period, and if so, when and how much credit will be required.
- The cash flow budget also helps to confirm whether the farm can operate within an existing approved line of credit, and if not, how much more credit will be required and during what time period(s).

The cash flow statement is especially helpful when...

- ⇒ a new business or enterprise is under consideration,
- ⇒ the business is being expanded,
- ⇒ a significant change(s) in production is planned,
- ⇒ a start-up period is required to get into full production, and...
- ⇒ a change in financial structure is being contemplated

## Structure of a Cash Flow Statement

- Cash flow statements can be prepared on an annual, quarterly or monthly basis.
- The report lists the categories of cash inflow on the top left hand side of the report and the cash outflow categories underneath. Each column to the right of these categories represents a period of time during the accounting period. The surplus or deficit cash positions for each period and the accumulated cash position for the accumulated periods are calculated at the bottom of the cash flow.
- Farmplan builds the cash flow plan starting with the crop and livestock inventory and production plan section. Cash inflow and cash outflow items not covered in this section must be added in the detailed cash flow section and are summarized in the cash flow summary report.
- Farmplan produces either a monthly or a quarterly cash flow, depending on which program is chosen. Since both of these options are written on two separate programs, the choice as to which cash flow is desired must be made before data is entered into either of the two programs. In other words, the quarterly cash flow program cannot be converted into a monthly cash flow program and vice versa, once a program has been selected.

## Gathering the Information

Preparing a detailed cash flow requires not only time and effort, but also a considerable amount of production and financial information. Gathering information, updating, researching, analyzing the information is all part of the work necessary in preparing a cash flow projection. Where does all this information come from? The following are some of the more likely sources:

- ⇒ Previous year's income tax returns
- ⇒ Previous year's bank statements
- ⇒ Previous year's cash flow projections
- ⇒ Published cost of production information. (Manitoba Agriculture and Food is a good source)
- ⇒ Price and marketing information. (Manitoba Markets, farm news papers and the Internet )



Getting started is the hardest part. Like other tasks, it happens one step at a time or maybe as is the case with computers...one key stroke at a time! Computers have taken much of the drudgery out of the number crunching when preparing a business plan, and this is especially noticeable in preparing a cash flow projection.



## Cash Flow Management

The cash flow statement is all about managing the timing of cash transactions. In what time periods will the cash inflow be received and in which time periods will the cash outflow occur? The timing of marketing decisions, purchasing decisions, paying bills, making loan payments and using cash advance programs are all decisions that affect the cash flow statement.

So, what can be done when the cash inflow just does not keep up with the cash outflow demands? Apart from increasing the approved line of credit (if that is an option), there are numerous alternatives that could be considered including...

- ⇒ Cutting or postponing expenses that will not adversely affect production,
- ⇒ Using cash advance programs,
- ⇒ Using trade credit to finance some of the production costs,
- ⇒ Using a stocker loan to purchase feeder cattle,
- ⇒ Refinancing to raise more operating capital,
- ⇒ Selling more inventory or selling some capital assets,
- ⇒ Withdrawing funds from the NISA account,
- ⇒ Changing to crop share rent as opposed to cash rent for land,
- ⇒ Improving marketing skills to make wise use of hedges, options, contracts, insurance and other risk management strategies,
- ⇒ Leasing or custom hiring versus owning, if newer machinery is needed.

### ***Keep in mind.....***

- The cash flow statement does not show whether the business is profitable, but rather simulates the flow of cash into and out of the business bank account.
- Trade credit used but not paid for during the reporting period, cash advances used, and changes to inventory during the reporting period are just some reasons why the cash flow statement does not reflect business profitability.
- A quarterly cash flow, as compared to a monthly cash flow, is less sensitive to the timing of the cash flow. This issue may create some cash management problems when expenses flow into the plan at the beginning of the three-month period, and the income flows into the plan at the end of the period.

## Monitoring Cash Flow

- ❑ Monitoring the actual cash flow against the projected cash flow can certainly be helpful in keeping the plan on track.
- ❑ Updating the cash flow budget as the year unfolds and new information becomes known is also helpful in maintaining a current business plan.
- ❑ Recording the actual income and expenses at the end of each month or quarter, thus replacing the projected values in the cash flow, is another excellent way to manage the business plan.

With careful planning, financial goals can be achieved, and the projected cash flow statement can improve the chances of getting there on time, on target and on budget!

### As the Loan Manager Sees It:

#### The Cash Flow Statement

#### As the loan manager sees it.....



- ✓ *Does the cash flow provide significant detail, is it complete, and realistic?*
- ✓ *Does the cash flow match past historical patterns? If not, why not?*
- ✓ *Has the production and marketing plan been well thought out?*
- ✓ *Are the costs being well controlled? Do they compare to last year?*
- ✓ *Is the approved line of credit sufficient? Would more be approved if necessary?*
- ✓ *Is the line of credit adequately secured throughout the period?*

## D. Debt Servicing Worksheet

The ability of a business to service its debt with some margin for error is one of the most significant criteria in granting a loan. The debt servicing worksheet provides the necessary information to determine how well the projected farm plan will be able to service the loan payments.



The debt servicing worksheet produced by Farmplan reports the amount of Net Farm Income that will be available to service the debt, on both a cash and on an accrual basis. The worksheet reports all of the term loan payments, including interest and principal, coming due within the year, and subtracts this total amount from the available income remaining to service this debt. The resulting value represents the surplus (or deficit) available to service the debt. Farmplan looks at debt servicing from both a cash and an accrual perspective. Both methods of reporting debt servicing are important, and provide a different perspective on the debt serviceability.

The amount available for debt servicing on an **accrual basis** includes **the net farm income, plus the off-farm income, less the living expenses, plus depreciation and interest on term debt.** (The interest on the term debt is added back in since it was claimed as an expense in calculating the net farm income.)

The amount available for debt servicing on a **cash basis** includes the **net cash farm income, plus the off farm income, less the living expense, plus the interest on term debt.** The cash basis analysis does not consider depreciation since it is not a cash expense.

## Why consider both the Cash and Accrual method in debt servicing?

The cash basis determines whether there will be sufficient cash available during the projection period to meet the debt payments. Since loan payments are made with cash, it is important to know whether there will be sufficient cash available to make the loan payments as they come due.

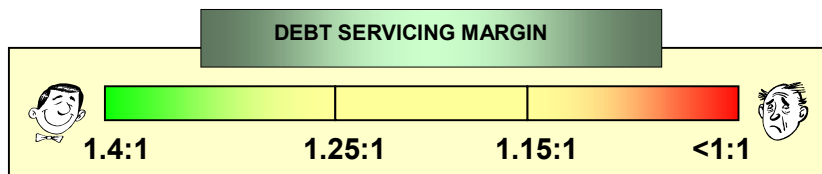
The accrual basis determines whether the farm can make its loan payments based on the value of the farm production reported during the projection period. The accrual presentation looks more at viability, whereas the cash presentation looks at the cash availability. Both the cash basis and accrual analysis are important, but for different purposes in analyzing debt serviceability.

## Analyzing the Debt Servicing worksheet

The purpose of this worksheet is to determine the amount of surplus (deficit) income on both a cash and an accrual basis that will be available after debt servicing. If the surplus is relatively large, the plan has a good margin of safety and if the surplus is small or negative, the worksheet raises some 'red flags' on viability and risk issues.

How much surplus after debt payments is enough? Most lenders, being conservative by nature, would always want more rather than less. A rule of thumb would be to have at least \$1.25 available for debt servicing for every \$1.00 of debt payments.

The following chart should be read as follows: 1.4:1 means that **\$1.40 of income is available to service \$1.00 in debt and so on...**



### A Note of Caution

The Debt Servicing worksheet can produce results that may be misleading if the report is not fully understood and analyzed. One situation in which the results can be misleading is when the projected debt payments include partial or total principal payout on one or more loans. This situation could happen when a loan is being refinanced and the refinanced loan is being replaced with a new loan. In this situation, the principal payment being made on the existing loan represents a payment that far exceeds regular annual loan payment, and therefore overstates the non-reoccurring annual loan payments that are required in the future.

Another situation where the report can be problematic is where capital purchases are made and the loan payments on this new purchase fall outside the reporting period. This could also happen in a financial restructuring situation where new loan payments may not begin during the projection period, or the current payment(s) may represent only a partial year's payment, and therefore understate the full payments in future years.

***Keep in mind.....***

- This report can produce results that can be misleading if the report is not carefully scrutinized and understood.
- Reducing or increasing accounts payable and receivables from the previous period can distort the surplus available for debt payments.
- New loans or restructured debt within the accounting period can produce unusual results that must be carefully interpreted.

**Restructuring Debt**

Restructuring debt in order to improve the debt serviceability is a decision that bears careful thought. If the underlying cause that has led to the need for restructuring is not addressed, the same result is likely to reappear in the very near future. Refinancing operating lines of credit is often a 'red flag' and can be a clear indication that the farm has viability issues that need to be addressed.

**As the Loan Manager Sees It:**

***The Debt Service Worksheet***

***As the loan manager sees it.....***



- ✓ **Is the farm plan viable? If not, what can be done to make it viable?**
- ✓ **Does the debt servicing surplus fall within lending policy?**
- ✓ **If there is insufficient debt servicing ... which loan payments are likely to be missed?**
- ✓ **Would the lending institution consider refinancing, should restructuring become necessary in a loan default situation?**

**Concluding Thoughts**

This publication has certainly not exhausted the number of ratios and values that can be analyzed. We have however, covered the most important aspects of farm business analysis. As Robert Frost has said, "No man was ever meant to remember or invent what he did with every cent". Likewise, farm business analysis should not be so detailed and complicated that the majority of farm managers shy away from the task altogether. To be sure, farm business analysis is much more an art than an exact science. Knowing the correct ratio may not be nearly as important as knowing what is happening, being aware of the trends, and understanding the significance of the information.

As important as financial analysis is, most farmers would agree that there is more to farming than just crunching numbers... and who would argue with that!



The following table summarizes some of the most important numbers to keep an eye on from one year to the next. Farm managers who prepare and track of these numbers in the following chart are already in a class of their own.

### Farm Business Analysis Summary

Category	Year 1.	Year 2.	Year 3.	Year 4.	Year 5.
<i>Cash Net Farm Income</i>					
<i>Accrual Net Farm Income</i>					
<i>Working Capital</i>					
<i>Net Worth</i>					
<i>Cost of Living</i>					

**Remember...** In the above categories, the trend over time is an important indicator of where the farm business is going!



**Notes:**

## FARM INCOME STATEMENT

Statement from \_\_\_\_\_ 20\_\_ to \_\_\_\_\_ 20\_\_

<u>Income: (cash basis)</u>	
Crop Sales .....	_____
Livestock sales .....	+ _____
Other Income .....	+ _____
Total Cash Income	_____
<u>Expenses (cash basis)</u>	
Crop Expenses .....	+ _____
Livestock Expenses.....	+ _____
Total Cash Expenses	- _____
<b>Cash Net Farm Income</b> (cash income - cash expenses)	_____
<u>Income Adjustments:</u>	
Ending Crops Inventory .....	+ _____
Beginning Crops Inventory .....	- _____
Ending Livestock Inventory .....	+ _____
Beginning Livestock Inventory .....	- _____
Ending Livestock Products Inventory .....	+ _____
Beginning Livestock Products Inventory.....	- _____
Ending Supplies Inventory.....	+ _____
Beginning supplies Inventory.....	- _____
Ending Accounts Receivable .....	+ _____
Beginning Accounts Receivable.....	- _____
Ending Accounts Payable.....	- _____
Beginning Accounts Payable.....	+ _____
Ending Outstanding Interest .....	- _____
Beginning Outstanding Interest .....	+ _____
Depreciation .....	- _____
Gain on Sale of Assets .....	+ _____
Loss on Sale of Assets .....	- _____
Total Income Adjustment	+ _____
<b>Net Farm Income</b> (Cash Net Farm Income + Total Income Adjustment)	_____

## NET WORTH STATEMENT

Date: \_\_\_\_\_

ASSETS	LIABILITIES
<b>Current:</b>	<b>Current:</b>
Cash on Hand & Deposit	Operating Loans
Accounts Receivable	Accounts Payable
Grain and Forage	
Market Livestock	Cash Advance Payments
	Accrued Interest
Farm Supplies	Arrears (P +I)
Investment in Growing Crops	
Marketable Securities	Current Portion of Intermediate Debt
Other Current	Current Portion of Long-Term Debt
<b>Total Current Assets</b>	<b>Total Current Liabilities</b>
<b>Intermediate:</b>	<b>Intermediate:</b>
Machinery and Equipment	
Breeding Stock	
RRSP's	
NISA Account Balance	Subtotal Intermediate Debts
Other Intermediate	Less: Current Portion of Intermediate Debt
<b>Total Intermediate Assets</b>	<b>Total Intermediate Debts</b>
<b>Long Term:</b>	<b>Long Term:</b>
Land	
Buildings	Subtotal Long-Term Debts
Non Farm Real Estate	Less: Current Portion of Long-Term Debt
Other Long Term	<b>Total Long Term Debts</b>
<b>Total Long Term Assets</b>	<b>Total Liabilities</b>
<b>Total Assets</b>	<b>Net Worth</b>
	<b>Total Liabilities + Net Worth</b>