Topic 7: Financial Performance

One of the most important tasks in transition planning is analyzing the financial performance of the farm operation. Too many farms move ahead making decisions regarding farm buyouts, estate/ inheritance plans and living arrangements without enough financial information. The assumption is that the farm will be able to financially support all these items.

As the idea of children coming back to and eventually taking over the farm is explored, it should be noted that this may create additional financial demands including:

- salary(ies) for the farming children
- additional residences or other living arrangements
- potential farm buyout plans
- farm expansion or diversification

As parents start thinking about retirement needs, this also can create additional financial demands including:

- increased draws to fund non-farm retirement assets (RRSPs, savings accounts etc.)
- potential for lump-sum funding needs at retirement for:
  - housing, vacations, vacation properties, recreational vehicles etc.
- potential for funds to go towards non-farming children

One way to analyze financial performance is to calculate key financial ratios over the last three to five years. Ratios can be compared year over year to measure progress and performance. Financial ratios are a comparison of two or more elements of financial data. They are expressed as percentages (62 per cent) or as ratios (4:1).

Since each ratio tells you a little about the farm's financial story, it's important that they be analyzed collectively. One ratio with good results or one with poor results should not alone be the basis upon which to make management decisions, especially decisions with transition planning implications. It is important to review all the ratios over a three to five year timeline to reveal trends.

Trends with stable or improving performance are a strength when facing a potential intergenerational transfer. Trends with declining performance can be a weakness and should be analyzed carefully before proceeding with transition planning. Are there good explanations for the poor performance? Are there corrective actions that can be taken? These questions should be answered before proceeding.

RATIO CATEGORIES

Ratios can be organized into the four different categories of liquidity, solvency, profitability and financial efficiency. These categories and their corresponding ratios are listed in the tables below. Go to the appendix section (pages 221-232) in the guide to find a document that includes an extended explanation of the ratios and their corresponding benchmarks.

Why is this relevant?

Before getting too far into the transition process, you need to analyze the farm's current and historical financial situation to see if it can support the extra financial draws that transition demands.

How will this help transition planning?

Having a good understanding of your financial situation will help you when you make the decision on whether to proceed with the transition planning process or not.

Instructions

1. Gather your last three to five years of accountant prepared financial statements or tax returns.
    a. If you are using tax return information, you will not be able to calculate historical (past years) ratios that use balance sheet information. If you have prepared an annual statement of net worth for your lender, you could use this information instead of accountant prepared balance sheets.
    b. If you do not have historical net worth statements, create a net worth statement for the most recent year ended December 31. All ratios can then be calculated for at least the most recent year. If you need help creating a net worth statement, consider using the *FarmPlan* software on www.manitoba.ca/agriculture, meeting with your Manitoba Agriculture, Food and Rural Development (MAFRD) Business Development Specialists - Farm Management or meeting with an advisor.
2. Calculate the ratios for each historical year.
3. Look at the trend in each ratio category. Is the performance improving or weakening for each ratio?
4. Compare the trend and each year's results to the listed benchmarks for each ratio.
    a. Is your farm currently in, or trending towards, the caution zone for any of the ratios?
        i. If yes, this may be a cause for concern and reason to pause the transition planning process to see what corrective actions can be taken. Talk to your MAFRD Business Development Specialist - Farm Management or an advisor.
    b. If your farm is currently or trending towards average or good performance for each ratio, it is likely well positioned to continue transition planning.

EXAMPLES

Liquidity - The ability of a business to meet financial obligations as they come due in the ordinary course of business. Liquidity relates to cash flow and short-term risk.

Ratio	Formula	Explanation	Good	Average	Poor	Sample Farms Ltd.
Current Ratio	Current assets / Current liabilities	Can the farm meet current obligations as they come due?	> 2:1	1.5:1	< 1:1	**2.7:1**
Working Capital Percentage of Total Cash Expenses	(Current assets – Current liabilities) / Cash operating expenses	If current liabilities are retired as they come due what current assets will be left? (percentage of annual expense)	> 50%	20 – 30%	< 10 %	**120.1%**
Debt Structure	Current debt / Total debt	What percentage of total debt is due within the next 12 months?	< 20%	25%	> 35%	**41.4%**

Solvency — the financial ratios that measure the amount of business debt relative to the amount of owner's capital invested in the business. Solvency relates to longer-term risk and how the business is financed.

Ratio	Formula	Explanation	Good	Average	Poor	Sample Farms Ltd.
Leverage Ratio* or Debt to Equity Ratio	Total Liabilities / Total Equity	For every $1 in equity, how many dollars of debt are there?	< 4:1	0.65:1	> 1:1	**0.65 : 1**
Equity Ratio*	Total Equity / Total Assets	What proportion of farm assets are financed by the owners?	> 70%	50 to 70%	< 50%	**60.8%**
Debt Servicing	(Net income + Amortization + Interest Family Wages**) / (Annual Principal and Interest Paid)	Can the farm come up with enough income to pay the debt requirements?	> 2 : 1	1.5 : 1	< 1.1:1	**3.27 : 1**

* Industry standards based on assets at market value.

** If not already included in expenses (ex: non-corporate farms).

Profitability — the extent to which a business is able to generate profit (income) from use of business assets. Profitability rates investment decisions based on their ability to generate net income.

Ratio	Formula	Explanation	Good	Average	Poor	Sample Farms Ltd.
Return on Assets*	Net Income plus Interest / Total Assets	What return is the farm generating as a percentage of capital assets?	> 4%	2%	< 0%	**11.1%**
Return on Equity*	Net Income / Owners Equity	What return is the farm generating as a percentage of equity?	> 10%	6%	< 2%	**15.4%**
Capital Turnover*	Gross Income / Capital Assets	How efficiently are assets (capital) being used?	> 40%	20%	< 10%	**31.2%**

* Industry standards based on assets at market value.

Financial Efficiency — the extent to which a business is able to use its resources (inputs) efficiently. Financial efficiency rates the annual operating cost decisions on their ability to generate gross revenue.

Ratio	Formula	Explanation	Good	Average	Poor	Sample Farms Ltd.
Gross Margin	Gross Margin / Gross Revenue	Is the farm generating acceptable margin as a percentage of revenue?	> 65%	55%	< 50%	**63.0%**
Contribution Margin	Contribution Margin / Gross Revenue	Is the farm generating acceptable margin as a percentage of revenue?	> 50%	45%	<40%	**45.9%**
Net Profit Margin	Net Profit / Gross Revenue	Is the farm generating acceptable margin as a percentage of revenue?	> 20%	10%	<5%	**21.5%**
Interest Expense	Interest / Gross Revenue	How much of the gross revenue generated by the farm goes to pay interest?	<10%	15%	>20%	**6.3%**
Amortization Expense	Amortization / Gross Revenue	How much of the gross revenue generated by the farm goes to pay interest?	<10%	15%	>20%	**5.4%**

How does this apply?

If you determine that your farm is financially able to proceed with the transition planning process, congratulations!

You may refer to the financial performance analysis just completed:

- In the Transition Options topic..
  - Can the farm afford the buyout, financing or payment options you are considering?
- in the Compensation topic.
  - Can the farm afford the compensation levels you are considering?
- in the Retiring Generation Needs topic.
  - Can the farm afford the retirement plans and payments you are considering?
- in the Estate Plan Elements topic.
  - Can the farm afford the estate and inheritance plans you are considering?

In Financial Performance – Transition Scenarios topic, you will build on this historical analysis and consider the farm's future financial performance with transition factors being added.

PLANNING POINTERS:

- The options are to use cash or accrual accounting as the basis for calculating the ratios. **Accrual accounting will provide much better information.** In turn, decisions made on superior information will have a better chance of having successful outcomes.
  - If you do not have accrual information, or are not sure, check with your MAFRD Business Development Specialist - Farm Management or to an advisor. **This is very important.**
- You should, as part of your analysis, include a market value for land and quota. You can include a market value for equipment and buildings but these values can be difficult to determine.
- Five years of cash based income statements (with no structural changes on the farm) can sometimes be a close approximation to accrual based statements. However, be careful with this assumption.
- All ratios tell something about the financial health of a farm. They should be analyzed individually for what they are specifically measuring. But, they should also be analyzed collectively. For example, each ratio is like a piece of a jigsaw puzzle. When the ratios are finished, the puzzle is complete and the picture is now clear.

WHAT TO WATCH FOR:

- If you do not have a good set of historic (past years) financial information, you can try to create the statements.
- If you decide to do this, as soon as you find that you have to make an assumption or estimate on a value, stop and proceed no further.
- Decisions made on financial information that is based on estimates are very risky.
- Consider using an independent appraiser for determining market values.
- Watch for different dates used to develop statements of net worth. The different dates can have significant impact on ratios as market inventory, accounts payable and receivable can vary greatly from year to year.
- Different dates for statements of net worth can make the information contained in the ratios less valuable. This in turn will reduce the confidence in the information and its usefulness in decision making.

EXERCISE: Go to the case study at the beginning of this guide pages d-j to see an expanded version of the Sample Farms Ltd. financial statements and ratios. The ratios include formulas and show the numbers that are used to calculate them. You can see where to find the numbers on the financial statements. You can use this information when you are calculating your ratios.

Next steps

Congratulations on completing this topic. You are now a step closer to having a transition plan for your farm. Please proceed to the next topic area on your Transition Plan, but don't forget to add any assigned tasks that were generated by working through this topic.

Planning progress

Financial Performance Ratios Explanation

Current Ratio

Definition:

The current ratio is calculated by dividing the current assets by the current liabilities and is a measure of liquidity.

The current ratio provides an indication of the liquid assets available to meet the next twelve months of financial commitments (the current liabilities). Working capital and the current ratio reveal strengths and weaknesses in liquidity (the ability of a farm to generate cash flow to meet obligations).

A higher number indicates better performance.

Financial Performance Thresholds:

>2.0:1	The optimum current ratio is a ratio of 2:1, or better, which indicates that the farm would have two dollars of current assets for every one dollar of current liabilities. Results in this threshold indicate strong liquidity. As results in this threshold approach or exceed 4.0:1, performance can become less positive as it could be an indication of idle cash.
>1.5:1	A current ratio of 1.5:1 and greater is considered to be a strong current ratio. A current ratio of 1.2:1 – 1.5:1 is considered to be marginal. Current ratios can change significantly with each production year. Liquidity can erode quickly on a farm, but results in this threshold indicate adequate or manageable liquidity.
<1.1:1	A weak or negative current ratio generally results in cash flow problems, presenting as inability to pay bills as they come due or make scheduled debt payments. Poor liquidity adversely impacts on management decision making. Results in this threshold should be reviewed to see if restructuring the debt would be an appropriate option.

Working Capital

Definition:

Working capital is calculated by subtracting the current liabilities from the current assets. The result is the surplus or deficiency of current assets available to meet the current liability obligations of the business over the upcoming year.

When analyzing liquidity, it is important to calculate and analyze the amount of available working capital. The current ratio may indicate a ratio of 1.5:1, yet working capital may not be adequate because the quantified values of current assets and current liabilities may be relatively small. In other words, a farm with a 1.5:1 current ratio may have actual working capital of $20,000 or $200,000.

Working capital provides an indication of liquidity in terms of dollars, not just a ratio. This is a valuable measure, but further analysis is required. Working capital expressed as a percentage of expenses

quantifies the indicator as it relates to the size of the operation (ex: a larger operation requires more working capital).

Working capital as a percentage of expenses is calculated by dividing the available working capital by the year's cash expenses (expenses not including amortization or depreciation). A higher percentage indicates better performance.

Financial Performance Thresholds:

>50%	A 50 per cent result means that the farm has half of the funds required to operate the farm for the next year. Any value less than 100 per cent means that the farmer will have to source additional working capital. Results in this threshold generally indicate that the working capital requirements for the next year will not be a problem. Typical sources of additional working capital in this threshold include operating loans and inventory advances.
25%	As results near this threshold or fall below, there will be increasing challenges in securing the working capital required to manage cash flow for the farm. Typical sources of working capital in this threshold still include operating loans and inventory advances but will also result in pre-selling more of next year's inventory. However, there will likely be a need to increase operating loan limits and where this is not an option, managing accounts payable becomes a reality.
<10%	Results in this threshold indicate inadequate working capital, increasing cash flow challenges and related stress. Management decisions are negatively affected (meaning farmers will be forced to do things they wouldn't ordinarily want to do). Operating loans and inventory advances are generally not a satisfactory option resulting in overdue accounts payable, credit card balances, deferred principal payments (or payments not made) and pre-selling next year's inventory.

Debt Structure Ratio

Definition:

The debt structure ratio is a liquidity measure and is calculated by dividing the current debt (liabilities) by the total liabilities. The purpose of this ratio is to determine what percentage of the farm's total debt is current, or due, in the next 12 months.

Shareholder loans (for incorporated farms), related party transactions and future tax may be factored out of the calculation to get a better picture of the real debt structure position. Sometimes (imminent transition for example) these items have a defined repayment structure and therefore would be left in the calculation.

A lower percentage generally indicates better performance.

Financial Performance Thresholds:

<20%	An optimally structured balance sheet (given a farm that has an appropriate level of total debt) would reveal a debt structure ratio of 20 per cent, or less, meaning that the farm is committed to repaying 20 per cent of its total debt in the next 12 months. Liquidity will generally not be adversely affected due to current liability commitments.
25%	Results in this threshold are often acceptable, if liabilities are not too large. If cash flow (liquidity) is a challenge, management should determine if the debt structure can be adjusted to reduce the current commitment to repaying liabilities and therefore, improving cash flow available for operations.
>30%	Farms with a high debt structure ratio often experience cash flow problems, unless there is little or no long term debt. Liquidity challenges can be a function of insufficient current assets (see working capital and current ratio) or current liabilities that are too large; often associated with an aggressive debt repayment commitment.

Equity Ratio

Definition:

The equity ratio is calculated by dividing market value equity by total assets.

Equity represents the total assets actually owned (by shareholders in the case of a corporate farm). Typically, a statement reporting assets valued at estimated market values more accurately represents the owner's or shareholder's net worth, where asset values would be valued considerably higher than at cost.

In corporate farms, productive assets (usually land and quota) can be held outside the company and therefore are not included in the financial statement equity. An adjustment to include such assets can be made to the analysis of the statements so as to provide a more complete understanding of financial performance.

A higher percentage indicates better performance.

Financial Performance Thresholds:

>70%	A farm with an equity position, as presented in a consolidated statement of net worth, of 70 per cent and greater, can be classified as having a strong equity position. Farms in this threshold typically (but not always) have manageable liability commitments. They have financial strength to draw upon if they encounter a production crisis that requires a working capital infusion or if they encounter an opportunity that requires financing and additional security.
50-70%	Farms with results in this threshold generally can be categorized as being in a comfortable equity position. As results trend toward the lower spectrum (50 per cent), farms become more sensitive to liquidity (cash flow) challenges resulting from production shortfalls or management decisions that result in additional debt commitments.

<50% Threshold results below 50 per cent will be categorized as being marginal in terms of a farm's equity position. As equity in a farming operation decreases, risk increases. There will usually be corresponding challenges in liquidity. Management decisions will be negatively affected. There is, in practical reality, no available security to offer for any restructuring or to secure financing for new investments. The margin for error (expressed financially) for farms with results in this threshold is very narrow.

Debt to Equity Ratio

Definition:

The leverage ratio is calculated by dividing total liabilities by the equity in the business.

This ratio indicates the relationship between the use of debt and equity to finance the farm business and is a measure of longer term risk. Because payments to the debt holders (lenders) are normally more fixed than payments to the equity holders (the farmer), a higher leverage ratio indicates a higher fixed commitment (less flexibility), and therefore, higher risk. The leverage ratio can be calculated reporting assets at original cost (less applicable depreciation) or at market value (values derived from a statement of net worth). For purposes of this analysis, market value (net worth) of assets is assumed.

As the leverage ratio increases, risk increases. A lower percentage indicates better performance.

Financial Performance Thresholds:

<0.4:1 A leverage ratio of 0.4:1 (four hundred dollars of debt for every thousand dollars of equity) and less derived from a net worth statement is considered to be a strong leverage ratio. Less debt as a percentage of equity correlates with less risk.

0.65:1 As results approach this threshold, there is an increasing amount of debt compared to equity. Leverage is increasing but the farm will generally not be affected adversely by the amount of debt it is carrying. However, as results deteriorate past this threshold, the effect of carrying the additional debt will start to become an issue. In any situation where an investment is going to include a significant increase in financing (leverage), farmers should calculate before and after leverage ratios; which quantifies financial risk in the transaction. **This is a very important exercise when results are in this threshold because there is very little room for financial error.**

>1:1 Results in this threshold indicate a highly leveraged farm and indicate that creditors and lenders have more at stake in the business than the farmer. Greater financial risk results in increased costs of capital (higher interest rates and administration fees), increased scrutiny on the file, financial statement preparation requirements and difficulty (or impossibility) in securing additional financing.

Debt Servicing Ratio

Definition:

The debt servicing ratio is calculated by dividing debt servicing capacity by annual principal and interest payment commitments.

The debt servicing ratio indicates the earned ability of the operation to service, or repay, its debt by making scheduled principal and interest payments.

The length of the term (years of payments) of the loan is important. The longer the term of the loan, the greater the chance for fluctuations in farm earnings over the term and therefore, the greater the risk as the debt servicing ratio weakens.

Debt servicing capacity is calculated by adding amortization (non-cash cost) and long term interest expense to net income. For unincorporated farms where management salaries are not a deductible expense, living costs should be subtracted from the total, as should any known income tax payment amounts.

Financial Performance Thresholds:

>2.0:1 A result in this threshold indicates that for every dollar of debt (principal and interest) payments, the farm expects to have two dollars available. Results in this threshold indicate very strong performance.

All farms should calculate before and after scenarios for debt servicing ratios for new loans. The exercise helps to quantify longer term risk in the transaction.

1.5:1 For grain or livestock operations, a 1.5:1 ratio and better is generally adequate. The ideal ratio may vary depending on the type of operation. For example, for a dairy farm, which has relatively strong price and cash flow certainty, a 1.25:1 ratio can be comfortable.

Caution should be exercised where financing a purchase results in debt servicing ratios that begin to approach 1.2:1. In this situation, the length of the term of the loan should be very carefully considered (see comments above).

Note that the debt servicing ratio is very sensitive and directly tied to earnings. Decreasing net income decreases the debt servicing ratio. Past trend line performance is important.

<1.1:1 Farms with results in this threshold will have difficulty generating the earned income required to make principal and interest payments. Farms may not be able to make payments as scheduled or, if they do, will do so by weakening liquidity indicators (increasing operating loans or selling additional inventory).

Transactions that require additional financing and that cause the ratio to fall into this threshold will be very difficult to finance and should be pursued very carefully — **especially** if the equity ratio is weak.

Return on Assets Ratio

Definition:

Return on assets is calculated by dividing net income plus long term interest expense by total assets.

There are two options for the calculation. Using assets valued at original cost (less accumulated amortization where applicable) and using assets valued at fair market value. The latter values are generally greater.

Incorporated farms will have financial statements with assets valued at cost. These farms will very likely own assets (land) personally. An adjustment should be made to include personally held assets (farm business related) such as land.

For purposes of this analysis, financial performance thresholds are based on net worth (market value of land and quota assets, with equipment values not included in the adjustment).

An adjustment should also be made to account for unpaid (or extraordinarily excessive) family wages or management salaries.

This ratio is a measure of the return on investment made in the business and includes a return to capital appreciation. Year over year changes in results of this indicator tend to be smaller due to the large investment in assets required to operate a farm.

A larger number indicates better performance.

Financial Performance Thresholds:

>6%	Results in this threshold over a longer term period generally represent good performance. It reports that if a farmer has $2 million in assets, he will have net income of $120,000. Farmers who are considering expanding their operation should determine if this performance is acceptable and if not, determine what can be done to improve performance or search for different investment opportunities.
2%	Farmers should always determine what portion of the return comes from operations and what portion comes from capital appreciation. However, farmers with results in this threshold should specifically analyze what percentage of the return came from capital appreciation. If the portion of the return due to land and quota is two per cent or greater, **no** return came from earnings attributed to business operations. If this is the situation, then the farmer **must** determine what can be done to generate a positive return from operations. Businesses that cannot generate a longer term positive return from operations will fail.
<0%	Farmers with longer term results in this threshold will be challenged financially. The likelihood of longer term survivability in the farm's existing form will be very poor. Farms with results in this threshold will, in almost all situations, be reporting net losses. Financial efficiency ratios (gross margin/contribution margin/net operating profit margin) should be analyzed to determine what can be done to improve earnings. It is important to note the number of years in the trend line. Farms with good debt to equity performance can usually manage through periods of low, or negative return on assets. This becomes more difficult as debt to equity performance deteriorates.

Return on Equity Ratio

Definition:

Return on equity is calculated by dividing net income by equity (or retained earnings).

There are two options for the calculation. Using assets valued at original cost (less accumulated amortization where applicable) and using assets valued at fair market value. The latter values are generally greater.

Incorporated farms will have financial statements with assets valued at cost. These farms will very likely own assets (land) personally. An adjustment should be made to include personally held assets (farm business related) such as land.

For purposes of this analysis, financial performance thresholds are based on net worth (market value of land and quota assets, with equipment values not included in the adjustment).

An adjustment should also be made to account for unpaid (or extraordinarily excessive) family wages or management salaries.

Return on equity (ROE) provides information on how efficiently the farm is using debt in its capital structure. Return on equity should exceed return on assets (ROA) for farms that borrow money (ROE equals ROA when there is no debt). If return on assets is greater, it indicates that the farm is not earning enough to pay its interest cost on borrowed money.

Year over year changes in results of this indicator tend to be smaller due to the large investment in assets required to operate a farm.

A larger number indicates better performance.

Financial Performance Thresholds:

>10%	Results in this threshold over a longer term period generally represent good performance. It reports that if a farmer has $2 million in market value equity, he will have net income of $200,000. Farmers who are considering investing in or expanding their operations should determine if this performance is acceptable and if not, determine what can be done to improve performance or search for different investment opportunities.
6%	Farmers should always determine what portion of the return comes from operations and what portion comes from capital appreciation. If the portion of the return due to land or quota appreciation is three per cent or greater, then three per cent came from earnings attributed to business operations. For many farmers, this level of performance (especially over a longer term trend line) is acceptable.
<2%	If the return on equity increase due to land or quota appreciation is two per cent or greater, **no** return came from earnings attributed to business operations. If this is the situation, then the farmer should determine what can be done to generate a positive return from operations.

Farms with results in this threshold will, in almost all situations, be reporting net operating losses (unless land or quota values decrease). Farmers with longer term results in this threshold will be challenged financially; firstly in liquidity management. The likelihood of longer term survivability in the farm's existing form will be very poor. Financial efficiency ratios (gross margin/contribution margin/net operating profit margin) should be analyzed to determine what can be done to improve earnings.

Asset Turnover Ratio

Definition:

Asset turnover is calculated by dividing gross revenue by total assets.

This ratio indicates the extent to which a business uses its assets to generate revenue. The higher the ratio, the better the assets are being used. The ratio can vary with business type and geographic location (example inflated land values).

For purposes of this analysis, assets are based on net worth (market value assets, but only land and supply managed quota as equipment has not been adjusted for market value).

Note that profitability ratios (return on equity and return on assets) indicate performance as a function of net income. Asset turnover uses gross revenue as the function of profitability. Neither is right or wrong; they just provide a different context on financial performance.

A higher percentage indicates better performance.

Financial Performance Thresholds:

>40% Results in this threshold indicate that for every $1,000 in assets there should be $400 generated in gross income. Farms achieving this level of performance are very efficient in how they use their assets to generate gross revenue.

20% Farms with results in this range will be reporting very typical performance. A larger investment in assets, especially land and newer equipment generally makes it more difficult to achieve optimal performance in this ratio. Poorer performance in this ratio can be attributed to excess investment in capital, new or overcapitalization in equipment or less than optimum gross revenue generation.

Lower gross revenue, coupled with increased interest costs due to financed asset purchases or additional amortization on new equipment, can all work to reduce net income.

<10% Results in this threshold indicate a farm that is not efficiently generating a return (as expressed by gross revenue) on its assets. The options to be analyzed are: increasing gross revenue (yield or price) or decreasing investment in assets. The decrease in assets can be accomplished in the shorter term by disposing of assets (lease options) or in the longer term by not replacing equipment as frequently (lower value).

Note that the first step to take if asset turnover performance falls into poorer performance thresholds is to determine what the root cause is. If it is because land in the area is really overvalued, then less emphasis should be placed on this indicator.

Gross Margin Ratio

Definition:

Gross margin is calculated by subtracting seed and seed treatment, chemicals (herbicides, fungicides, pesticides), fertilizer and production insurance (for grain operations) and veterinary, medicines, feed and market animals (for livestock operations) from gross revenue and then dividing the number by gross revenue.

This ratio measures the financial efficiency of a farm in terms of how it uses its production inputs.

Gross margin trend lines provide an excellent indication of efficiency to monitor as farms grow in size or complexity.

A higher percentage indicates better performance.

Financial Performance Thresholds:

>65%	Results in this threshold indicate that the farm is very efficient at utilizing its production inputs. Gross margin ratio is one of the most important indicators to calculate and analyze. Farmers with longer term trend lines at this level of performance can confidently proceed with expansion plans.
55%	Farms reporting results in this threshold should determine why performance is less than desired and what can be done to improve it. The reasons for poor performance fall into the production (yield and inputs) and marketing (price) management areas. The reasons can also be outside a farmer's control (weather for example). The latter is a major reason why trend line performance should be analyzed. Uncontrolled events are **usually** not sustained over a longer period of time. Deteriorating gross margin performance often accompanies expansion and transition. With expansion, farmers may not be able to attend to the same operational detail and production suffers as a result. Farms with these results should proceed with any expansion plans very carefully.
<50%	It is critically important that farms reporting results in this threshold determine why performance is less than desired. Farms that are not able to generate gross margin performance will not achieve acceptable levels of net operating performance. Further, they will in almost all situations, report net losses.

Contribution Margin Ratio

Definition:

Contribution margin is calculated by subtracting operating expenses (fuel, repairs, custom work, direct labour, supplies) from the gross margin. The ratio is calculated by then dividing the margin by gross revenue.

This ratio measures the financial efficiency of a farm in terms of how it uses its operating cost inputs.

After efficiency over production expenses have been quantified (gross margin), a farmer can determine how efficient he is at using the other variable costs. The contribution margin ratio provides this determination.

Adjustments should be made to account for unpaid (or extraordinarily excessive) wages (family).

A higher percentage indicates better performance.

Financial Performance Thresholds:

>50%	Results in this threshold indicate that the farm is very efficient at using its variable operating inputs.
45%	Importantly, poor results at gross margin performance will usually translate into poor performance at the contribution margin. Farms reporting results in this threshold, when gross margin performance is acceptable, should determine why performance is less than desired and what can be done to improve it. Differing from gross margin performance, the reasons for poor performance **do not** fall into the production (yield and inputs) and marketing (price) management areas, and are within a farmer's management control.
<40%	Assuming acceptable gross margin performance, results in this threshold require management attention as poor performance will usually translate into less than desired net operating profit margins.

Net Operating Profit Margin Ratio

Definition:

Net operating profit margin is calculated by subtracting overhead and administrative costs (fixed) from the contribution margin. The ratio is calculated by then dividing the margin by gross revenue.

This indicator examines how efficient a farmer is at using his investment in fixed costs.

Adjustments should be made to account for unpaid (or extraordinarily excessive) wages (family) or management salaries.

Amortization (depreciation) rates can have significant impact on performance. They should be calculated based on management rates (not tax rates) and applied on a straight line basis.

This indicator compares very well to non-farm businesses.

A higher percentage indicates better performance.

Financial Performance Thresholds:

>20%	Results in this threshold indicate a very efficient farm in terms of generating net profit from its core operations.
10%	Farmers with results in this threshold have room for improvement. Remember that the denominator is gross revenue. This means that if a farm's net operating profit margin is $100,000 and its gross revenue is $1 million, then its net operating profit margin ratio is 10 per cent. Performance should be 20 per cent or $200,000 which means that there is $100,000 on the table. This is money that the farm in question could use for investment and growth, to repay debt or for personal needs. This is money that other farms with better performance have, which gives them a degree of competitive advantage.
<5%	Farmers with results in this threshold should determine what can be done to improve performance. Importantly, in situations where gross margin and contribution margin performance are in acceptable thresholds, an option is to consider expanding the productive asset base, effectively spreading fixed costs over more productive units. This will improve net operating profit margin performance, providing that the expanded production base does not result in poorer gross margin performance or require additional fixed costs such as interest on term debt or amortization. Trend line performance in the threshold will translate into liquidity and solvency issues and will negatively affect management decisions.

Interest Expense Ratio

Definition:

The interest expense ratio is calculated by dividing interest expense by gross revenue.

Farms with more debt will have higher interest expense ratios.

The ratio is a good indicator of potential problems related to leverage (debt).

A lower number may indicate better performance. However, if a farm can effectively manage the risk associated with leverage (debt) — which includes interest — then it is more important to analyze the return that is generated by using borrowed capital and managing its repayment.

Financial Performance Thresholds:

<10%	Farms with results in this threshold are generally not being adversely affected by interest costs. Calculating before and after scenarios where additional loans are being planned helps to quantify how interest will affect financial performance.
15%	As in most ratios, farms with results in this threshold should monitor trend line performance for deteriorating performance. Obviously, as this ratio weakens, more and more of the revenue generated (gross revenue) goes to pay interest and is diverted from other areas.
>20%	Results in this threshold warrant management attention. If the ratio is 20 per cent, then $200 out of every $1,000 of gross revenue goes just to pay interest. There will very likely be increased sensitivity to interest rate increases.

Amortization Expense Ratio

Definition:

The amortization expense ratio is calculated by dividing amortization expense by gross revenue.

The ratio measures the amount of amortization (depreciation) relative to the level of sales (gross revenue).

A farm with newer equipment assets will have a higher amortization expense ratio. This indicates management priorities and investment guidelines.

The amortization expense ratio trend line is important to monitor. A downward trend may indicate capital replacement may be lagging while an upward trend might indicate an aggressive capital replacement policy. There is direct correlation between the amortization expense ratio and return on assets and return on equity as greater amortization expense (higher amortization expense ratio) will result in lower net income.

A lower number may indicate better performance.

Financial Performance Thresholds:

<10%	Farms with results in this threshold are generally not being adversely affected amortization costs. However, it may also reveal other issues. A lower number can reveal aging equipment that usually results in increased operating costs (repairs and maintenance). Aging equipment can result in production down time that can have negative impacts on yield, gross revenue and therefore, ultimately, net income.
15%	As in most ratios, farms with results in this threshold should monitor the trend line for deteriorating performance. As this ratio weakens, more and more of the revenue generated (gross revenue) goes to pay amortization costs. Net operating profit will be reduced. However, amortization is not a cash cost. Therefore, while net operating profit (profitability) may be reduced, cash flow (liquidity) may not be significantly affected.
>20%	Farms with results in this threshold should look for poor performance linkages in return on assets and equity ratios, debt to equity ratio, net operating profit margin ratio and asset turnover ratio to help determine the extent of the impact of amortization costs on financial performance.