AGRI-FACTS
Practical Information for Alberta's Agriculture Industry

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Analyze your Profitability: Managing your Growth (Step Six)

Agriculture Business Alternatives

Agriculture Business Alternatives is a series of factsheets designed to help you evaluate the feasibility of starting a new agricultural or rural-based business. The worksheets help you define the critical information needed to move your idea forward.

You are starting to create a picture of financial health for your business and know you have the resources to make it work. Now, there is one more piece of the financial picture that needs to be investigated: will your idea make money?

In the previous factsheet, *Review Your Finances: Making the Money Work (Step Five)*, Agdex 811-12), you created a cash flow projection and found out whether or not you needed to arrange additional financing to fund the business.

This factsheet will help you evaluate your profitability during the important start-up years by exploring three areas:

1) Create an income statement: estimating your income and expenses.
2) Uncover your income sensitivity: identifying the effect of changing factors on your bottom line.
3) Decide if it is worthwhile: analyzing profit in terms of Return on Investment.

This factsheet will help familiarize you with common business tools used to determine an idea's profitability. You will plan for a real-world dollar return and decide whether the work of starting the new enterprise is worth the time, money and commitment you and your family will invest.

> *You can determine your idea's profitability with common business tools*

Create an income statement

An income statement is just one of three important documents business owners use to analyze and track their finances. The other two documents are a statement of cash flow and a balance sheet.

Statement of cash flow

A cash flow projection summarizes the amount of cash coming into and going out of the business over a given period, generally one year. If it is necessary to identify seasonal differences for your new venture, create a monthly or quarterly cash flow projection. You may have already completed this in the previous factsheet in this series *Review Your Finances: Making the Money Work (Step Five)*, Agdex 811-12.

Balance sheet

The balance sheet shows a company's financial position at the end of a period. It is sometimes referred to as a "business snapshot" because it is a concise way of showing what a company owns (assets) and owes (liabilities) at any given time.

Income statement

An income statement (also called a profit and loss statement) measures profitability by recording the costs and value of production for a set period, usually a year.

The income statement lists all business income (cash and non-cash payments received from the sale of goods or services or other sources) and expenses (operating expenses and depreciation) related to the year's production. Expenses are then subtracted from income. The amount remaining is net income.

An income statement can be used for the following:

- determine profitability by arriving at a net income
- discover a return for invested management time, family labour and equity capital
- perform a sensitivity analysis to calculate the effect that projected price changes and varying yields will have on profitability
- assess the progress of your business year-over-year
- apply for financing, loans and grants
- prepare your tax return
- The steps in this factsheet provide an overview of this process. An example based on a fictional business is included at the end of this factsheet under the Bringing it all together section. Since yours is a new enterprise, you will estimate future income by completing **Worksheet 1: Projected Income Statement**.

Estimating your income

Income is the payment you receive in exchange for your goods and services. It can also be called revenue, sales or receipts, but in this factsheet, it will be referred to as income. Ensure you include all sources of income in the total "sales" figure, and do not forget to include Goods and Services Tax (GST) rebates as income.

Follow these steps to estimate the value of your projected sales:

- determine the projected size of the operation (typical crop acres, herd size, amount of greenhouse space and so on)
- determine the projected average production rate (average yield per acre or number of flats per square foot of greenhouse)
- multiply the first two numbers to obtain your projected volume:

  business size x production rate = volume

  Example:

1,000 square feet of spinach	x	0.25 pounds/ square foot	=	250 pounds of spinach

- use a projected market price that represents average current prices
- calculate income for the operation using the volume multiplied by the price:

  250 pounds of spinach x $7 per pound = $1,750

Income from products sold during the year, but not paid for, should be included in your income figures during the year they were sold (this would be listed as "accounts receivable" on a balance sheet). Similarly, if goods were sold during the previous year, but you received the cash during the current year your income statement is tracking, the amount should be included in the previous year's income statement (when the sale occurred).

Sometimes inventory adjustments (made by comparing inventory at the beginning and end of the year) are included in an income statement. More typically, this information is included on a balance sheet.

Estimating your expenses

Expenses are costs that occur to earn your year's income. Include expenses in the year they occurred, even if you pay for them in the period after the income statement (i.e. utilities that occur in December, but are paid in the next fiscal year in January).

It is critical to include all costs to produce your product. Your list of expenses can be quite detailed on an income statement.

For an example of how to calculate the cost of an agricultural product, refer to Agriculture and Forestry's factsheet *Pricing Processed Food Products* (Agdex 845-3).

Variable costs

Variable costs change with your level of production. For example, as your production increases, the amount of seed, jars and raw ingredients will increase, too.

Fixed costs

Fixed costs do not change with the level of production (e.g. insurance, taxes, utilities and salaried labour). If you have salaried employees, include your salary expenses, plus all employee benefits like health insurance, unemployment insurance and Canada Pension Plan payments.

Do not include unpaid family labour as a business expense. If the family and business use the same items, such as a cell phone or utilities, include only the business portion on your income statement (typically calculated as a percentage of the total expense).

Depreciation

Although depreciation is a non-cash expense, include it as an expense. Depreciation records a loss in value for capital items (machinery, buildings, fences) through wear, decay or obsolescence. Typically, a yearly portion of the cost (annual depreciation) is included, until the amount reaches a zero balance.

Marketing expenses

Include costs to promote your business (advertising, signage, website, etc.), transportation to get your product to the customer or market outlet, product packaging, marketing levies required by supply-managed commodities and more.

Completing the income statement

When you have entered all your information on the income statement, sub-total the income and expense columns, then subtract the expenses from the income to arrive at the net income for the new enterprise.

If you want to analyze the profitability of your new enterprise over time, develop a series of income statements for future years. Record any increases or decreases for the future prices paid for your product as well as changes in your production or fixed costs.

Creating a balance sheet

Balance sheets are another tool to analyze the financial position of the business and are often required by banks or investors when you apply for financing. Although balance sheets are typically completed for established business, creating a projected balance sheet can be a great exercise to give you a broader picture of the business. Make a list of your assets, liabilities and equity and then complete **Worksheet 2: Projected Balance Sheet**.

Assets: cash on hand, bank account balances, accounts receivable, inventory, machinery and vehicles, office and farm equipment, land, buildings and reimbursable expenses

Liabilities: outstanding company loans, accounts payable, payroll that has not been paid, outstanding credit card balances and outstanding taxes

Equity: cash you put in or take out of the business, including owner's capital and/or retained earnings

If you are planning to use an accounting software program to keep financial records for your business (like QuickBooks or FreshBooks), these programs can also quickly generate a balance sheet for you.

Uncover your income sensitivity

Through the process of creating the income statement, you may have had trouble getting accurate data to base your projections on, which may have you doubting your projected net farm income. Understand that agricultural producers operate in an environment where many things can be outside their control: weather, interest rates, market prices, input costs, environmental factors and more.

To measure the effect that changing yields, price, sales and so on will have on net farm income, perform a sensitivity analysis on the data. This analysis can increase your confidence in the numbers because you can uncover which factors – if they change – will affect profitability the most.

To perform a sensitivity analysis, use a computer spreadsheet software program, and follow these steps:

1) select one factor to analyze (yield, price, number of visitors per year, sales)

2) select a different (but possible) value for that factor and adjust any related figures

3) re-calculate net farm income

4) you can repeat this analysis using a range of "changing" factors, from optimistic to worst-case scenario

Often, the factor you choose is tied to other costs. For example, if you experience a lower yield for a flower or vegetable operation, your costs for packing boxes or bags, rented storage, transportation and other marketing expenses will also decrease. Input costs, like fertilizers and pest control, will probably stay the same.

Decide if it is worthwhile

Now that you have discovered whether – and when – your new venture will make a profit, it is time to make an assessment. Review all the detailed information from the worksheets you have completed in this factsheet series Steps One through Six.

Is the profit large enough to give you a good return on the money and effort you have to put into the business? Do you want to proceed with this business opportunity, or should you consider a different business opportunity?

Depending on the size or complexity of your proposed new venture, there are other methods to analyze business and investment opportunities beyond the tools noted in this factsheet. These methods include payback period, net present value and average rate of Return on Investment. If you would like assistance with business and investment analysis, Alberta Agriculture and Forestry (AF) can help. To book an appointment with an AF New Venture Specialist, visit the website www.agriculture.alberta.ca

Bringing it all together

The following example takes the fictitious Country Jam Company through this factsheet's process, using the information in the worksheets. (Note: the figures are meant to show the process and are not intended to reflect actual costs and returns for this type of business.)

Country Jam Co.
Projected Income Statement for the Year

Income	
Jam sales	$72,000
GST rebates $	1,000
Total receipts	**$73,000**

Expenses	
Raw fruit purchased	$10,000
Sugar and other ingredients	$6,000
Jars and labels	$7,000
Shipping costs	$4,000
Vehicle expenses	$8,000
Repairs and maintenance	$1,000
Wages	$16,000
CPP, EI, Workers' compensation	$2,000
Advertising	$3,000
Office expenses	$1,000
Electricity	$3,000
Telephone	$1,000
Insurance	$2,000
Interest – operating line of credit	$500
– intermediate loans	$1250
– mortgage	$1250
Property taxes	$1,000
Total Expenses	**$68,000**
Net Income	**$5,000**

After preparing the income statement and subtracting the total expenses ($68,000) from the total income ($73,000), the Country Jam Company made a profit of $5,000 in its first year. Now, the owners of the Country Jam Company must choose between taking that profit out of the company (to pay for family living needs) or leaving it in the company where the equity will grow as "retained earnings."

Knowing that new ventures can sometimes have difficulty finding financing during the early years, the owners saw that the retained earnings would be essential to the business. The owners decided it was best to leave this $5,000 profit in the business to use for future years.

Although the projected income statement showed their profitability for the year, the owners wanted to create a balance sheet to gain a broader understanding of the business.

For the balance sheet, the Country Jam Company recorded their assets including cash, equipment, a vehicle, a building and land. Their liabilities included outstanding payables, credit card and line of credit debt, loans, a $30,000 cash infusion the family put into the business (that will need to be paid back) and the year's retained earnings of $5,000 (owed to the owners when they decide to withdraw the money).

Note that the (assets) = (liabilities + owner's equity), which is always the case on any balance sheet

Country Jam Co.
Balance Sheet for the Year End

Assets

Current Assets	
Cash on hand	1,500
Accounts receivable	2,500
Inventory – finished product	8,000
– supplies	5,000
Total Current Assets	**17,000**

Intermediate Assets	
Pots and kitchen utensils	3,000
Walk-in cooler	8,000
Delivery van	15,000
Total Intermediate Assets	**26,000**

Fixed Assets	
Building	22,000
Land	10,000
Total Fixed Assets	**32,000**
Total Assets	**75,000**

Country Jam Co.
Balance Sheet for the Year End (continued)

Liabilities	
Current Liabilities	
Accounts payable	4,500
Credit cards	2,000
Operating line of credit	3,500
Total Current Liabilities	**10,000**
Intermediate Liabilities	
Cooler loan (grandma)	5,000
Van loan (bank)	10,000
Total Intermediate Liabilities	**15,000**
Long-term Liabilities	15,000
Total long-term Liabilities	**15,000**
Total Liabilities	**40,000**
Owner's Equity	
Contributed capital	30,000
Retained earnings	5,000
Total Equity	**35,000**
Total Liability and Equity	**75,000**

If the Country Jam Company had a net loss on their income statement, that loss would be subtracted from the owner's equity by the amount of the loss. When a start-up venture has limited equity, a couple of years of losses can quickly wipe out the equity in the business.

The County Jam Company also wanted to perform a sensitivity analysis. They wondered what would happen if they needed to drop the price of their jam. They recalculated the retail price, dropping it by 50 cents per jar. With this new lower price, the total jam sales for the year fell from $72,000 to $68,000. There was no change in expenses as the input costs (fruit, sugar, jars and shipping) did not change. This change meant a reduction in net farm income of $4,000, resulting in a profit of $1,000 instead of a $5,000 profit for the year.

Your next steps forward

Congratulations on identifying how profitable your enterprise may be. Now is the time to take your idea out into the world.

This factsheet is one in a series of Agriculture Business Alternatives factsheets that help you evaluate the feasibility of starting a new agricultural or rural-based business.

For the next step in this process, proceed with the factsheet *Launch Your Business: Time for Action (Step Seven)*, Agdex 811-14.

References

The Agriculture Business Alternatives factsheets have been adapted with permission from: *Farming Alternatives – A Guide to Evaluating the Feasibility of new Farm-Based Enterprises* (NRAES-32, October 1988, ISBN 0-935817-14-X). This publication was a project of the Farming Alternatives Program, Cornell University, Warren Hall, Ithaca, NY 14853 (607) 255-9832; and Natural Resource, Agriculture and Engineering Service (NRAES), Cornell University, 152 Riley-Robb Hall, Ithaca, New York (607) 255-7654.

For more information

Agriculture Business Alternatives factsheet series:

Define Your Goals: Personal and Family Considerations (Step One), Agdex 811-8

Consider Your Options: An Inventory of Possibilities (Step Two), Agdex 811-9

Identify Your Market: Right Buyer, Right Price (Step Three), Agdex 811-10

Assess Your Resources: Examining Production Requirements (Step Four), Agdex 811-11

Review Your Finances: Making the Money Work (Step Five), Agdex 811-12

Analyze Your Profitability: Managing Your Growth (Step Six), Agdex 811-13

Launch Your Business: Time for Action (Step Seven), Agdex 811-14

Build Your Network: Reaching Out for Support and Advice (Step Eight), Agdex 811-15

Prepared by
Alberta Agriculture and Forestry

More information, contact:
Alberta Ag-Info Centre
Call toll free: 310-FARM (3276)
Website: agriculture.alberta.ca

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Step 6 - Worksheet 1: Projected Income Statement

	Year 1 - Start-Up Year	Year 2	Average Future Year
Income			
Product Sales			
Total Receipts			
Expenses			
Shipping costs			
Vehicle Expenses			
Repairs/Maintenance			
Wages			
CPP/Employment Ins.			
Marketing			
Office Expenses			
Utilities			
Telephone			
Insurance			
Interest - operating line of credit - intermediate loans - mortgage			
Property taxes			
Total Expenses			
Net Income			

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Step 6 - Worksheet 2: Projected Balance Sheet

Assets		Liabilities	
Current Assets		**Current Liabilities**	
Cash on hand		Accounts payable	
Accounts receivable		Credit cards	
Inventory - finished product - supplies		Operating line of credit	
Total Current Assets		**Total Current Liabilities**	
Intermediate Assets		**Intermediate Liabilities**	
		Total Intermediate Liabilities	
Total Intermediate Assets		**Long Term Liabilities**	
		Total Long Term Liabilities	
		Total Liabilities	
Fixed Assets		**Owner's Equity**	
		Contributed capital	
		Retained Earnings	
Total Fixed Asset		**Total Equity**	
Total Assets		**Total Liability and Equity**	