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[Home](#)
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[Financial Statements](#)
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Free Sample Business Plan - Operation Plan for The Maple Syrup Company

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OPERATING PLAN (The Maple Syrup Company)

Production of Maple Syrup:

The following will provide a brief summary of the resources and processes required to transform raw sap into pure maple syrup. We will then discuss our particular situation.

Maple Syrup is a truly natural product. Its origin dates back to Native Americans. The **pure** maple syrup industry is a growing and thriving industry today.

Maple Trees - the Resource

Obviously, one of the most vital requirements is a sound maple tree stand. The maple tree is usually at least 40 years old before it is ready for tapping. There are many species of maple trees found throughout the northern hemisphere but the primarily one used for maple syrup is the sugar maple. Found only in northeastern North America, the sugar maple may grow as tall as 30 metres and reach a trunk diameter of 100 cm during its 250 year lifespan. The wood of sugar maple is quite hard and its bark is gray and rough. Producers also tap red and silver maples but the sap of these trees tends to be lower in sugar content. This weaker sap requires additional boiling time resulting in greater fuel consumption. In addition the red maple usually results in a darker, lower grade syrup. The two main species on Smith Island are sugar maple and red maple. Mr. MacMillan's woodlot is predominately sugar maple.

Tapping Process:

Trees are generally tapped between late February and mid March. Tapping must be done carefully to obtain the most sap from each tree. A power drill is used to bore holes about 1 metre above the ground. The holes are 7 cm deep and 11 mm in diameter. Trees less than 25 cm in diameter should not be tapped. For every 13 cm in diameter above 25 cm an additional tap can be added to a maximum of four taps per tree.

Collecting the Sap:

Sap flow in maple trees does not occur every day throughout the tapping season. It occurs when a rapid warming trend in early to midmorning follows a cool (below freezing) night. Thus, the amount of sap produced varies from day to day. Normally, a single taphole produces from a litre to five litres of sap per flow period (from a few hours to a day or more), with a seasonal accumulation of 40 to 50 litres per taphole likely.

To produce high quality syrup, sap should be collected and processed as quickly as possible. If this is not possible, collections obtained from prolonged flow periods should be stored and processed separately.

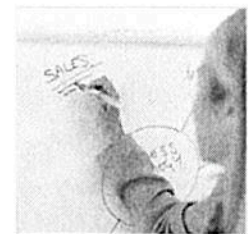
More and more producers are using a sap collecting system in which plastic spiles are inserted into the trees and connected to a system of plastic tubing (pipeline). The pipeline is installed on a slope so that the sap flows by gravity to collection tanks. This helps ensure that the sap is fresh and clean when it reaches the sugarhouse. The pipeline method is more hygienic than buckets and requires far less labour.

Vacuum systems can also be used in conjunction with the pipeline system. By utilizing the vacuum system, the yield of sap can be substantially increased.

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Evaporation Process:

The make up of raw sap is approximately 97.5% water, 2.4% sugar, and .01% minerals. Maple syrup must contain no more than 34% water. The evaporation process removes the water to transform maple sap into pure maple syrup.

A hot, steady fire is required to maintain a constant boil. Evaporation that is too slow will adversely affect the colour and flavour of the syrup. This will result in a lower grade finished product(s). When the boiling temperature of the liquid reaches 4° C above the boiling point of water, the syrup has reached the required sugar content. The boiling temperature of water must be checked regularly since it varies with altitude and barometric pressure. The sugar content of the syrup can be checked with instruments such as the hydrometer and refractometer.

Filtering & Packing:

In addition to the removal of water from the sap, minerals must also be removed. These minerals appear as a sediment known as sugar sand and must be removed by filtering. While still hot, syrup is normally filtered through heavy felt filters to remove these impurities. Once the process is complete you have an attractive, crystal clear maple syrup product.

The syrup is then packed hot (85° C or more) into glass, tin, or plastic containers. The hot syrup further sterilizes the container and prevents the formation of mold.

Other Maple Products:

By boiling away more of the water from maple syrup, then cooling and stirring, a number of other maple products can be created. Maple butter and soft maple sugar candy are two of the most popular. Maple taffy, hard block sugar, and stirred (granulated) maple sugar can also be made.

Grading & Labeling:

Maple Syrup is classified into various grades. The primary characteristic of maple syrup around which grades are determined is colour. The lighter the colour of syrup, the milder the flavour, and the higher grade it receives. Grade "A" maple syrup is the lightest in colour and is considered the best. Grade "B" Amber, on the other hand, is a darker, stronger flavoured syrup and is usually considered best as a cooking ingredient.

Maple syrup must have a sugar content of at least 66% and be entirely pure. No additives, preservatives, or colouring can be added to pure maple syrup. This is truly a natural product. A tablespoon has 40 calories and is fat free.

The labels on containers of maple syrup must bear the name of the product, the volume of the syrup in the container, the grade and colour class of the syrup, and the name & address of the producer or packer. Canada Agriculture Products Act Maple Regulations must be adhered to. Copy of regulations - refer to **Appendix # 3**.

Sanitation at every stage is a must. Equipment must be cleaned at regular intervals to ensure high quality finished products.

Capital Asset Requirements:

The Maple Syrup Company requires the following capital assets.

Woodlot (Sugarbush)

The Maple Syrup Company intends to begin operations utilizing approximately 150 acres of woodland. This woodland is owned by Mr. MacMillan and it is estimated to have a value of \$75,000. Since 2,000 and 5,000 taps will be brought on line in year one and year two respectively, the Company will not require additional woodlands during this time frame.

In year three, however, the Company plans to extend its pipeline system to include 10,000 taps. In order to achieve this objective, the company will rent additional woodland. A conservative estimate has the MacMillan woodlot at 8,000 available taps. Therefore, the Company will have to lease an additional 2,000 taps. It is expected to cost \$1,000 in year three (2,000 x 0.50 cents per tap).

The Company plans to further expand its operations in year four. The company intends to extend its pipeline to include 20,000 taps (an increase of 10,000 over year three). The woodlot rentals in year four is expected to increase by \$5,000. for a total lease rental cost of \$6,000 during year 4.

In year five, the Company does not anticipate an expansion of its pipeline. As a result, woodland rentals will remain at \$6,000 in year five.

Sugarhouse

The sugarhouse serves as a protection facility for the evaporator and all other equipment and supplies.

Rather than spending substantial amounts on the sugarhouse, which is used for a short period of time, the Company intends to construct the sugarhouse by adding onto an existing building at the MacMillan farm.

With the use of their own lumber and labour, it is estimated to cost \$4,500 in year one. Additional costs to the sugarhouse will occur in year 3 when a reverse osmosis system is acquired. The additional cost to the sugarhouse during year 3 is expected to be \$3,600.

Before we look at the following capital costs it is important to keep in mind that we are dealing with a consumable product. This requires great care to ensure no harm will come to anyone that enjoys our products. The manufacturer's of equipment must also comply with strict regulations to conform within the same guidelines. Most new evaporators are now completely stainless steel which results in higher costs.

Evaporator, Pipeline & Related Equipment:

The equipment required to meet our production objectives for the first five (5) years is outlined below. We have organized our production equipment needs into years. Please note: Quotations for the necessary equipment have been secured from suppliers and is referenced in *Appendix # 4*.

Year 1

We intend to acquire an evaporator in year one that will be suitable for our operations in year five and beyond. As indicated earlier, the evaporator is needed to transform raw sap into maple syrup.

The cost of the evaporator and automatic syrup controller is approximately \$26,000. This particular evaporator will process approximately 250 gallons of sap per hour. With the industry average ratio of 40 to 1, this will provide about 6.25 gallons of finished maple syrup per hour.

A pipeline system is also a main component of our production process. The cost of the pipeline equipment is estimated to be \$3.50 per tap. Based on our 2,000 tap plan in year one, the outlay required for pipeline equipment is estimated to be \$7,000. There is also a requirement for an extension to the pipeline from the sugarbush to the sugarhouse in year one. This expenditure will cost approximately \$3,000.

The partners, with the assistance of a consultant, intend to do most of the installation of pipelines. Had this job been out-sourced, we have been advised that the labour would cost between \$2.00 - \$3.50 per tap.

In the financial reports we have recognized this as a real cost and have capitalized this component at \$2.00 per tap. The offset to this expenditure is partner's capital contributions. Year one have these amounts at \$4,000.

There is also a requirement for holding tanks to collect and store raw sap and finished products. The industry norm for holding tank requirements is one (1) gallon per tap. During year one we intend to acquire two (2), 1,000 gallon storage tanks. The cost of these stainless steel tanks is approximately \$3,600.

The total cost of all equipment in year one is quoted at \$37,490 (see *Appendix #4*). This quotation did not include the \$3,000 for the additional pipeline. Thus the total for equipment in year one is \$40,490. We realize there will be additional costs in year one for various unexpected capital expenditures, thus we have added an additional \$2,510 in year one to bring our expected capital expenditures to \$43,000.

All of the equipment discussed in our plan is new. The partners will be eligible to claim investment tax credits (ITC) on new assets purchased. The cost of the asset is reduced by the amount of ITC allocated to the partners. Additional detail on investment tax credits is discussed later in the **financial plan** section. By recognizing ITC our year 1 capital expenditures will be reduced to approximately \$38,700.

Year 2

During year two, an additional 3,000 taps will be incorporated into our process. A filter press will be required as well as additional storage tanks. We will also require drums for storage and distribution of our bulk syrup.

The Company has also estimated that we will require an additional \$7,000 in bottling and processing equipment in year two.

The total production costs for year two, as indicated in *Appendix # 4*, is \$17,516. Again, we have added a contingency factor for unknowns. Thus, for year two we estimate total capital expenditures for equipment to be \$27,000. This amount is reduced to \$24,300 net of ITC. The labour costs for tap installation has been capitalized at \$6,000.

Year 3

Year three has major capital requirements. With the expansion of the business to 10,000 taps, the Company will require advanced equipment to accommodate the large quantities of sap. It is during year 3 that the first Reverse Osmosis system will be acquired.

As previously mentioned, the evaporator can accommodate 250 gallons of sap per hour. During an exceptional run, at the 10,000 taps range, one may expect to have 10,000 gallons of sap available for processing. Without the reverse osmosis system this could take 40 hours. Such a time delay would have detrimental effects on the quality of our syrup.

The reverse osmosis system we intend to acquire in year three will accommodate 1,000 gallons per hour (US). This equates to 800 gallons Canadian. Such a system will greatly reduce the processing time and maintain a high quality end product.

The cost of the reverse osmosis system is approximately \$22,000.

A vacuum pump and sap extractor is also added to the process in year three. This along with additional taps, drums, and storage tanks have capital expenditures of \$50,981, as detailed in **Appendix # 4**. This amount have been increased to \$54,000 to bring in a contingency factor (\$48,600 net of ITC). Please note that an additional \$4,000 (\$3,600 net of ITC) is required for building additions. These costs are required to ensure the reverse osmosis equipment is properly heated and safeguarded.

Year 4

Year four has The Maple Syrup Company again doubling in operation. We will go from 10,000 taps to 20,000 taps. This requires the same amount of expenditures as were incurred in year three plus the costs for an additional 5,000 taps. It was also recommended that a finishing unit be put in place in order to increase efficiency at this level.

The quotation for capital expenditures for year 4 as outlined in **Appendix # 4** totals \$62,691 (\$53,676 + \$9,015). To be objective, however, we increased this to \$65,000. Once again, this amount is reduced to \$58,500 after ITC has been recognized.

Year 5

We intend to remain at the 20,000 tap level throughout year five. Therefore, no capital expenditure for equipment is expected for year five.

Please note, we have not taken into consideration the GST amounts. The The Maple Syrup Company will immediately become a registrant as required by the Goods and Services Tax Act. The partnership will apply for and will request to receive a refund of the entire GST balances every month, thus we felt it would be more appropriate to exclude these amounts from our plan.

The total capital expenditures of The Maple Syrup Company, other than capitalized labour, over its initial five (5) years total \$170,100. The partners intend to invest \$20,000 by way of cash injections and provide a woodlot valued at \$75,000, for a total of \$95,000. At various intervals, they wish to borrow from Farm Credit Corporation the balance required to finance this project. A review of the balance sheet will reveal that at the end of year five, the outstanding debt owing to Farm Credit will be \$141,865.

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