The Economics of Maple Syrup Production In Ontario

PLANNING FOR SUCCESS

Final Report
2013

AAC
agricultural adaptation council

Agriculture and Agri-Food Canada
Agriculture et Agroalimentaire Canada

groupe hemlock group inc.

Ontario Maple Syrup Producers' Association
OMSPA

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The AAC is a not-for-profit organization that is made up of 67 Ontario agricultural, agri-food and rural organizations, and our understanding of the needs of agricultural sector helps us make funding decisions. AAC works with applicants and assists them through all aspects of the funding application process, and supports them until their project is complete.

The AAC has a strong track record of success. Since 1995, they have been committed to outstanding customer service and program delivery that is efficient, flexible, cost effective and accountable with a primary focus on the Ontario agriculture, agri-food and agri-based products industry. The projects which are supported financially assist the industry in general to innovate, advance and improve profitability within a changing and diverse economy. To learn more about how the AAC has played a key role in supporting the government's commitment to economic growth in agribusiness visit http://www.adaptcouncil.org/about-us.php

Agriculture and Agri-Food Canada Agriculture et Agroalimentaire Canada

Ontario Maple Syrup Producers' Association:

The Ontario Maple Syrup Producers' Association (OMSPA) was formed in 1966. At the inaugural meeting on October 6, 1966, then Chair Dick Goodin remarked, "The primary purpose is to discuss a proposal for an organization of the Maple Syrup industry in Ontario. Many of you have already expressed opinions in favour of a Provincial organization, for you feel there is a need to bring together those who are now engaged in this industry and also others who benefit by projects and policies and an objective towards expansion and progress."

It can be argued that the same sentiments and objectives apply today. Specifically, the industry has stated in their Constitution that the objective is to:

Encourage the development, expansion and improvement of the maple syrup industry in Ontario by:

a) Promoting the production of high quality products;
b) Developing a greater interest in hygienic, scientific and labour saving methods of production;
c) Promoting sound woodlot management;
d) Promoting improved marketing methods leading to increased revenue for the producers;
e) Encouraging research and development projects related to production and marketing of maple syrup products;
f) Educating producers and the general public about the standards and uses of high quality maple syrup products;
g) Promoting and sharing of information about the maple syrup industry between members of the Association and education of members about the maple syrup industry.

OMSPA presently has close to 500 members in good standing and is working towards an expansion of membership.

OMSPA has worked hard to ensure that the above goals and objectives are being met. An overarching goal in the 2013-2018 Strategic Plan is to grow the industry in the near and distant future. This report should help existing and would be producers to achieve that.
http://www.ontariomaple.com/

About the authors

Groupe Hemlock Group Inc. provides a range of services, such as strategic planning, industry analysis, and surveys to agricultural organizations. Hemlock Group also offers farm business management consulting services to farmers, primarily under the Growing Your Farm Profits Farm Financial Assessment program. A large part of the on-farm consulting involves assessing financial performance, capital investment planning, cash flow and cost of production analysis.
http://www.groupehemlockgroup.com/

EXECUTIVE SUMMARY

Maple syrup production is a passion and truly a “labour of love”. The first warming days of spring stirs the desire in maple producers to head for the bush in anticipation of the first “run” of sap. For many Ontario maple producers this passion has given rise to sizable business ventures. Pure maple is a hot commodity, or rather a non-“commodity”, as growing interest in local food, natural products, food experiences, and the nutritional attributes of pure maple, have differentiated it from the other syrups.

There is ample room to grow the market in Ontario. Currently, less than one-half of one percent of Ontario consumers’ sweetener demand is filled by pure maple products. Growing maple consumption to a level comparable to our neighbours in Quebec would triple the demand!

OMSPA commissioned this report and the accompanying budgeting tool to assist maple entrepreneurs in building a solid BUSINESS PLAN to tap into this incredible business opportunity. The accompanying Excel budgeting tool facilitates the exploration of various scenarios of yield, scale, and capital investment to measure the impact on the bottom line profitability.

While the demand is there, success is by no means guaranteed. Careful planning both on the financial and technical aspects of maple production is required before attempting a major expansion or launching a new venture. Industry data shows potential net returns to operator management and labour in the range of 13 to 30% for commercial sized operations with 1,500 or more taps. In particular, attention to maximizing sap yield, producing high quality syrup, astute marketing, and capturing added value can have a profound impact on net returns. Attention to detail can mean the difference between profit and simply breaking even at any scale.

OMSPA invites all those with a passion for maple and sound business planning to use this budgeting tool to explore various scenarios as they fine-tune their maple business plan.

INTRODUCTION

This guide has been developed for aspiring maple producers who wish to pursue their maple dream in a realistic, structured and financially sound manner.

The purpose of this report is to present a planning guide and budgeting tool that provides new entrants to the maple business, or those wishing to expand current operations, with a solid basis for making realistic, structured and financially sound decisions.

This document provides a basic, simple framework to begin preparing the 3 documents needed for presentation to a lender to obtain financing for a maple operation: the balance sheet, income statement, and cash flow projection. Even if you do not require financing for your maple enterprise it is still essential to know your costs to enable you to price your product for a profit. Proper planning of the entry level maple enterprise will serve the producer well should they decide to move up to a more commercial scale operation in the future. Sound business planning and production management for high yield and quality are applicable at all scales.

This planning guide contains two planning tools; a concise budget worksheet for the "hobby" sugar maker with up to 150 taps, and a more comprehensive set of planning templates geared to the start-up or expanding commercial producer.

Before jumping into the maple business on any scale it is highly recommended to gather information and seek advice from a variety of sources to position oneself for success. This research can be both highly educational and entertaining. Visit other maple operations and talk with producers. Tapping into the accumulated knowledge and wisdom of seasoned producers, as well as more recent start up experiences of newer producers, will provide a balanced perspective on the realities and rewards of becoming a maple syrup maker.

The Ontario Maple Syrup Producers' Association welcomes all with a passion for pure maple. Whether you are a newcomer exploring your maple dream, or an established producer contemplating expansion or simply looking for new ideas, the OMSPA is a great resource for networking and learning. OMSPA annual conference and summer tour permits both new and established producers to see the latest in maple research, production technology, marketing trends, and swap ideas.

Experts within provincial and U.S. state agriculture departments have produced a variety of technical and financial tools and resources that are mostly available on-line. The appendix of this document lists a number of sites of interest to maple producers.

Maple research centres in Canada and the United States disseminate their findings for the benefit of producers. The main Canadian maple research centre is known as Centre ACER. Proctor Maple Research Center affiliated with the University of Vermont, as well as Cornell University, provide ongoing research updates to the maple community. The addresses of these and other resources are included in the appendix.

Remember you don't need to be a big producer to benefit from the latest, up to date information!

Finally, suppliers of maple equipment can be a reliable and up-to-date source of information and their input and guidance is valuable as they see a range of maple operations, from the smallest to the largest across a wide geographic area. Numerous supplier references are included in the appendix.

IT ALL BEGINS WITH HEALTHY TREES

Sustainable maple production requires a healthy maple bush. There are many examples of maple bushes that have been lovingly maintained by successive generations of sugar makers. If you are lucky enough to have one of these rare forests you will want to take all the necessary steps to protect it for the enjoyment and profit of future generations. If you are looking to invest in a bush you will need to accurately assess the health of the trees and the potential for syrup production. While the details of woodlot management are beyond the scope of this document we do wish to impress on the reader the importance of sound woodlot management practices to both protect and enhance the maple stand.

The advice of a professional forester familiar with maple syrup production is a sound investment for the beginning syrup producer. Woodlot management has both short and very long term implications. The effects of beneficial and poor woodlot practices can impact the bush for years to come. Improper thinning, poor tapping techniques, and grazing by livestock are just a few of the factors that can negatively impact a maple stand. Again, a prudent approach is both to seek qualified professional advice and educate oneself by referring to the wealth of resources available in print or on-line. A sample of the information available is listed in the reference section of this document. The Ontario Woodlot Association is one good source of information and maintains a list of forestry consultants. http://www.ont-woodlot-assoc.org/

Protect your trees – protect your investment – increase your syrup yields. The publication, ***"A Guide to Improving and Maintaining Sugar Bush Health and Productivity"*** is available from the OMSPA bookstore, or your local maple dealer.

The following table from OMSPA Best Practices Manual presents guidelines for tapping based on tree size. It may be tempting to increase the total number of taps, by tapping small trees or an additional tap per tree. However, the benefits of protecting the long-term health of the stand outweigh the short-term gain of additional taps.

Traditional Tapping Guideline

GUIDELINES FOR NUMBER OF TAPS PER TREE (INCHES)				
Diameter in inches		Circumference in inches		Number of taps
From	*To*	*From*	*To*	
10	15	31	47	1
15	20	47	63	2
20	and more	63	and more	3

GUIDELINES FOR NUMBER OF TAPS PER TREE (CENTIMETERS)				
Diameter in centimeters		Circumference in centimeters		Number of taps
From	*To*	*From*	*To*	
25	38	79	119	1
38	50	119	160	2
50	and more	160	and more	3

***Never more than 3**

More Conservative Tapping Guideline

GUIDELINES FOR NUMBER OF TAPS PER TREE (INCHES)				
Diameter in inches		Circumference in inches		Number of taps
From	*To*	*From*	*To*	
12	18	31	47	1
18	and more	79	and more	2

GUIDELINES FOR NUMBER OF TAPS PER TREE (CENTIMETERS)				
Diameter in centimeters		Circumference in centimeters		Number of taps
From	*To*	*From*	*To*	
50	64	160	198	1
18	and more	198	and more	2

***Never more than 2**

Source: OMSPA Best Practices Manual, Chapter 1: Forestry Best Practices

INDUSTRY AND MARKET ANALYSIS

1. Current market conditions

The outlook for maple is favourable. While the consumption of sugars overall is generally deemed to be excessive across North America, there is a growing interest in the beneficial attributes of maple as a natural sweetener with functional food properties. The progressively expanding local, organic, and natural food markets are all positive for increased consumption of Ontario maple products.

A growing body of research is demonstrating the health benefits of pure maple products. Maple is increasingly recognized as a source of antioxidants, vitamins and minerals, as well as a healthier source of sugar than refined cane and corn based sugars. The International Maple Syrup Institute has compiled an impressive listing of scientific articles investigating the nutritional attributes of pure maple. http://www.internationalmaplesyrupinstitute.com

The bulk price received for commodity maple syrup, driven mainly by the largest producer, Quebec, varies year to year with changing levels of production dictated largely by spring weather conditions. However, Ontario is partially isolated from the effects of the maple commodity market, as 85% of the syrup produced in the province is bottled in small containers and sold direct to retail, often from the farm gate. Smaller scale producers with loyal customer bases can often maintain retail pricing even as the wholesale market softens. OMSPA's annual survey data confirms an increasing or steady retail price trend over the last five years.

New products, such as bottled maple sap are appearing on the market, creating potential new markets for sugar bush owners. Whether or not, these new maple products will "take off" in the marketplace remains to be seen. The marketing of value added maple products and sugar bush experiences to the public are other ways that creative maple producers are growing their revenues.

The following tables illustrate the yield per tap and the retail syrup price by region as reported by OMSPA member in the annual surveys.

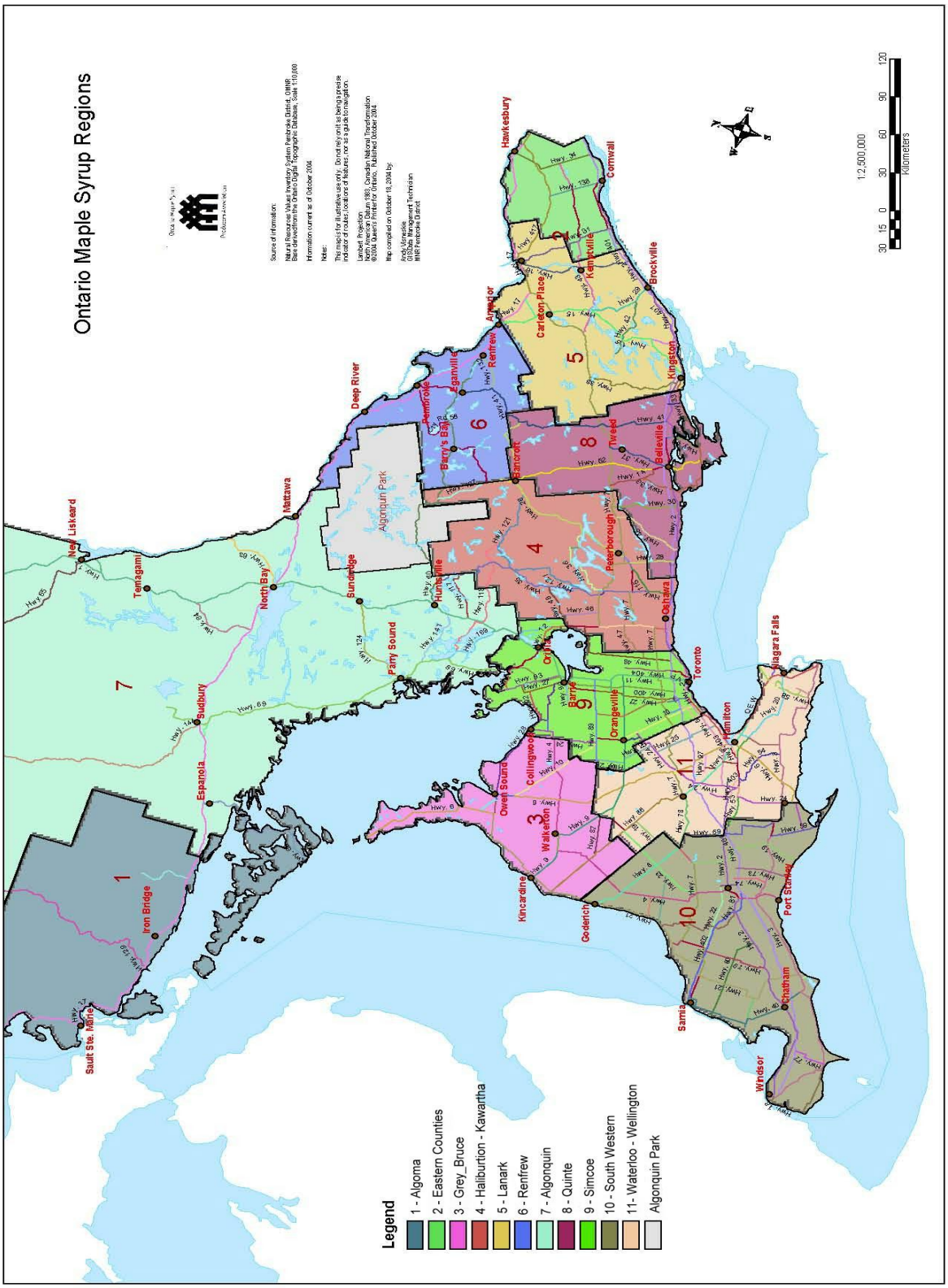
HISTORICAL PRODUCTION PER LOCAL (litres of syrup per Tap)

OMSPA Local	Average	Maximum	Minimum	2008	2009	2010	2011	2012	2013
Algoma	0.94	1.27	0.49		1.27	0.83	0.84	0.49	1.26
Algonquin	0.81	1.00	0.42	0.83	0.99	0.71	0.92	0.42	1.00
Eastern Counties	0.65	1.00	0.28	0.54	1.00	0.72	0.75	0.28	0.61
Grey-Bruce	1.09	1.68	0.50	0.59	1.68	0.86	1.32	0.50	1.61
Haliburton-Kawartha	0.76	1.02	0.45		0.93	0.55	1.02	0.45	0.87
Lanark & District	0.77	0.93	0.44	0.69	0.87	0.73	0.93	0.44	0.93
Ottawa Valley	0.62	0.85	0.46	0.46	0.85	0.46	0.79	0.47	0.68
Quinte	0.77	1.19	0.39	0.39	0.79	0.62	1.01	0.60	1.19
Simcoe	0.92	1.35	0.60	0.64	1.35	0.76	1.02	0.60	1.13
Southwestern	0.97	1.29	0.76	0.99	1.06	0.79	0.92	0.76	1.29
Waterloo-Wellington	1.36	2.19	0.69	0.97	2.19	1.03	1.56	0.69	1.74
PROVINCIAL AVERAGE	**0.87**	**1.18**	**0.52**	**0.68**	**1.18**	**0.73**	**1.01**	**0.52**	**1.12**

HISTORICAL AVERAGE RETAIL PRICE PER LOCAL ($ per litres)

OMSPA Local	Average	Maximum	Minimum	2007	2008	2009	2010	2011	2012
Algoma	21.44	22.50	20.63		21.00	20.63	21.00	22.08	22.50
Algonquin	19.28	20.75	17.94	17.94	18.29	18.75	19.25	20.75	20.71
Eastern Counties	20.15	20.83	19.00	19.00	20.83	19.74	20.83	19.90	20.60
Grey-Bruce	18.36	19.50	17.40	17.40	17.63	18.75	18.25	19.50	18.60
Haliburton-Kawartha	20.82	21.92	19.44		20.42	19.44	21.00	21.30	21.92
Lanark & District	19.06	20.50	16.90	16.90	18.84	18.70	19.08	20.34	20.50
Ottawa Valley	20.17	21.95	18.48	18.48	19.98	20.49	20.79	19.32	21.95
Quinte	19.03	20.71	17.00	18.00	17.00	18.79	19.67	20.00	20.71
Simcoe	21.80	24.00	17.50	17.50	22.83	21.50	24.00	21.80	23.17
Southwestern	17.61	19.00	16.88	17.20	16.88	16.89	18.00	17.67	19.00
Waterloo-Wellington	16.07	17.13	14.90	16.28	15.46	16.17	14.90	16.46	17.13
PROVINCIAL AVERAGE	**19.33**	**20.62**	**17.63**	**17.63**	**19.01**	**19.08**	**19.71**	**19.92**	**20.62**

Ontario Maple Syrup Regions



2. Status of the industry in Ontario and North America

A recent study conducted by EcoRessources for the Ontario Maple Syrup Producers' Associations highlights the industry's contribution to the Ontario agri-food economy, as well as the vast potential for further development. Currently, Ontario has approximately 2,750 active maple producers with a total production of 3.9 million litres of syrup (2011). The study concluded that improved access to Ontario's Crown lands, at a modest 2% level, would double the volume of syrup production in the province. Currently, only 0.04% of Crown lands are tapped for maple production. There is also significant opportunity for expansion on privately owned land as well.

Maple associations in northern states are working hard to increase the production and market opportunities for pure maple. While theoretically this could result in increased competition, the potential for market development given the low per capita consumption should easily offset any threats to Ontario maple producers.

Ironically, the current situation with production controls in Quebec is helping to increase syrup prices in all markets. However this situation may not be permanent.

3. Changes affecting the future of the Maple industry

The 2013 study prepared by EcoRessources Consultants for OMSPA identified several changes with the potential to affect the Ontario maple industry – climate change; dietary trends; and energy costs.

Potential impacts of a warming and more erratic weather pattern could include: earlier sap flows, negative impacts of winter thaws on maple trees, excessive summer heat, canopy damage due to extreme weather events, changes in insect species, population intensity, and distribution, to name a few.

Changes in dietary trends could bring positive developments for maple. Eating pure, natural, and local are positive trends, as well as recent studies demonstrating the nutritional benefits of pure maple. The "nutritional drink" trend of the near future could also include maple sap.

Rising energy prices impact maple production. However, steady improvements in RO technology as well as evaporator efficiency have helped to offset rising fuel costs. Evaporators fuelled by renewables, wood and pellets can equal the performance of oil and gas fired units.

4. An overview of production economics

The following table presents a summary of expense data from a sample of 52 Ontario farms reporting maple syrup as their source of income. The data has been grouped into 5 sub-samples representing different scales of production based on the number of taps reported.

The list of expenses includes those that are generally unavoidable for a typical maple operation. There may be other expenses, specific to certain operations that are not listed in the table below. For example, wages paid to family members are not included. Only wages paid to non-family members are found in the table.

The reader should also consider that the expense data was taken from income tax files and as such likely represents the upper bound for the expense. It is reasonable to assume that a modern efficient operation could exceed the cost control indicated in this table.

Typical Expenses per $100 of Revenue (Derived from OMAF statistics, 2008-2012)

AVERAGE EXPENSES FOR VARIOUS SIZE OPERATIONS (OMAFRA Data)							
Number of farms	15	16	6	12	3	52	37
Average Taps	235	937	1985	3767	16737		
Tap Range	**0-500**	**500 - 1500**	**1500-2500**	**2500 - 10,000**	**10000 and +**	**AVG ALL categories**	**AVG WITHOUT 0-500**
INCOME	**$100.00**	**$100.00**	**$100.00**	**$100.00**	**$100.00**	**$100.00**	**$100.00**
EXPENSES							
Direct Expenses (Variable costs)							
Advertising, marketing costs	$1.25	$2.42	$3.85	$3.77	$0.68	$2.39	$2.68
Building and fence repairs	$10.97	$8.51	$5.76	$4.07	$3.32	$6.53	$5.42
Containers and twine	$4.08	$9.83	$1.78	$11.33	$19.17	$9.24	$10.53
Electricity	$4.59	$6.90	$6.49	$2.79	$3.10	$4.78	$4.82
Freight and Trucking	$0.79	$0.38	$1.28	$2.79	$0.74	$1.20	$1.30
Heating Fuel	$0.61	$1.01	$2.42	$1.14	$2.79	$1.59	$1.84
Licenses/permits	$0.00	$0.10	$0.13	$2.29	$0.41	$0.58	$0.73
Machinery (gasoline, diesel fuel and oil)	$28.65	$11.12	$15.21	$6.22	$7.22	$13.68	$9.94
Machinery (repairs, licenses, insurance)	$41.47	$10.37	$7.56	$9.53	$7.47	$15.28	$8.73
Salaries (other than spouse or dependants)	$1.98	$12.91	$3.91	$7.39	$9.14	$7.06	$8.34
Land clearing and Draining	$0.00	$0.40	$0.48	$1.51	$1.56	$0.79	$0.99
Small tools	$9.20	$5.04	$10.33	$3.51	$1.04	$5.83	$4.98
Commissions and Levies	$0.78	$0.26	$0.07	$0.00	$0.07	$0.24	$0.10
Total Direct Expenses (Variable costs)	**$104.37**	**$69.26**	**$59.27**	**$56.32**	**$56.71**	**$69.19**	**$60.39**
In-Direct Expenses (Fixed costs)							
Interest (real estate, mortgage, other)	$23.87	$8.31	$7.60	$6.36	$1.71	$9.57	$5.99
Legal and accounting fees	$7.12	$3.18	$2.26	$1.67	$0.95	$3.04	$2.02
Memberships/subscription fees	$4.41	$2.70	$1.72	$1.73	$0.50	$2.21	$1.66
Office Expenses	$1.80	$2.37	$3.10	$1.89	$1.28	$2.09	$2.16
Other Insurance premiums	$13.00	$7.60	$7.89	$3.04	$2.37	$6.78	$5.22
Property taxes	$5.34	$4.64	$3.00	$1.64	$1.36	$3.20	$2.66
Telephone	$2.52	$3.08	$2.21	$1.09	$0.76	$1.93	$1.79
Total In-Direct Expenses (Fixed costs)	**$58.07**	**$31.88**	**$27.78**	**$17.41**	**$8.94**	**$28.82**	**$21.50**
TOTAL EXPENSES	**$162.44**	**$101.14**	**$87.04**	**$73.73**	**$65.65**	**$98.00**	**$81.89**
PROFIT (LOSS)	**-$62.44**	**-$1.14**	**$12.96**	**$26.27**	**$34.35**	**$2.00**	**$18.11**

Note: Individual operation may incurr expenses other than those included above.

MARKETING

1. **Market trends and opportunities for Ontario**

There is ample room for market expansion in Ontario. Maple supplies a fraction (less than 1%) of all the sugars consumed by Canadians. Per capita consumption of maple syrup in Ontario is only 230ml, compared to 620 ml in Quebec. This modest consumption is a double-edged sword in a marketing sense. The typical consumer does not have a well-developed 'maple palate', and may not be seeking out maple products on a regular basis. Many consumers actually grew up on "table syrup" and do not fully appreciate authentic maple flavour, hence education would need to be part of the marketing effort.

PER CAPITA MAPLE SYRUP CONSUMPTION

Region	ml
Québec	620
Ontario	**230**
Canada	222
USA	77
Japan	39
Annual per capita Canadian refined sugar consumption is 32.7 kg (Equivalent to 50 litres of Syrup)	50,000

Percentage of sweetener supplied by maple (current production level)	0.4%

OMSPA is actively working toward a promotion and marketing plan to make Ontario maple syrup the sweetener of choice for consumers, and to increase the level of support of the Ontario maple syrup industry by government and other agencies. The goal is to achieve the following results:

- Increased use of maple sugar over other sweeteners, with supporting nutritional and health benefit information
- Heightened brand awareness in the food industry market for Ontario maple syrup
- Higher demand for Ontario maple syrup with coordinated production response
- Maximize the value of maple syrup at point of sale / farm gate
- An effective promotion action plan developed, implemented, and monitored
- Store that works to promote the industry
- Dedicated Ontario infrastructure in place to effectively move Ontario product from producer to market
- Ontario product is capturing an increased percentage of the large retail market shelf space

OMSPA is working on behalf of Ontario maple syrup producer-members to increase consumer awareness of the flavour and nutritional attributes of pure maple products thereby increasing consumption and demand. In turn, this will create expansion and new entrant opportunities for maple producers.

2. Description of the target markets in Ontario

The maple syrup market in Ontario is largely a "retail" market. The majority of Ontario maple syrup and maple products are sold directly to consumers by the producer. In contrast, Quebec with its substantially larger production is mainly a "bulk" market, where maple producers sell their syrup to specialized processing firms, including the large producer owned coop.

Overall, the strength of the retail market in Ontario is good news for producers. Producers are able to capture the full retail value of maple products as opposed to settling for a lower wholesale bulk price. Producers still need to develop their sales skills to successfully deal directly with retail customers to realize full market potential. Often, in family run operations, the retail part of the operation becomes the domain of the family member with the attitude and skills for dealing with clients. Marketing for maximum revenue takes planning and effort.

There are additional opportunities to market retail ready maple products directly to individual retail outlets such as speciality food stores, other outlets, restaurants, and in some cases local branches of small or larger food chains. Beyond this lies the market to wholesalers, who either purchases shelf ready products to distribute through their established channels, or who may purchase bulk syrup for further conditioning, blending and packaging. At each step removed from the final retail consumer, the maple producer foregoes some revenue as a trade-off for selling in larger quantities with reduced packaging costs and fewer transactions and accompanying relationships to maintain.

3. Strategy on how the product will reach customers

If you are a small scale producer, friends and relatives, word of mouth, or a sign at the end of the laneway may be all that is required to sell the year's production.

As you increase production some local advertising and off-farm retailing may be needed to move the crop. Attending a local farmers' market or teaming up with a local retail outlet might be the next step up in the marketing chain. Further market expansion could involve adding value and diversity to your mix by making candies, sugar, or taffy.

For producers with the facilities, time and a knack for dealing directly with the public on a larger scale, branching out into sugar parties and seasonal maple based experiences for the public can offer good profit potential. A word of caution here however; launching such a venture is like starting another business and requires a different level of planning and management. There are liability issues to be addressed prior to opening up your property to the general public.

FACTORS AFFECTING YIELD, PERFORMANCE, QUALITY AND PROFIT

There are numerous factors that can influence the total yield of sap per tap. Sugar bush location as well as tree size and health dictate the upper limits of production potential. The OMSPA annual production survey shows there is a variation in yield from region to region across Ontario. Generally speaking trees growing in fertile soils have the greatest yield potential, although in any given year production can fluctuate widely due to varying springtime weather conditions across the province.

Maple bush operators can, never-the-less, manage a wide range of variables to maximize yield. Maple specialists enumerate a number of critically important aspects that maple bush operators need to manage[1]:

- *On-going sugar bush woodlot management*: employing best silviculture practices to promote tree longevity, crown development, optimum tap density
- *Tapping*: tapping early to capture as many runs as possible; proper tapping technique to enable sealing the hole for high vacuum; using new or clean spouts to ensure hygienic conditions which prolong sap production
- *Collection system design and installation*: choose equipment and install properly to maintain high vacuum, such as wet-dry line systems, and tubing and accessories designed for high vacuum.
- *Ongoing maintenance:* maintaining high vacuum levels, finding and repairing leaks quickly limiting production losses, ensure the vacuum pump operates each time there is the potential for sap flow
- *Reverse Osmosis:* choose an appropriate system with potential to save up to 50 % of fuel costs and time for boiling, while maintaining syrup quality and flavour.
- *Evaporation:* choose the energy efficiency options that are cost effective for your situation; control the boiling process to maintain best flavour
- *Marketing:* by the time the finished production reaches the retail container, virtually all costs have been incurred. Market options that permit you to further exceed your total cost of production go straight to the bottom line.

Taken together, the combined effect of improving all the “manageable” factors is huge. For any given bush, doing all things “right”, to the best of the current limits of technology and research knowledge, can literally double the yield versus “mediocre” management. While part of the increased yield is often dependent on equipment upgrades that must be budgeted to ensure payback, there is still ample room for yield, quality, and marketing improvements through increased attention to detail and constantly improving one’s knowledge of industry research and best practices.

Continually upgrading your maple knowledge is both fun and profitable!

[1] OMSPA Summer Conference 2013, “Economic Aspects of Maple Syrup Production” Jean-Francois Goulet

SOURCES OF INFORMATION

Several sources of information have been used to prepare this budgeting tool. Start-up producers without historical data for their own bush can refer to the default values in the budget worksheets. Established producers will input their actual results and can then benchmark against the survey data.

OMSPA conducts an annual survey of members in 11 regions within the province of Ontario. Members provide their production and sales results. A strength of the OMSPA survey is the segmentation by region to reflect the variation in yield and price across the province. It is generally acknowledged that the more engaged producers faithfully submit their results to the survey, reflecting the results of the more knowledgeable and progressive pool of producers.

OMAF & MRA collects revenue and expenses for maple operations as well, and this data can help new producers budget their expenses. The data compiled in the OMFRA file is based on tax returns and government revenue insurance programs. Only those farms reporting maple sales as their principle source of revenue are included in the statistics to avoid the bias that could occur from multiple enterprises on the same farm.

The maple expense data collected by OMAF & MRA was reviewed by the expert steering committee. The expense categories were adjusted to reflect those expenses common to all maple operations. Several expense categories were removed from the data set. The rationale for removing these expense lines was due to the wide variation in accounting practices that may be driven primarily by income tax considerations. For example, Capital Cost Allowance (CCA), which is a charge for depreciation for income tax purposes, was removed. The use of CCA in any given year for income tax purposes is optional. Furthermore, CCA is not charged out at the same level year over year, but rather on a declining balance method resulting in higher expense in the initial years of an asset's life versus the final years. A better method for budgeting purposes is to amortize the cost of the asset, i.e. a new evaporator, uniformly over its useful life, i.e. 15-20 years. Wages paid to family members were also not considered.

HOW TO USE THIS GUIDE

This guide serves as a check list and provides a step-wise process to calculate costs and returns for a maple syrup operation. Investing time gathering information, talking to knowledgeable resource people, and carefully planning and calculating projected income and expenses in a simple plan will minimize unexpected surprises as you launch your new maple venture or expand an existing operation.

This guide will walk you through the considerations and calculations related to the manpower requirements, capital investment, and operating revenues and expenses for a maple operation. One section is devoted to the small scale "hobby" style producer with up to 150 taps and provides a basic budget to get started on the right foot. Another section is designed for commercial producers focused on profitable production.

Whether your intention is to remain as a hobbyist, or expand to commercial production in the future, executing a solid plan will give you satisfaction and confidence to move forward.

PLANNING FOR A HOBBY SCALE

1 TO 150 TAPS

1. Introduction

Maple syrup production has become a fascinating hobby for many. It is often the first outdoor activity of spring, is a great family activity, and results is a fabulous foodstuff for the enjoyment of the extended family, sharing with friends and neighbours, or selling for a modest income stream. It's a great way to introduce children to nature's bounty, sustainable production, enjoyable work, and small business principles.

The following decision tree and budget worksheet will assist you in deciding if small scale maple syrup production is right for you and your family. How detailed you become in your planning process is a matter of choice and how important it is to recover all the costs incurred to get started.

The scale of 150 taps was chosen as it is a size where the workload can be handled comfortably by one person, a couple, or a family with a modest investment in equipment and supplies. Gathering sap from 150 taps is a healthy exercise, as well as a good way to socialize with the curious "volunteers" who inevitably drop by for a visit and a free sample.

One way to view the small scale maple operation is as a hobby that can actually break-even. The start-up cost is comparable to owning a motor boat, motorcycle, or having a golf membership and can be a good physical warm up for other summer activities.

Before making even modest investments in the small scale equipment required for a hobby scale enterprise you need to reflect on the time available to dedicate to syrup making. Maple production is entirely weather dependent. While there is some flexibility with boiling the sap, gathering and processing needs to be done in a timely manner to ensure a good quality product. For 150 taps you should budget about 2 hours to collect the sap and calculate boiling time at approximately 2 gallons / hour /square foot of evaporation capacity. For example if you gather 1 gallon of sap from each of the 150 taps for a total of 150 gallons and boil the sap with a 1.5 x 5 evaporator (7.5 sq. ft. of surface), the evaporation time required is 150 gal / (7.5 x 2) = 10 hours of boiling. Your 150 tap operation has just filled a 10 hour day and you will have produced about 2.5 gallons (11.5 L) with a retail value of $225, while having a lot of fun. Be realistic to ensure you have enough time to devote to your hobby.

Like any hobby, you can choose to invest more or less, depending on your resources and your passion level. (You probably know an infrequent golfer with an expensive set of pro clubs.) Increasing the size of the hobby evaporator will reduce the time spent boiling sap. There are even hobby producers with a mini-sized reverse osmosis machine to concentrate the sap to further reduce boiling time. Starting with a modest investment and adding as you go, once you have confirmed to yourself that sugar making is for you is a sound strategy. There is always the possibility to buy some used equipment to reduce the overall start-up costs. If you opt for a pipeline collection system to remove the labour of gathering sap it is wise to seek some professional installation advice to set up the system for maximum performance.

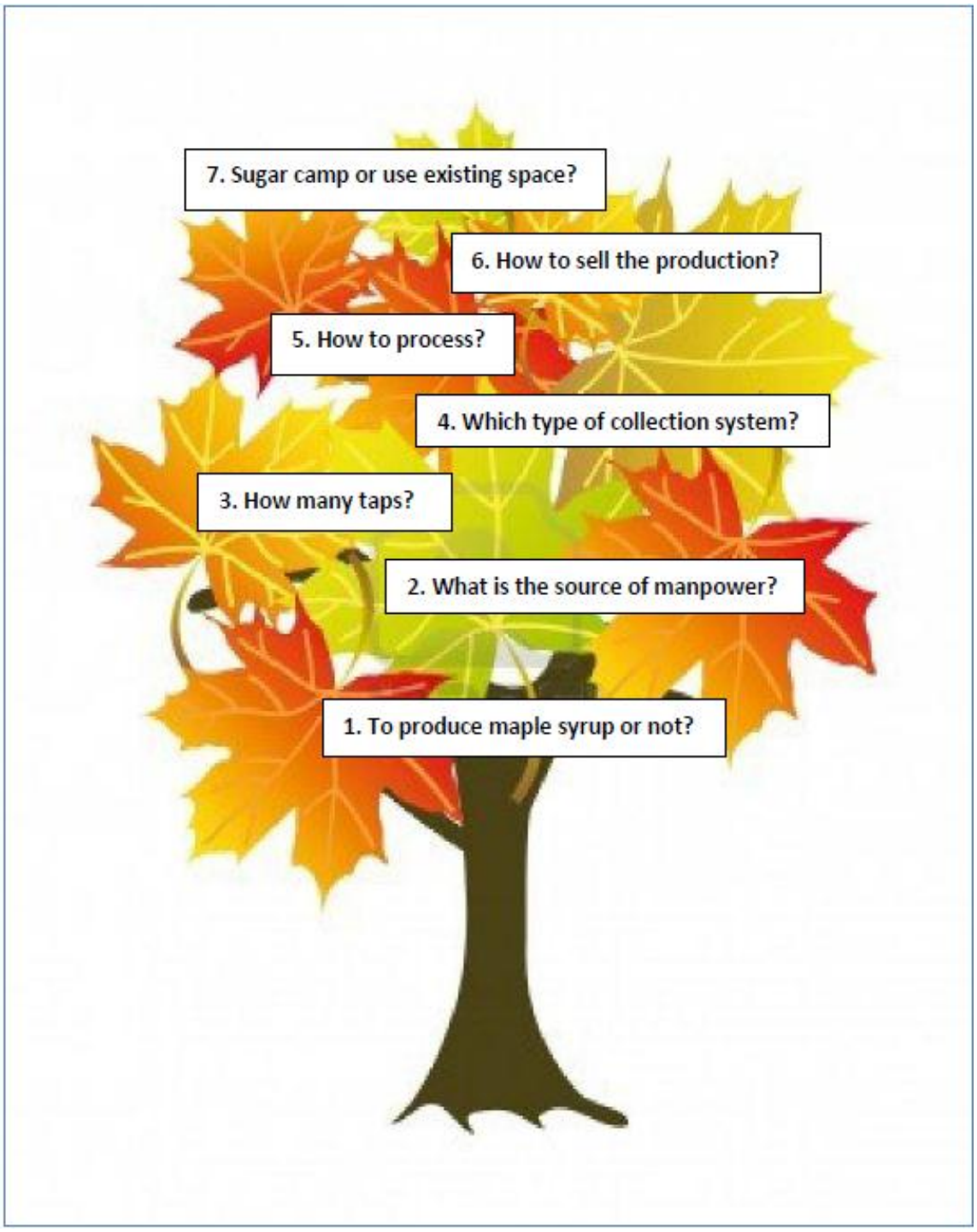
Run through the decision tree and checklist. Then use the planning template in Appendix A to budget out your hobby maple operation.

A capital investment budget based on 2013 retail prices taken from equipment supplier catalogues will enable you to get a quick estimate of the start-up costs for your hobby maple syrup production. Generally, you can expect to invest between $4,000 and $6,000 in a reasonably well equipped hobby style operation. Of course you can do it for less by improvising, but the time required to process the sap may increase and syrup quality suffer.

When choosing equipment for your hobby operation, select food grade plastic containers and stainless steel boiling equipment. Older equipment may be lead-soldered which presents a risk for lead contamination in your finished maple syrup. Likewise galvanized buckets should be avoided.

OMSPA welcomes members with all scales of operations. Consider joining OMSPA to network and learn more about maple production. The summer tour is a great opportunity to expand your network and your knowledge. Consult the OMSPA website at http://www.ontariomaple.com/ to stay informed of maple information days, seminars, tours, and the annual convention. The annual convention and Summer Tour moves around the province and is an excellent opportunity to get up to speed on the latest news in the Ontario maple business, meet old and new friends and get to see a good cross section of other maple syrup operations in that part of the province. The Summer Tour is normally scheduled for July.

2. Decision Tree for a Hobby Operation



3. Check List (Hobby Scale)

1. Is maple syrup production right for me (us)?

- ❑Scale of operation 1 to 150 taps
- ❑Strictly hobby or for profit or at least break even

2. Manpower

- ❑ How many family hours are available? When? Can I gather and boil when required?
- ❑ Will there be volunteers – friends, neighbours, etc.?
- ❑ Is there a cost for manpower or is it a family project?

Cost = person hours x $/hour

3. Number of taps

- ❑ Quantity of trees; Area of the bush; # of tap-able trees
- ❑ Tree size / number of taps per tree (1 or 2)

4. Collection system

- ❑ Bucket option (high manpower)
  - ❑ Buckets
  - ❑ Covers
  - ❑ Spouts
- ❑ Gathering equipment – hand, ATV, Tractor, etc.
- ❑ Tubing system option – higher cost: reduced labour; increased sap yield potential

Investment cost = equipment choices x unit price

6. Processing

6.1 Evaporation:

- ❑ Evaporator size – how many hours do you have to boil sap?
- ❑ Sap storage size – bulk sap storage tank(s)

6.2 Fuel choice

- ❑ Propane
- ❑ Wood
- ❑ Pellets
- ❑ Oil

6.3 Filtering system

- ❑ Traditional – cones; filters; settling container
- ❑ Syrup press – manual small scale model

7. Marketing

- ❑ Container's sizing; materials – glass, plastic
- ❑ Price of container
- ❑ Packaging for delivery or shipment
- ❑ Storage – freezer, refrigerator
- ❑ Retail sales – Farm gate; farmers' markets, etc.

8. Sugar camp / space to boil

8.1 Location considerations:

- ❑ Small shack or shed - example: (8X10)
- ❑ Use existing building; boil outside
- ❑ Permit, preparation and construction costs if building required

4. Hobby scale budget

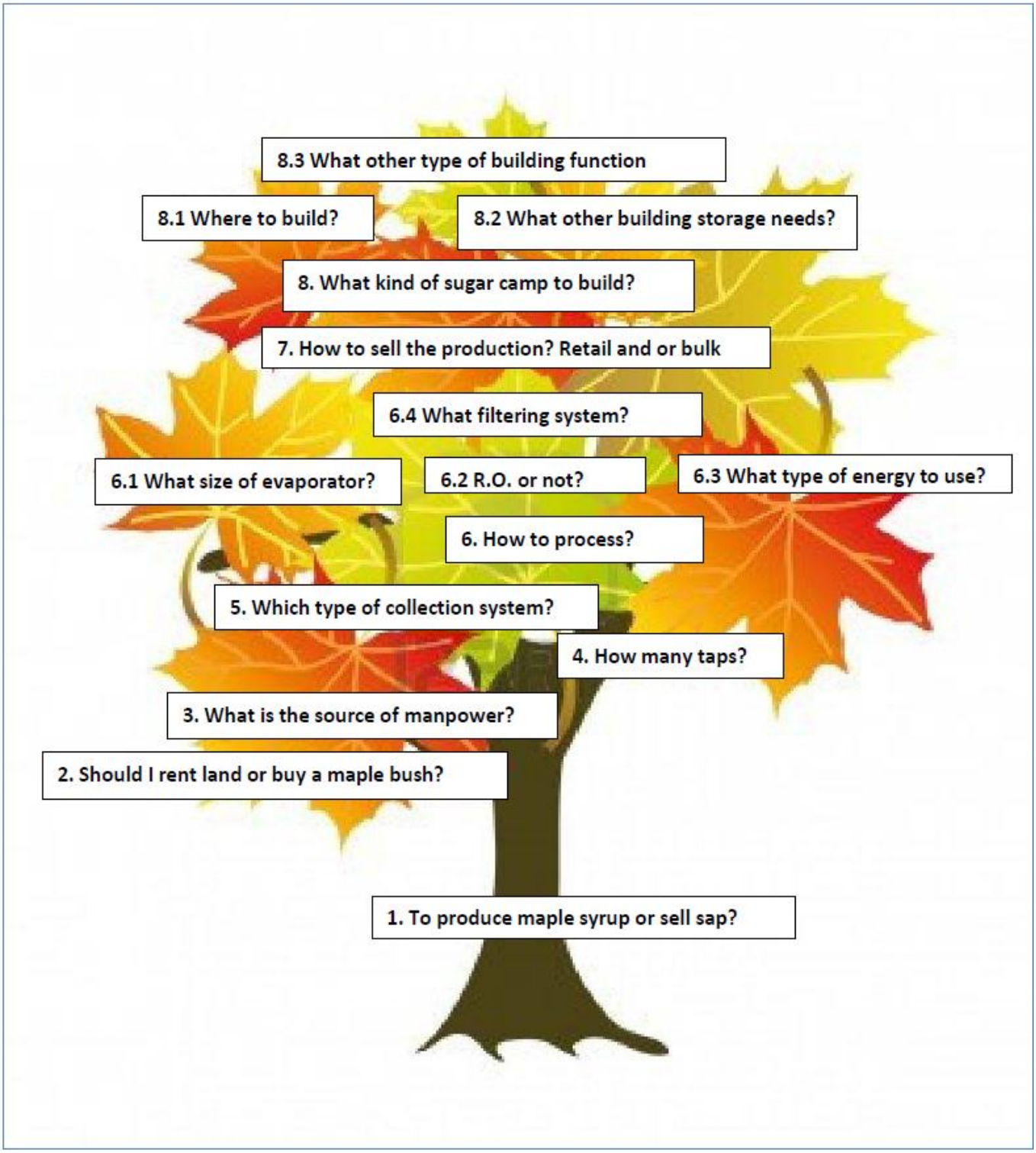
You can use the Excel worksheet to prepare a detailed budget for your hobby maple operation. Follow the instructions in the following pages for the commercial scale operation.

You can use selected steps in the budget tool if you only want to establish your net income per tap as well as your capital budget. If you want to present your hobby investment to a bank or to use it as a learning tool for yourself, or with your family members, you can use all the steps within the excel program file.

The capital investment budget outline presented on page 46 can be used for a manual calculation if you prefer.

PLANNING A COMMERCIAL SCALE MAPLE ENTERPRISE

DECISION TREE – COMMERCIAL SCALE



CHECK LIST (COMMERCIAL SCALE ENTERPRISE)

1. Produce maple syrup or sap?

- ❑ Become a member of OMSPA
- ❑Do my own research
- ❑Attend OMSPA summer tour
- ❑Find a mentor – OMSPA can help match you with an experienced maple producer
- ❑Investigate the market opportunities for sap sales and compare to syrup production

2. Land

- ❑Forest Management – best practices
- ❑Lease- from private owner *($ per tap)*
- ❑Lease- from Crown land *($ per tap)*
- ❑Buy *($ per acre)*
- ❑Use existing land base
- ❑Production per region (OMPSA 11 regions) liter of syrup per tap
- ❑Assess the health of the woodlot

3. Manpower

- ❑How many family hours are available to devote to maple production?
- ❑Children-next generation – long term succession goals
- ❑Cost of paid manpower
- ❑Local sources of employee
- ❑To hire or not
- ❑Retirees as possible employees
- ❑Off shore labour – possibly collaborate with another sector, i.e. fruit

Person hour & $ per hour

4. Number of taps

❑Quantity of trees/density

❑Tree size

❑Number of taps per tree

5. Collection system

❑Pipeline system choices:

Gravity (typography)

Vacuum

Wet dry * 2 lines

High or low vacuum

Underground or above ground

❑Pumping station required?

❑Bush clean up prior to installation

❑Self-installation or professional installation *($3.25 to $3.50 per tap 2013)*

Material $ amount

Installation $ per tap

Annual maintenance $/tap

Useful life span 10-15 years

6. Processing sap

6.1 Evaporation: ***(Evaporation and RO decision must be made simultaneously)***

❑Evaporator size and optional equipment

❑Evaporator supply tank

❑Sap storage size – bulk sap storage

6.2 Reverse osmosis:

- ❑Capacity of RO unit
- ❑Size of RO room
- ❑Permeate tank
- ❑Concentrate tank

6.3 Fuel source:

- ❑Oil
- ❑Wood
- ❑Pellets
- ❑Propane

6.4 Filtering system

- ❑Press * Plate or cylinder
- ❑Traditional

7. Marketing

- ❑Bulk or retail or mix of both
- ❑Processed products – sugar, candy, taffy, butter
- ❑Container sizes
- ❑Price of containers
- ❑Storage room for product and packaging
- ❑Freezer / refrigerator
- ❑Retail outlet planning

8. Sugar camp

8.1 Location considerations:

- ❑Hydro servicing
- ❑Road access/Parking
- ❑Public access requirements added costs – ramps, signage, safety
- ❑Site preparation
- ❑Typography
- ❑Septic if required
- ❑Water
- ❑Permit costs

8.2 Other rooms:

- ❑Stockroom size
- ❑Equipment storage
- ❑Packaging room
- ❑Bathroom and disability access

8.3 Other considerations for building

- ❑Quality of construction – durability, appearance
- ❑Living space for remote bushes
- ❑Other selling strategies – is retail space required?

Any loose leaves? Double check to make sure you have not forgotten any details or hidden costs.

BUSINESS PLANNING ESSENTIALS

1. **Record keeping**

   Good records, both financial and production are the basis for sound decisions. The record keeping system need not be complex however it should capture enough detail to provide easy access to information required for management needs.

2. **Book keeping**

   The minimum requirements are set by the information needed to file your tax return. However the level of detail need for taxation purposes is rarely sufficient for managerial purposes. If you choose to participate in government supported agricultural risk management programs, you will need an accounting system that permits you to easily categorize your revenue and expenses as per the requirements of the program.

   There are several inexpensive accounting programs available that can be easily configured to meet the needs of maple producers. If you opt to do your own accounting, a training course and/or consultation with an accounting expert to help to configure your accounts for ease of entry and analysis are a wise investment. It is also essential to have a good paper management system to collect and file income and expense receipts to facilitate the accounting process. The task of doing your accounting can be made simpler and more enjoyable when all your information is at your fingertips, permitting you to complete the process in a timely manner.

3. **Accrual accounting method vs. cash accounting method**

   The Canadian Revenue Agency still permits farmers to report on a "cash" accounting basis for income tax purposes. Simply stated, the cash method of accounting recognizes revenue and expenses when money changes hands, not necessarily when the revenue was earned or the expense actually incurred in the production process. As such there is not always a good matching of revenue and expenses within a given production cycle.

   Here is an example: A maple producer with some extra funds on hand may negotiate a better cash price for a large quantity of glass bottles, even though they will not all be used in the current year. Under the cash method of accounting the entire purchase price for all the bottles becomes an expense for the current year. Under the accrual accounting method the expense for the current year would be proportional to the number of bottles actually used, with the cost of the remaining bottles staying in "inventory" to be expensed when they are used in the following year.

   While the impacts of using cash versus accrual accounting may be less in maple than in other productions such as cash crop, where large inventories of both inputs and product may be held from year to year, producers should consider using the accrual method to improve management decision making.

4. Capital investment

Before committing to a major equipment purchase it is wise to ask for quotes from at least two reputable suppliers. While the lowest cost may be the best option, you should also consider the value of the advice a supplier is willing to offer, product support and dealer reputation, and the time they are willing to spend to assist you in setting up your operation, and provide advice on an on-going basis.

Purchasing used equipment is an option to lower the initial cost of getting started. Purchasing used can be a good choice if a producer plans to only use the equipment for a short time, for example before another round of expansion. Used equipment can also be a good choice if the scale of the operation is such that the latest, most efficient equipment is not required to meet time constraints. Note, avoid older lead-soldered equipment that may present a potential lead contamination hazard for your finished product. Likewise, be sure all plastics used are food grade.

Right sizing for current scale of production and planned expansion is smart management. The manager needs to accurately access both the carrying costs of buying larger capacity equipment in preparation for future expansion, as well as the costs associated with removing and disposing of smaller equipment when upsizing to larger equipment. It is likely that planning a fixed structure such as the sugar house with some extra space for future expansion will lead to a long run cost savings compared to adding on later, whereas upgrading to a larger or more efficient evaporator in the future may make more financial sense than buying the bigger unit immediately. There are no pre-determined right answers, only the application of sound production and financial planning principles to obtain the best strategy given the unique circumstances of the maple business in question.

Maple production has a high “timeliness factor”. If maple is done in tandem with another farm enterprise which is equally demanding, such as livestock husbandry, your maple set up needs to be efficient enough to process peak runs within the time constraints of the whole farm.

5. Balance sheet

You may not have a balance sheet for personal and/or business purposes. It is not always required for income tax purposes. The balance sheet provides you with a financial snapshot of your business on a fixed date, typically Dec 31/Jan 1, or the date of your financial year-end if different from the calendar year-end.

For new ventures the opening balance sheet is the starting point against which financial progress can be measured, typically year-over-year. The balance sheet clearly states what you own and what you owe. The net worth is the residual value you would keep if all your debts were paid off. New business ventures relying on borrowed funds often have lower net worth, while mature businesses which have generated profits over the years build net worth for their owners.

6. Budgeting revenues

Your revenue will be the product of yield times the price per unit (litre). Sounds simple. Yet as outlined in the factors affecting performance on page 17 there are many things that can affect final yield, in addition to the overall effects of weather. The OMSPA survey data provides average yield data from all the regions of the province which can be used as a guideline and benchmark. Adjust your own projected yield data based on the knowledge of your bush and your equipment and management practices. If you have a healthy bush with large crowned trees, a modern well maintained pipeline system operating at high vacuum, and efficient boiling equipment you can likely exceed the yield for your region. If your bush and equipment is "average" it would be prudent to budget with the average production for the region.

Price – know your market potential and limitations. If the entire crop can be sold into a premium retail market it may be reasonable to budget above the average price for your region. If expansion means selling part of your increased production into a wholesale or bulk market, the decline in price received for that portion of the production needs to be properly budgeted.

7. Budgeting expenses

a. Direct costs (Variable costs)

A simple definition of direct costs is those costs that you incur only when you produce and vary more or less directly in proportion to your syrup output. Some examples: Fuel for the evaporator – you only burn fuel (wood, oil, pellets, propane) when you process sap; the more you boil the more fuel you consume. Packaging – the more syrup you package for sale the more containers you use.

b. In-Direct costs (Fixed)

Simply stated, fixed costs are those you bear regardless of the level of production. A good example: property tax on your sugar bush lot. Whether you make syrup or not the municipality still expects you to pay your taxes. Property insurance on your sugar house and equipment is another example of an in-direct (fixed) cost.

8. Cash flow forecast statement

The cash flow statement should not be confused with the income statement. The cash flow statement calculates all monies flowing in and all monies going out of the enterprise, including funds used for capital investment such as additional tubing or a new piece of sap processing equipment. It is a useful tool to predict if a business will generate sufficient cash to meet its financial obligations throughout the year or if periodic borrowing, such as a line of credit, will be required to cover deficit periods. The cash flow statement and forecast will help you make sure you have the money to invest or spend, or plan accordingly if restraint is required.

To simplify the calculations in the budget tool we are making the assumptions that there are no account receivables or payables and no inventory variations. In other words it is assumed that the maple operation sells and receives payment for all the syrup it produces in the year, as well as paying all its expenses incurred.

9. Financial ratio calculations

The standard financial ratios calculated by the Excel program are those typically used in a farm financial assessment. These ratios are a quick way at looking at your financial figures and can help you to take your decisions. It is important to compare your results year over year.

As well, expressing the various expense categories as a percentage of total sales revenue provides a quick visual benchmark to assess progress year-over-year, or compare to industry averages.

10. Character, reputation, and preparedness

Lending institutions look at multiple aspects when analysing a loan request. Of course they will ask you for previous income tax returns as proof of past earnings, as well as request a "credit score". But beyond these measures there are several things you can do as a manager to make your loan application more credible to potential lenders.

Be prepared. Arrive with a business plan. Demonstrate that you have done your homework from a financial and technical perspective, and that you have an excellent working knowledge of maple production, both in the bush and from a cost and return standpoint. Be prepared to answer questions. Not many bankers are familiar with maple production and are likely to have numerous questions. Some will likely know that maple production is highly weather dependent. Outline your strategy to mitigate this variable, such as early tapping, and excellent pipeline collection system management to maximize yields. Demonstrate your marketing strategy designed to maximize returns. If you have previous business experience, even if it is not related to maple, use these examples to confirm your reputation as a successful manager and entrepreneur.

11. GIFI codes

The GIFI (General Index of Financial Information) is an index of items generally found on balance sheets, income statements, and statements of retained earnings.

The Canada Revenue Agency (CRA) uses GIFI Codes to support their electronic filing and T2 processing system. As of the year 2000, all corporations (except for insurance corporations) must report financial statement information using the GIFI. The Excel budgeting tool categorizes items by GIFI code to consistent with generally accepted methodology used for accounting and taxation purposes.

BUDGET WORKSHEET (EXCEL FILE)

How to use this worksheet? Follow the steps below to build the financial component of your maple business plan as well as compare different planning scenarios.

STEPS: Using the budget spreadsheet

First you should save the excel file on your hard drive using the file name Maple program. It is very important to keep a blank version so this way if you want to do several runs of the program you will always have a blank copy at your disposal. For each run of the budget for different scenarios start by re-saving the blank spreadsheet under a new name; i.e.scenario1; scenario2, etc.

General rule – you can enter data in the "Green" boxes. Most, but not all require an entry.

Tip: If you want to adjust the size of the budget work sheet to your computer screen to reduce scrolling down or across, go to the Excel menu bar "View" and "Zoom" and adjust it for your needs. Normally Excel has a toolbar feature at the right bottom of your screen where you can drag the cursor to adjust the percentage zoom.

Tip: You can use the "Tab" key to move horizontally from cell to cell in the Excel sheet – for example to enter the worker information and the production and price worksheet

Tip: You can use the "Enter" key to move vertically from cell to cell in the Excel sheet – for example to enter your past income statement worksheet.

The first page of the Excel file is a table of contents page for each step of the data entry. There are links to follow to each section. If you forget to complete any essential information used for calculations, a prompt message will appear: "Information is missing" You will have to fill in the missing information to permit the program to complete the calculations.

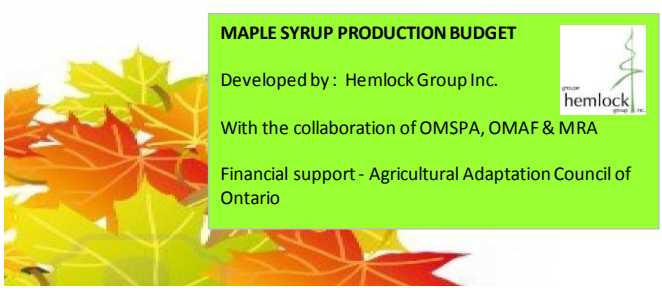
When you enter numbers for one year, normally a column, you must enter 0 if you do not have a value for a specific cell. Conversely if you don't use an entire column, you have to leave the green boxes empty and not enter a 0 zero value. This is very important because Excel will change its method of calculation for the average and this will give you a different number. For example, if you want a 4 year average, enter only numbers in those 4 years. The 5th year column should have no entries. If you put all 0 zero values in the 5th year, the average will be calculated on 5 years. Example:

2008	2009	2010	2011	2012	Result
1000	1000	1000	1000	1000	Total will be 5000 and average 1000
0	1000	1000	1000	1000	Total will be 4000 and average 800
	1000	1000	1000	1000	Total will be 4000 and average 1000

When you use the link you will be directed to the spreadsheet and within each spreadsheet you will have a link for returning to the steps as indicated below:

Return to Steps

When you use the link: Return to Steps, your cursor will automatically be positioned at the step you just completed. If the information for the section is complete you can click on the yellow check box. Then you will know where you are within the program. You could continue later to complete the other steps. For people that are familiar with Excel you can use the sheet tab at the bottom of the page if you want to go from one page to the other.



Ontario Maple Syrup Producers' Association
OMSPA

AAC agricultural adaptation council

Agriculture and Agri-Food Canada | Agriculture et Agroalimentaire Canada

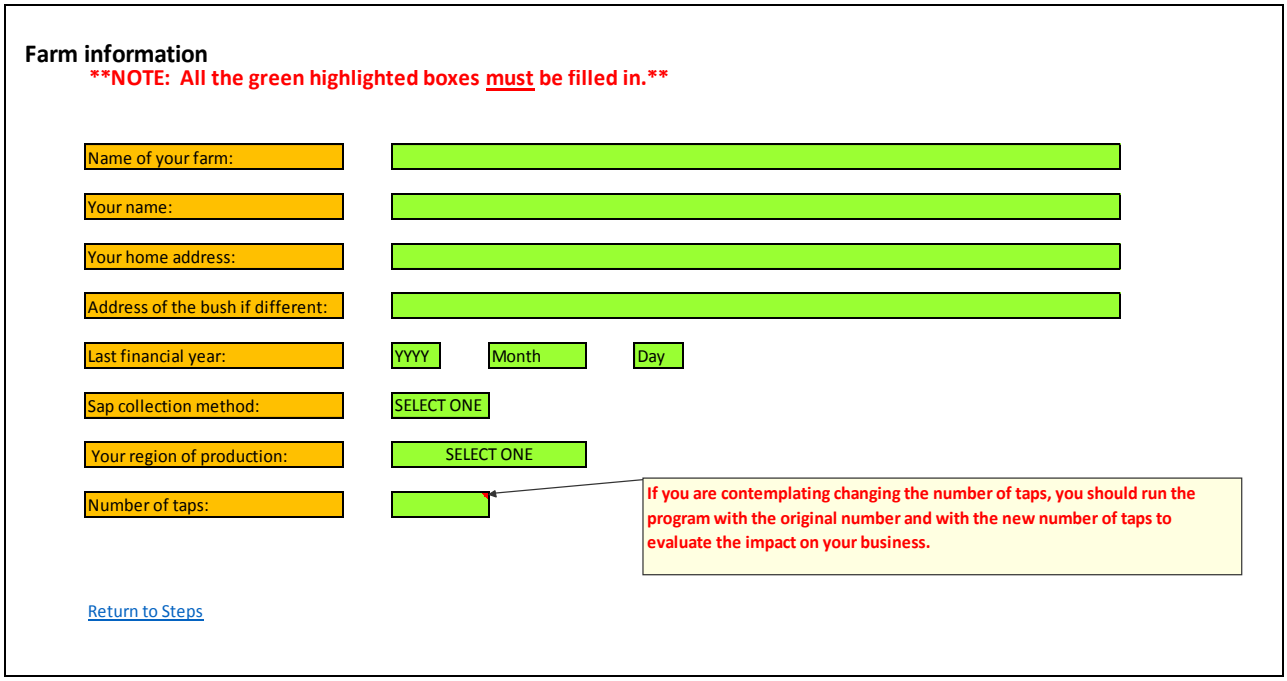
****Check off the yellow box after you have completed each step****

1. Farm Information **Information is missing**	☑	8. Capital investment	☐
2. Budget Information	☑	9. Depreciation calculation	☐
3. Production & Price Information	☑	10. Financial needs **Information is missing**	☐
4. Average price calculator	☑	11. Income statement	☐
5. Past income statement	☑	12. Cash flow income & expenses	☐
6. Worker Information	☐	13. Balance sheet	☐
7. Labour requirement	☐	14. Ratios	☐

STEP # 1: Farm information

In the green boxes enter all pertinent information. Where YYYY is indicated you have to enter the year, for example, 2014. There are drop boxes for the month and the day as well a number of green boxes indicating: SELECT ONE. This indicates a drop box where you can choose from options. It is mandatory to choose your region of production. This information will be used to help you calculate your production and your selling price. When all information is entered click on

Return to Steps



Name of your farm: You can use the name of your farm as sole proprietorship, your partnership or your corporation name. This name will be shown on your printed reports. The main difference between a sole proprietorship, partnership and corporation is that in the 2 first forms of business ownership, you are the owner of all assets and the profit will be your income (return to your labour and management). In a corporation, normally you will receive a salary or dividend.

Your name: will be used only as information.

Your address: will be the address of your home. Some people have a bush on their land some other have a different address for their bush.

Last financial year: means the year of your last financial statement. Normally the date for a sole proprietorship or a partnership is December 31st but corporations can be any month of the year.

Sap collection method is information that you must enter. This will affect the calculations within the program.

Your region of production will give you price and production data for your region. This is important for you to know in order to make your assumptions for your prices as well as your syrup yield in litres per tap.

The number of taps is a very important number. If you are contemplating expansion it is suggested that you run your numbers with the current number of taps, and then repeat the program with the number of taps after expansion including all required new investment. Then you will be able to see the difference between the status quo and your expansion. This will help you to make your decision.

STEP # 2: Budget Information

In the budget information, you can write the first year for which you wish to budget, as well as the number of years for which you wish to budget. Typically banks require 5 years for loan requests. You can choose from 1 to 5 years.

Budget Information

****NOTE: All the green highlighted boxes must be filled in.****

First year to budget:	2014	
Number of years to budget? (minimum 2, maximum 5)	2	
Are you selling assets?	Yes	
	Enter the selling price	
Land		Enter $0 if the amount is NUL
Building		Enter $0 if the amount is NUL
Equipment		Enter $0 if the amount is NUL
Motor vehicles	$5,000	

Return to Steps

If you chose 5 years and then you decide to select only 2 years, for example, you will have to clear the data you have already entered for years 3, 4 and 5 in the different sheets. You will have a message saying: Please erase your data for years not in budget.

STEP # 3: Production and Price information

The first table will help you see if you are producing above or under the provincial average as well as per your specific region within the province. You can enter your production history if you have this information available. Enter the data for the years for which you have information. Leave the cell blank if you do not have a value to enter.

The second set of boxes is used to predict what level of production you want to use for your budget forecast. You may wish to run the program multiple times with different production scenarios ranging from pessimistic to optimistic.

Note: Adjust your projected yield taking into account whether you have buckets or pipeline, low or high gravity, the age of your system, etc. For example, if your project is to renew your tubing system with a state-of-the-art high vacuum system then adjust your yields upward reasonably based on your research as to how the improved system can improve sap yield.

Production Information

****NOTE: All the green highlighted boxes can be filled in.****

Enter your production history (if available)

STATS	Average	Maximum	Minimum	2008	2009	2010	2011	2012	2013
PROVINCIAL AVERAGE	0.938	1.180	0.518	0.678	1.180	0.733	1.007	0.518	1.119
Ottawa Valley	0.62	0.85	0.46	0.46	0.85	0.46	0.79	0.47	0.68
My Maplebush Farm Inc.	0.72	0.90	0.50		0.80	0.70	0.90	0.50	0.70

****NOTE: All the green higlighted boxes must be filled in.****

Enter your projected yield in litres per tap for each budget year

Your budget	Average	Maximum	Minimum	2014	2015	
My Maplebush Farm Inc.	0.53	0.60	0.50	0.60	0.50	0.50

Please erase unneeded data

Retail Price Information

****NOTE: All the green highlighted boxes can be filled in.****

Enter your historical retail price ($ per litre) if available.

STATS	Average	Maximum	Minimum	2007	2008	2009	2010	2011	2012
PROVINCIAL AVERAGE	$19.33	$20.62	$17.63	$17.63	$19.01	$19.08	$19.71	$19.92	$20.62
Ottawa Valley	$20.17	$21.95	$18.48	$18.48	$19.98	$20.49	$20.79	$19.32	$21.95
My Maplebush Farm Inc.	$19.80	$21.00	$18.00		$18.00	$20.00	$21.00	$20.00	$20.00

****NOTE: All the green higlighted boxes must be filled in.****

Enter your projected price in ($ per litre) for each budget year .

Your budget	Average	Maximum	Minimum	2014	2015	
My Maplebush Farm Inc.	$20.33	$21.00	$20.00	$20.00	$21.00	$20.00

Weighted average sale price $20.19

Please erase unneeded data

Return to Steps Goto Average price calculator

This table is similar to Step #3 and deals with expected price per litre. Again the provincial and regional averages are available to guide you in adjusting your expected price in the future.

STEP # 4: Average price calculator

The average price calculator will help you to calculate the weighted average price for all your products on a litre of syrup basis. You have to input your list of product and calculate how many litres of syrup will be used in each recipe (by example: butter, taffy or candy). You will have to calculate the conversion rate for each product in liter of syrup. Please refer to the following example:

Average price calculator

This optional worksheet will help you determine your average weighted sales price per litre.

****NOTE: All the green highlighted boxes can be filled in.****

	Container description (list all your size of container from the smallest to largest including barrels)	Volume in litres (*1) (*2)	# of container sold	Total number of litres	Your selling price @	Total sale
1	Bottle 250 ml	0.25	5000	1250	$6.50	$32,500.00
2	Can	0.54	7500	4050	$10.00	$75,000.00
3	Bottle 1 litre	1.00	2500	2500	$20.00	$50,000.00
4				0		$0.00
5				0		$0.00
6				0		$0.00
7				0		$0.00
8				0		$0.00
9				0		$0.00
10				0		$0.00
11				0		$0.00
12				0		$0.00
13				0		$0.00
14				0		$0.00
15				0		$0.00
16				0		$0.00
17				0		$0.00
18				0		$0.00
19				0		$0.00
20				0		$0.00
21				0		$0.00
22				0		$0.00
23				0		$0.00
24				0		$0.00
25				0		$0.00
	Total	2	15,000	7800		$157,500.00
		Weighted average sales price per litre			$20.19	

(*1) Note: For example: a 32 imperial gallon barrel = 146 litres
a 250 ml bottle = 0.25 litres etc...

(*2) For maple products (butter, taffy, candy...) enter the quantity of syrup required to produce a container.

EXAMP	Bottle 250 ml	0.25	1000	250	$10.00	$100,000.00
	32 imperial gallons barrels	145.60	5	728	$1,000.00	$5,000.00
	Maple butter 250 gr	0.30	100	30	$10.00	$1,000.00

Return to Steps Goto Production & Price Information

STEP # 5: Past income statement

The program permits you to enter your past financial data to be used as a comparison against your project data. If you have no past revenue and expense information you can leave the table blank.

Past income statement

****NOTE: If you choose not to use a given year leave the entire column blank. For each year you use enter "0" if you have no expense in a given category****

Enter your Income Statement history (if available)

	2008	2009	2010	2011	2012	Average	%
MAPLE SYRUP REVENUES					10000	10000	100.00%
EXPENSES							
DIRECT EXPENSES							
Advertising, marketing costs					450	450	4.50%
Building and fence repairs					0	0	0.00%
Containers and twine					1000	1000	10.00%
Electricity					600	600	6.00%
Freight and Trucking					0	0	0.00%
Heating Fuel					100	100	1.00%
Licenses/permits					30	30	0.30%
Machinery (gasoline, diesel fuel and oil)					25	25	0.25%
Machinery (repairs, licenses, insurance)					50	50	0.50%
Salaries (other than spouse or dependants)					1000	1000	10.00%
Land clearing and Draining					0	0	0.00%
Small tools					100	100	1.00%
Commissions and Levies					0	0	0.00%
Others					0	0	0.00%
Total Direct expenses	0	0	0	0	3355	3355	33.55%
INDIRECT EXPENSES							
Interest (real estate, mortgage, other)					500	500	5.00%
Legal and accounting fees					750	750	7.50%
Memberships/subscription fees					350	350	3.50%
Office Expenses					400	400	4.00%
Other Insurance premiums					1000	1000	10.00%
Property taxes					900	900	9.00%
Telephone					150	150	1.50%
Depreciation					0	0	0.00%
Interest on investment					0	0	0.00%
Others					0	0	0.00%
Total In-Direct expenses	0	0	0	0	4050	4050	40.50%
Budgeted PROFIT (LOSS)	0	0	0	0	2595	2595	25.95%

Return to Steps

STEP # 6: Worker information

This table will help you figure out if you have enough manpower to complete all steps of producing maple syrup for a given scale of operation. It is important to have a full understanding of the short period of time you have to work with. If you are short-handed, you have several choices: You can hire more labour or change your equipment to make sure you will be able to process the sap in the time available. The table following the labour worksheet provides information on dates of first and last boil across the province. If you are in the southern part of the province you can expect to start and finish earlier as compared to the colder regions. It is interesting to note that the total length of the season in days remains fairly constant, while the entire season is displaced earlier or later year-over-year. If you are thinking of combining a maple sugar enterprise with another on or off-farm business, or off-farm employment, it is important to be realistic when budgeting the time you will have available to work in your maple bush. Sap flows do not respect the Monday to Friday work week. You will need to either scale your operation and equipment according to your availability or have back up labour to fill in when you are unavailable.

Worker Information

****NOTE: Enter the maple enterprise worker information in the green highlighted boxes****

	Enter the name of all workers (paid and unpaid)	Number of days of work	Number of hours per day	Hourly rate	Total cost
	Be sure to enter all worker hours paid and unpaid including owner's unpaid labour				
1	Mrs	13	2	$5.00	$130.00
2	Owner	15	8	$0.00	$0.00
3	Son	15	8	$15.00	$1,800.00
4					$0.00
5					$0.00
6					$0.00
7					$0.00
8					$0.00
9					$0.00
10					$0.00
11					$0.00
12					$0.00
13					$0.00
14					$0.00
15					$0.00
	Total	43	18	$20.00	$1,930.00
				% Rate for social benefits :	15.00%
					$2,219.50

Total hours available for maple production (including paid and unpaid)	774
Average hourly rate	$2.87

Return to Steps Goto 7. Labour requirement

TYPICAL PRODUCTION DATE FOR ONTARIO

Year	First boil		Last boil		Total Nb of days in the season
	From	To	From	To	
2008	February 7, 2008	April 6, 2008	March 30, 2008	April 20, 2008	73
2009	February 11, 2009	March 27, 2009	March 25, 2009	April 23, 2009	72
2010	January 26, 2010	March 23, 2010	March 9, 2010	April 5, 2010	69
2011	February 18, 2011	April 1, 2011	April 1, 2011	April 30, 2011	72
2012	February 2, 2012	March 15, 2012	March 9, 2012	April 14, 2012	72

This table is based on OMSPA: Ontario Maple syrup production and pricing survey results.

STEP # 7: Labour requirement

This table presents the standard time required for various operations within the maple production cycle. These estimates were created from the 2000 OMSPA study and have been revised for accuracy with the steering committee. You have the possibility to change the numbers if you want by using the green boxes. The system will then take your figures instead of the standard ones. Enter your total time required in hours under the column "Your own estimate in hours (total)" to use your best estimate instead of the default values.

Labour requirement

****NOTE: The labour requirement is calculated automatically. However you can change the value in the green box if you wish.****

Total labour hours required: 1171.5

Total hours available for maple production (including paid and unpaid)? From previous step.	774
Number of taps:	1,500
Number of persons from previous step	3
Average hourly rate for your paid labou (See 6.Worker Information)	$2.87

ITEM		DESCRIPTION	Your own estimate in hours (total)	Per tap	Per tap	Fixed time	Hours for your production	Total cost
Collection	VARIABLE	Tapping		0.000	0.017		25.5	73.12 $
Collection	VARIABLE	Pulling spiles		0.000	0.006		9.0	25.81 $
Collection	VARIABLE	Leak testing pipeline		0.000	0.018		27.0	77.42 $
Collection	VARIABLE	Washing in the sugar bush		0.000	0.018		27.0	77.42 $
Collection	VARIABLE	Transportation Sap		0.000	0.020		30.0	86.03 $
Processing	FIXED	RO operation				32.0	32.0	91.76 $
Processing	FIXED	Boiling time				120.0	120.0	344.11 $
Processing	VARIABLE	Cleaning up during season		0.000	0.020		30.0	86.03 $
Processing	VARIABLE	Canning		0.000	0.040		60.0	172.05 $
Processing	VARIABLE	Washing evaporator		0.000	0.011		16.5	47.31 $
Processing	VARIABLE	Sales retail		0.000	0.069		103.5	296.79 $
Maintenance	VARIABLE	Pipelines		0.000	0.036		54.0	154.85 $
Maintenance	VARIABLE	Equipment		0.000	0.016		24.0	68.82 $
Maintenance	FIXED	Buildings				30.0	30.0	86.03 $
Maintenance	VARIABLE	Bush maintenance		0.000	0.040		60.0	172.05 $
	VARIABLE	**TOTAL**					**648.5**	$1,337.72
	FIXED	**TOTAL**						$521.90

Bucket

Collection	VARIABLE	Bucket hanging, collecting and gathering sap			0.23		**523**	1,499.74 $

Return to Steps

STEP # 8: Capital investment

Calculate the capital investment for your start-up or expansion. It is very important for this step to use the quotes you obtain from reputable suppliers. If you search, you may be able to find used some equipment to decrease your capital investment. The tables below include cost ranges for the various pieces of equipment used in either pipeline or bucket collection systems.

Pipeline

Equipment items		Cost Range		Qty	My cost	Total
		Low	High			
TAPPING & COLLECTION SYSTEM						
Cordless drill, hand tools	1740	$ 300.00	$ 1,000.00			$ -
Tapping bits	1740	$ 16.00	$ 36.00			$ -
Spouts - pipeline system	1740	$ 0.18	$ 0.36			$ -
Tubing option - cost per tap	1740	$ 6.00	$ 12.00			$ -
Sap Refractometer - 0-18 Brix	1740	$ 100.00	$ 600.00			$ -
Vacuum pump	1740	$ 2,000.00	$ 10,000.00			$ -
Extractor	1740	$ 700.00	$ 3,500.00			$ -
Tractor / ATV (Vehicles)	1742					$ -
Other -pumps, etc. if required; etc.	1740					$ -
Other	1740					$ -
Other vehicles	1742					$ -
STORAGE and PROCESSING EQUIPEMENT						
Sap and concentrate storage tanks	1680	$ 400.00	$ 9,000.00			$ -
Reverse Osmosis Midsize	1740	$ 12,000.00	$ 36,000.00			$ -
Reverse Osmosis Large	1740	$ 40,000.00	$ 83,000.00			$ -
Evaporator 2.5 x 8	1740	$ 7,800.00	$ 8,500.00			$ -
Evaporator 3 x 12	1740	$ 11,000.00	$ 32,000.00			$ -
Commercial scale evaporator	1740	$ 7,500.00	$ 50,000.00			$ -
Pan washer	1740	$ 1,200.00	$ 2,500.00			$ -
Hydrometer	1740	$ 60.00	$ 100.00			$ -
Thermometer /	1740	$ 25.00	$ 150.00			$ -
Syrup Refractometer 45 - 82 Brix	1740	$ 100.00	$ 600.00			$ -
Skimmer / Dippers Stainless Steel	1740	$ 50.00	$ 75.00			$ -
Other optional equipment	1740					$ -
FILTERING AND PACKAGING						
Cone filter tank - single or double	1740	$ 250.00	$ 375.00			$ -
Felt cone filters @	1740	$ 13.00	$ 29.00			$ -
Pre-filters cost per dozen	1740	$ 15.00	$ 25.00			$ -
Small filter press	1740	$ 1,100.00	$ 1,800.00			$ -
Large filter press	1740	$ 2,000.00	$ 5,000.00			$ -
Canner - manual / electric	1740	$ 225.00	$ 1,000.00			$ -
Bottling unit	1740	$ 350.00	$ 6,000.00			$ -
Grading kit	1740	$ 25.00	$ 550.00			$ -
Other	1740					$ -
STORAGE EQUIPMENT						
Freezers / refrigerator	1740					$ -
FUEL STORAGE - wood; pellets; oil; propane	1680					$ -
SALES / MARKETING EQUIPMENT						
Signage / Display / Stand	1740	$ 20.00	$ 500.00			$ -
Other	1740					$ -
SUGAR CAMP / BOILING SPACE						
Roads, parking, culverts, excavation work	1680					$ -
Water source- well, lines, pumps	1680					$ -
Electrical service - poles, entrance, transformer	1680					$ -
Sewage if required	1680					$ -
Building cost	1680					$ -
LAND						
Sugar bush purchase	1600					$ -
						$ -

Buckets

Equipment	GIFI code	Cost Range		Qty	My cost	Total
		Low	High			
TAPPING & COLLECTION SYSTEM						
Cordless drill, hand tools	1740	$ 125.00	$ 250.00			$ -
Tapping bits	1740	$ 15.00	$ 20.00			$ -
Buckets - aluminum used	1740	$ 4.00	$ 5.00			$ -
Buckets - plastic 2-3 gallon new	1740	$ 3.75	$ 8.50			$ -
Covers - metal / plastic	1740	$ 1.75	$ 4.00			$ -
Spouts - aluminum or SS	1740	$ 1.55	$ 2.85			$ -
Spouts - plastic	1740	$ 1.00	$ 2.05			$ -
Sap bag holders	1740	$ 3.00	$ 6.45			$ -
Bags - NB - single season use	1740	$ 0.30	$ 0.55			$ -
Tubing option - cost per tap	1740	$ 3.50	$ 10.00			$ -
Refractometer -sap 0-18 Brix	1740	$ 100.00	$ 400.00			$ -
Other	1740					$ -
GATHERING EQUIPMENT						
Gathering pails	1740	$ 18.00	$ 23.00			$ -
Gathering drums 45 gal used	1740	$ 25.00	$ 25.00			$ -
Gathering tank new poly 35 gal	1740	$ 150.00	$ 150.00			$ -
Horses / Tractor / ATV (Vehicles)	1742					$ -
Other -pumps if required; etc.	1740					$ -
SUGAR CAMP / BOILING SPACE						
FUEL STORAGE - wood; pellets; oil; propane	1680					$ -
PROCESSING EQUIPEMENT						
Evaporator 1.5 x 5 - 20" x 66"	1740	$ 3,100.00	$ 4,500.00			$ -
Evaporator 2 x 6	1740	$ 4,900.00	$ 5,300.00			$ -
Stove hobby recycled evaporator	1740	$ 900.00	$ 1,100.00			$ -
Bulk sap storage used tote 1000L	1740	$ 125.00	$ 175.00			$ -
Bulk sap storage - new 80 gal	1740	$ 260.00	$ 260.00			$ -
Reverse Osmosis Hobby	1740	$ 5,500.00	$ 8,000.00			$ -
Hydrometer	1740	$ 60.00	$ 100.00			$ -
Thermometer /	1740	$ 25.00	$ 150.00			$ -
Refractometer 45 - 82 Brix	1740	$ 100.00	$ 400.00			$ -
Skimmer / Dippers Stainless Steel	1740	$ 50.00	$ 75.00			$ -
Other	1740					$ -
FILTERING AND PACKAGING						
Cone filter tank - single or double	1740	$ 250.00	$ 375.00			$ -
Felt cone filters @	1740	$ 13.00	$ 29.00			$ -
Pre-filters cost per dozen	1740	$ 15.00	$ 25.00			$ -
Small filter press	1740	$ 1,100.00	$ 1,800.00			$ -
Canner - manual / electirc	1740	$ 225.00	$ 1,000.00			$ -
Bottling unit	1740	$ 250.00	$ 600.00			$ -
Grading kit	1740	$ 25.00	$ 550.00			$ -
Other	1740					$ -
STORAGE EQUIPMENT						
Freezers / refrigerator	1740					$ -
SALES / MARKETING						
Signage / Display / Stand	1740	$ 20.00	$ 100.00			$ -
Other	1740					$ -
					Total	$ -

STEP # 9: Depreciation calculation

The previous capital investment table will calculate the assets required by category. You have to enter the useful life per category of assets in the green box, as well as the salvage value of the assets at the end of its life expectancy. The straight line depreciation method is used, as it is the most representative method to calculate the cost of production.

Depreciation calculation

****NOTE: All the green highlighted boxes must be filled in if there is a number in the Original Cost grey cell.****

Asset:	Building	Equipment	Motor vehicles
Original Cost:	$0.00	$500.00	$5,000.00
Life (years):		5	5
Salvage Value:		$0.00	$0.00

Depreciation Amount

Year	Straight line method	Straight line method	Straight line method	TOTAL
1	$0.00	$100.00	$1,000.00	$1,100.00
2	$0.00	$100.00	$1,000.00	$1,100.00
3	$0.00	$100.00	$1,000.00	$1,100.00
4	$0.00	$100.00	$1,000.00	$1,100.00
5	$0.00	$100.00	$1,000.00	$1,100.00

Value of Asset

Year	Straight line method	Straight line method	Straight line method	TOTAL
0	$0.00	$500.00	$5,000.00	$5,500.00
1	$0.00	$400.00	$4,000.00	$4,400.00
2	$0.00	$300.00	$3,000.00	$3,300.00
3	$0.00	$200.00	$2,000.00	$2,200.00
4	$0.00	$100.00	$1,000.00	$1,100.00
5	$0.00	$0.00	$0.00	$0.00

Return to Steps

STEP # 10: Financial needs

This table will calculate your loan payments, if borrowing is required.

Financial needs

****NOTE: All the green highlighted boxes must be filled in if you require a loan.****

Loan Amount:	$5,000.00
Annual Interest Rate:	4.0000%
Number of Periods:	12

Information is missing

Loan Amortization Schedule

Payment Period	Payment Amount	Cumulative Payments	Interest	Cumulative Interest	Principal	Cumulative Principal	Principal Balance
							$5,000.00
1	$425.75	$425.75	$16.67	$16.67	$409.08	$409.08	$4,590.92
2	$425.75	$851.50	$15.30	$31.97	$410.45	$819.53	4,180.47
3	$425.75	$1,277.25	$13.93	$45.90	$411.81	$1,231.34	3,768.66
4	$425.75	$1,703.00	$12.56	$58.47	$413.19	$1,644.53	3,355.47
5	$425.75	$2,128.75	$11.18	$69.65	$414.56	$2,059.10	2,940.90
6	$425.75	$2,554.50	$9.80	$79.45	$415.95	$2,475.04	2,524.96
7	$425.75	$2,980.25	$8.42	$87.87	$417.33	$2,892.38	2,107.62
8	$425.75	$3,406.00	$7.03	$94.90	$418.72	$3,311.10	1,688.90
9	$425.75	$3,831.75	$5.63	$100.53	$420.12	$3,731.22	1,268.78
10	$425.75	$4,257.50	$4.23	$104.76	$421.52	$4,152.74	847.26
11	$425.75	$4,683.24	$2.82	$107.58	$422.93	$4,575.66	424.34
12	$425.75	$5,108.99	$1.41	$108.99	$424.34	$5,000.00	0.00

Your loan can be up to the total capital investment depending on your financial situation. It is important to analyse your repayment capacity and your cash flow to make sure you can meet any new financial obligations.

STEP # 11: Income Statement

This table will calculate your income based on the steps 3 and 4. You will have to predict your expenses for the years selected for the budget. In the example below we have only 2 years, but the tool can provide up to 5 years. You can compare yourself to the Ontario average benchmark estimates as per OMAF & MRA data.

Income Statement

****NOTE: All the green highlighted boxes must be filled in, enter "0" if the amount is NUL.****

	BENCHMARK ONTARIO AVERAGE		YOUR PAST AVERAGE					
REVENUES	0-500 taps			%	2014	%	2015	%
Number of taps:					500		500	
Litres by tap					0.60		0.50	
Price per litres of syrup					$20.00		$21.00	
Total Revenues			$10,000	100.00%	$6,000	100%	$5,250	100.00%
EXPENSES								
DIRECT EXPENSES								
Advertising, marketing costs	$75	1.25%	$450	4.50%	$50	0.83%	$100	1.90%
Building and fence repairs	$658	10.97%	$0	0.00%	$0	0.00%	$0	0.00%
Containers and twine	$245	4.08%	$1,000	10.00%	$800	13.33%	$500	9.52%
Electricity	$275	4.59%	$600	6.00%	$300	5.00%	$200	3.81%
Freight and Trucking	$47	0.79%	$0	0.00%	$0	0.00%	$20	0.38%
Heating Fuel	$37	0.61%	$100	1.00%	$50	0.83%	$50	0.95%
Licenses/permits	$0	0.00%	$30	0.30%	$30	0.50%	$30	0.57%
Machinery (gasoline, diesel fuel and oil)	$1,719	28.65%	$25	0.25%	$500	8.33%	$200	3.81%
Machinery (repairs, licenses, insurance)	$2,488	41.47%	$50	0.50%	$500	8.33%	$300	5.71%
Salaries (other than spouse or dependants)	$119	1.98%	$1,000	10.00%	$1,000	16.67%	$100	1.90%
Land clearing and Draining	$0	0.00%	$0	0.00%	$0	0.00%	$0	0.00%
Small tools	$552	9.20%	$100	1.00%	$100	1.67%	$100	1.90%
Commissions and Levies	$47	0.78%	$0	0.00%	$0	0.00%	$0	0.00%
Others	$0		$0	0.00%	$0	0.00%	$0	0.00%
Total Direct expenses	**$6,262**	**104.37%**	$3,355	33.55%	**3,330 $**	**55.50%**	**1,600 $**	**30.48%**
INDIRECT EXPENSES								
Interest (real estate, mortgage, other)	$1,432	23.87%	$500	5.00%	$0	0.00%	$0	0.00%
Legal and accounting fees	$427	7.12%	$750	7.50%	$500	8.33%	$500	9.52%
Memberships/subscription fees	$265	4.41%	$350	3.50%	$350	5.83%	$350	6.67%
Office Expenses	$108	1.80%	$400	4.00%	$100	1.67%	$100	1.90%
Other Insurance premiums	$780	13.00%	$1,000	10.00%	$0	0.00%	$0	0.00%
Property taxes	$320	5.34%	$900	9.00%	$900	15.00%	$900	17.14%
Telephone	$151	2.52%	$150	1.50%	$150	2.50%	$150	2.86%
Depreciation	$0		$0	0.00%	$1,100	18.33%	$1,100	20.95%
Interest on new investment	$0		$0	0.00%	$109	1.82%	$0	0.00%
Others	$0		$0	0.00%	$100	1.67%	$200	3.81%
Total In-Direct expenses	**$3,484**	**58.07%**	$4,050	40.50%	**$3,309**	**55.15%**	**$3,300**	**62.86%**
Budgeted PROFIT (LOSS)	**($9,746)**		**$2,595**	25.95%	**($639)**	**110.30%**	**$350**	**125.71%**

Return to Steps

STEP # 12: Cash flow income and expenses

Cash flow income and expenses

This section is used to see if you may need a line of credit. The maple season is short and concentrated from a labour and expense perspective, while the revenue stream may extend over the rest of the year depending on your marketing strategy. Cash flow may be tight during the spring season.

Cash flow income and expenses

NOTE: All the green highlighted boxes can be filled in. Use the DIF.= $0 column on the far right to check that your amounts are fully distributed within the year

	2014														
	TOTAL	January	February	March	April	May	June	July	August	September	October	November	December	TOTAL	DIF. = $0
REVENUES														$0	$0
EXPENSES															
DIRECT EXPENSES															
Advertising, marketing costs														$0	$0
Building and fence repairs														$0	$0
Containers and twine														$0	$0
Electricity														$0	$0
Freight and Trucking														$0	$0
Heating Fuel														$0	$0
Licenses/permits														$0	$0
Machinery (gasoline, diesel fuel and oil)														$0	$0
Machinery (repairs, licenses, insurance)														$0	$0
Salaries (other than spouse or dependants)														$0	$0
Land clearing and Draining														$0	$0
Small tools														$0	$0
Commissions and Levies														$0	$0
Others														$0	$0
Total Direct expenses		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
INDIRECT EXPENSES														$0	$0
Interest (real estate, mortgage, other)														$0	$0
Legal and accounting fees														$0	$0
Memberships/subscription fees														$0	$0
Office Expenses														$0	$0
Other Insurance premiums														$0	$0
Property taxes														$0	$0
Telephone														$0	$0
Depreciation														$0	$0
Interest on new investment														$0	$0
Others														$0	$0
Total In-Direct expenses		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Budgeted PROFIT (LOSS)		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Plus: Depreciation		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Less: Capital payment														$0	$0
Plus: New borrowing														$0	$0
Plus: Disposal of capital assets RELATED TO MAPLE														$0	$0
Less: New capital investment														$0	$0
Cash balance		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Return to Steps

STEP # 13: Balance Sheet

Enter your opening balance for each section of your balance sheet. The balance sheet is a picture of your business at a date. It is very important to use the same cut-off date for each asset. If you don't have a balance sheet prepared by your accountant, you can use the fair market value of all your assets. For your liabilities, you will have to list all of them at the same date. Normally if you are not incorporated, the date will be the end of the calendar year - December 31st.

Balance sheet

****NOTE: All the green highlighted boxes can be filled in.****

Please enter your balance sheet information:

If you don't have have a balance sheet it is recommended you make one at Fair Market Value (FMV)

GIFI	DESCRIPTION	NET FAIR MARKET VALUE (FMV)	CAPITAL INVESTMENT	AFTER PROJECT
	ASSETS			
1000	Cash	$5,000.00		$5,000.00
1060	Account receivable (including taxes)	$1,000.00		$1,000.00
1120	Inventories	$500.00		$500.00
1600	Land	$25,000.00	$0.00	$25,000.00
1680	Buildings	$2,000.00	$0.00	$2,000.00
1740	Machinery, equipment, furniture and fixtures	$5,000.00	$500.00	$5,500.00
1742	Motor vehicles	$2,000.00	$5,000.00	$7,000.00
TOTAL ASSETS		$40,500.00	$5,500.00	$46,000.00
	LIABILITIES			
2600	Bank overdraft	$0.00		$0.00
2620	Accounts payable	$0.00		$0.00
2700	Short term debt	$1,000.00		$1,000.00
3140	Long term debt		$5,000.00	$5,000.00
TOTAL LIABILITIES		$1,000.00	$5,000.00	$6,000.00
	EQUITY			
3500	Equity	$39,500.00	$500.00	$40,000.00
3660	Retained earnings/deficit - Start			$0.00
3680	Net income/loss			$0.00
3849	Retained earnings/deficit - End			$0.00
TOTAL EQUITY		$39,500.00	$500.00	$40,000.00
TOTAL EQUITY AND LIABILITIES		$40,500.00	$5,500.00	$46,000.00

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STEP # 14: Ratios

The following ratios are those typically calculated by lending institutions. Comparing your ratios year-over-year can help you assess your progress within your business.

Ratios

		Target	2014
PROFITABILITY			
Return on Assets Ratio =	Net Farm Income + Interest - Unpaid Labour and Management / Total Farm Assets	5%	0%
Operating Profit Margin Ratio =	Net Farm Income + Interest - Unpaid Labour and Management / Gross Farm Revenue	15%	0%
FINANCIAL EFFICIENCY			
Asset Turnover Ratio=	Gross Farm Revenue / Total Farm Assets	.40 +	0.13
LIQUIDITY			
Current Ratio =	Current Assets / Current Liabilities	1.5 +	6.50
SOLVENCY			
Debt to Equity Ratio =	Total Liabilities / Total Equity	0.4 -	0.15
REPAYMENT CAPACITY			
Debt Repayment Capacity Ratio =	Amount available to service debt / Total Debt payment requirements	1.25 +	0.00
BREAK EVEN VOLUME =	Total cost / Expected price		316.14
BREAK EVEN PRICE =	Total cost / Expected volume		26.56

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OTHER CONSIDERATIONS

Risk assessment and risk mitigation – your business plan should include a brief assessment of the major risks facing Ontario maple production in general, and any that may be specific to your farm. Demonstrate how you will use the tools available to you to minimize the potential impacts of specific risks. Pay particular attention to the requirements for liability insurance should you decide to open your bush to the public for events such as sugar parties, sleigh rides, and meals. OMAF & MRA has prepared a factsheet dealing specifically with this issue. It can be accessed at:

http://www.omafra.gov.on.ca/english/busdev/facts/06-087.htm

While it is nearly impossible to prevent certain catastrophic events such as a major ice storm, preparing a risk survey and mitigation strategy section in your business plan will demonstrate to lenders that you are a well-informed manager with foresight.

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OTHER HELPFUL REFERENCES

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https://www.agcreditcorp.ca/advance_payments_program_ontario_crops

Atkinson Maple Syrup Supplies, Getting Started with Tubing, February 2009.

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Centre de références en agriculture et agroalimentaire du Québec CRAAQ http://www.craaq.qc.ca/

Cornell University Maple Sugar Research and Extension Program http://maple.dnr.cornell.edu/

International Maple Syrup Institute http://www.internationalmaplesyrupinstitute.com/index.html

Michigan State University Extension
http://msue.anr.msu.edu/news/march_is_maple_syrup_season_in_michigan

Ohio State University Maple Syrup Resources http://maplesyrup.osu.edu/

Ontario Woodlot Association http://www.ontariowoodlot.com/index.html

North American Maple Syrup Council http://www.northamericanmaple.org/

Penn State University Extension – Maple Syrup

http://extension.psu.edu/natural-resources/forests/maple-syrup

Proctor Maple Research Centre – University of Vermont http://www.uvm.edu/~pmrc/

University of Guelph, Kemptville Campus, Agroforestry Education Centre
http://www.kemptvillec.uoguelph.ca/research/areas/agroforestry

University of Maine Cooperative Extension

http://extension.umaine.edu/programs/natural-resources/maple-syrup-production/

University of New Hampshire Cooperative Extension http://extension.unh.edu/Maple-Syrup

University of Wisconsin Extension http://www.uwex.edu/energy/maple.htm

Suppliers and Manufacturers of Maple Sugaring Equipment and Supplies

For a current listing consult the OMSPA website: http://www.ontariomaple.com/pages/suppliers/

APPENDICES

APPENDIX A – CHART OF ACCOUNTS

GIFI	ACCOUNTING	DESCRIPTION
1000	ASSET	Cash
1060	ASSET	Account receivable (including taxes)
1120	ASSET	Inventories
1600	ASSET	Land
1680	ASSET	Buildings
1740	ASSET	Machinery, equipment, furniture and fixtures
1742	ASSET	Motor vehicles
2600	LIABILITIES	Bank overdraft or credit line
2620	LIABILITIES	Accounts payable (including taxes)
2700	LIABILITIES	Short term debt
3140	LIABILITIES	Long term debt
3500	NETWORTH	Equity
3660	NETWORTH	Retained earnings/deficit - Start
3680	NETWORTH	Net income/loss
3849	NETWORTH	Retained earnings/deficit - End
9521	REVENUE	Maple Products Sales
9792	DIRECT EXPENSES	Advertising, marketing costs
9795	DIRECT EXPENSES	Building and fence repairs
9661	DIRECT EXPENSES	Containers and twine
9799	DIRECT EXPENSES	Electricity
9801	DIRECT EXPENSES	Freight and Trucking
9802	DIRECT EXPENSES	Heating Fuel
9823	DIRECT EXPENSES	Licenses/permits
9764	DIRECT EXPENSES	Machinery (gasoline, diesel fuel and oil)
9760	DIRECT EXPENSES	Machinery (repairs, licenses, insurance)
9816	DIRECT EXPENSES	Salaries (other than spouse or dependants)
9796	DIRECT EXPENSES	Land clearing and Draining
9821	DIRECT EXPENSES	Small tools
9836	DIRECT EXPENSES	Commissions and Levies
9805	INDIRECT EXPENSES	Interest (real estate, mortgage, other)
9809	INDIRECT EXPENSES	Legal and accounting fees
9807	INDIRECT EXPENSES	Memberships/subscription fees
9808	INDIRECT EXPENSES	Office Expenses
9804	INDIRECT EXPENSES	Other Insurance premiums
9810	INDIRECT EXPENSES	Property taxes
9824	INDIRECT EXPENSES	Telephone
9832	INDIRECT EXPENSES	Depreciation
9805	INDIRECT EXPENSES	Interest on new capital investment

APPENDIX B – SAP PROCESSING RATES

Sap processing rates with various combinations of equipment

*Rate is expressed as the gals of sap processed per square foot of evaporator capacity per hour i.e. a 3 x 12 evaporator = 36 square feet

Equipment used	Gal sap / hour/ sq ft
Flat pan only – hobby style set up	1.5
Small hobby style evaporator with flue pan	2
Commercial style evaporator; medium efficiency	2.5
Commercial style evaporator; high efficiency	3.5
Commercial evaporator; medium efficiency; with reverse osmosis concentrating to 8° Brix	10
Commercial evaporator; medium efficiency; with reverse osmosis concentrating to 16°Brix	20
Commercial evaporator; high efficiency; with reverse osmosis concentrating to 8°Brix	14
Commercial evaporator; high efficiency; with reverse osmosis concentrating to 16°Brix	28

An example - A 1,000 tap bush has an average run of 1 gal / tap. If the bush was equipped with a 3 x 12 evaporator the total time to process the sap into syrup would be as follows:

Equipment used – 3 x 12 evaporator; Total time (hrs) to process 1,000 gal of sap	
Commercial style evaporator; medium efficiency	11.1
Commercial style evaporator; high efficiency	7.9
Commercial evaporator; medium efficiency; with reverse osmosis concentrating from 2°to 8° Brix	2.8
Commercial evaporator; medium efficiency; with reverse osmosis concentrating from 2° to 16°Brix	1.4
Commercial evaporator; high efficiency; with reverse osmosis concentrating from 2° to 8°Brix	2.0
Commercial evaporator; high efficiency; with reverse osmosis concentrating from 2° to 16°Brix	1.0

NOTES

Ontario Maple Syrup Producers' Association

Strength in numbers equals a stronger OMSPA

OMSPA

Tap into the knowledge

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For more information, please call

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