



# Local Harvest

Foodlink Waterloo Region Inc.

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*Local Harvest*

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## Local Farm Profile: Burkhart's Maple Products

For generations, the coming of spring has marked one of the busiest times of the year for the Burkhart family. Their farm, with its large patch of forest set amid the rolling countryside west of St. Clements, is home to one of our region's time honoured crafts—the production of maple syrup. Aaron Burkhart, who took over the maple syrup operation from his father, continues to produce and sell top quality maple syrup and maple products following a business tradition begun by his grandfather some 50 years ago. With proper tree management and a focus on quality, the business has flourished, making Burkhart's Maple Products a highly sought after commodity, featured on store shelves and at farmers' markets in our region.

In early March, Aaron Burkhart begins tapping the nearly 3,200 mature sugar maple trees that cover 70 acres of the family farm. The exact timing of this activity changes from year to year as the flow of maple sap is dependent on temperature, which can affect both volumes and quality. Aaron is quick to point out that weather is one of the main challenges in the maple syrup business. Optimum conditions for sap flow are when the temperature rises to about 5 degrees C. during the day and fall to minus 5 degrees C. at night. A shift in these temperatures could make the difference between a poor season and a bumper crop! In a normal year, each tree will produce about 40 litres of sap, collected via small taps drilled into the tree.

The sap has traditionally drained into buckets under these taps. On more advanced operations such as the Burkhart's, the sap flows directly into a plastic pipeline that runs throughout the sugar bush, eventually draining into large collection tanks. Aaron Burkhart estimates that he has nearly 15 miles of "pipeline" connecting the sugar maples on his property.

Once the sap is collected from the tanks and buckets, it is taken to the sugar mill to be boiled down into maple syrup. The Burkhart's gigantic wood-fired boiler circulates the sap until it reaches the proper consistency and flows out as maple syrup ready for bottling. Each batch is graded (primarily by colour, but also by flavour and sugar content), poured into bottles, which range from 500ml. to 4 litre sizes, and labeled. The production chain, from tapping the sap to labeling, requires an enormous amount of work. In peak periods, Burkhart's maple syrup is processed well into the night, requiring the efforts of two full-time and two part-time employees.



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## Farm Profile Cont...

The final step, before the syrup is ready for sale is to stamp each bottle with Ontario's Maple Seal of Quality. Burkhart's maple syrup qualifies for this prestigious seal as the operation complies with the industry's best management practices, adheres to proper grading and quality control and receives regular monitoring by government inspectors.

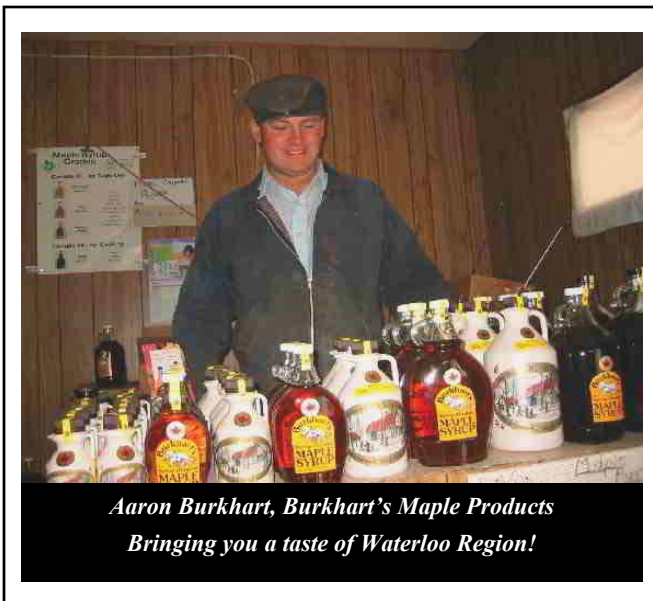


*Maple Seal of Quality*

To achieve this certification, Aaron underwent training and made investments to upgrade processing. Although it can be a lengthy process for the producer, the consumer can be confident that Maple syrup purchased with this seal has been produced with attention to detail and is of the highest quality.

Burkhart's Maple Products produces slightly over 3,000

litres of maple syrup annually, along with an assortment of maple sugar and candy. Each year, the Burkharts sell their premium grades of syrup and maple candy to an estimated 200 customers who drop by their on-farm shop. This represents about 35% of their total sales. Aaron also does a brisk wholesale business with sales to a regular vendor at the Waterloo Farmers' Market and their syrup can also be found throughout the year at Central Fresh Market in Kitchener.



*Aaron Burkhart, Burkhart's Maple Products  
Bringing you a taste of Waterloo Region!*

## Our Food, Our Community

2004 marked the 40<sup>th</sup> anniversary of the Elmira Maple Syrup Festival. The one-day event, held on Saturday April 3<sup>rd</sup> draws tens of thousands of visitors to Elmira in celebration of the arrival of spring, of maple syrup and our community.



The festival features a wide range of activities including sugar bush tours, live entertainment, local art and, of course ample opportunity to sample fresh maple syrup, taffy and candy. The festival relies on the efforts of almost 2,000 volunteers each year and has to date raised nearly \$1 million for local charities.

## Scenes from the 2004 Elmira Maple Syrup Festival



One of the main attractions, volunteers serving at the pancake breakfast will ladle out 880 kg of pancake mix to be smothered with 725 litres of Waterloo Region's finest maple syrup.



Maple taffy is always a hit with the crowd. Sap is boiled over the fire and then poured onto fresh snow, making this delicious treat.



Need some exercise after all those pancakes? The log sawing competition challenges participants of all ages.



In the year 2000, crowds topped 80,000 people, earning recognition in the Guinness Book of Records as the largest one-day festival of its kind!

**To find other local maple syrup producers and their retail locations, refer to the Buy Local! Buy Fresh! Map listings, last page this issue.**

### *A “Sap Story”—The History of Maple Syrup in Ontario*

The journals of early explorers and settlers to North America are an invaluable tool in understanding the history of our country, not the least of which is the production of maple syrup among the Native American Indians. From these records, we know that Indians had a process for making maple syrup as early as 1609. There are many Indian legends about how maple syrup was first discovered, but one Iroquois legend describes how a Chief threw his tomahawk into a maple tree one evening in late winter. After he removed it on a warm, sunny day, the sap began flow from the cut in the tree. It dripped into a container at the base of the tree and was used by the Chief’s wife in which to boil meat. As the water boiled away, a delectable, sweet, maple taste infused the meat.

Most likely, however, the Native American Indians discovered the potential in the maple tree by eating “sapsicles”, the icicles of frozen maple sap that form at the end of broken twigs. As the ice forms, some of the water evaporates, concentrating the sugars and leaving a sweet treat hanging from the tree.

It is believed that Indians taught European settlers how to collect sap from maple trees and boil it into syrup. Not having metal cooking pots, Indians would place hot rocks from a fire into hollowed-out logs filled with sap. The rocks would be hot enough to steam the sap, evaporating the water and thus creating a thick syrup.

Information pamphlets given to potential immigrants in the 17<sup>th</sup> and 18<sup>th</sup> centuries waxed eloquent over the possibilities of producing sugar in one’s own backyard. Maple trees were indigenous to Eastern Canada and the United States, not Europe. Sugar was expensive and the prospect of having an annual supply contained in one’s very own trees was considered a major drawing feature for desired settlers.

And so, like the Native Americans, these early settlers cut V-shapes into their trees, collected and boiled sap, and made sugar in their own backyards. The first innovation introduced into the native method was to substitute iron or copper kettles for the vessels of wood, bark, or clay, which could then be suspended over an open fire. Later improvements included drilling holes into the trees, rather than slashing them, and inserting wooden tubes into the drill holes to



channel sap into wooden buckets. In these early days, the maple syrup was boiled down and made into maple sugar instead of syrup as it was easier to store the solid product. The sap was boiled until it crystallized and was then poured into wooden molds. These blocks of sugar could be broken up or shaved later in the year when needed. Journals from early settlers reveal that Indians taught them to mix the sugar with grains, berries and bear fat, or to dissolve it in water for a sweet drink. Maple sugar, in addition to providing the main source of sugar until the late 1800’s, also had economic importance in early Canadian society as a commodity for sale or trade. Over the years, maple syrup production went through further changes. Metal buckets replaced

wooden ones, metal tanks were substituted for hollowed out logs or wooden barrels. Improvements to the boiling process occurred when large flat pans replaced open kettles hung over an open fire. In the late 1800’s, the sugar evaporator was introduced, which allowed fresh sap to flow constantly into the back of a specially designed flat pan with partitions. As the water was boiled off, the liquid became sweeter and moved towards the front of the pan, traveling through the partitions. The finished syrup was then drawn off at the front. Maple syrup is still made in evaporators that resemble those of yesteryear, but they are often fueled by oil now instead of wood fires.

### **How does sap flow?**

As the temperature rises about 0° C, a positive pressure builds inside the tree wood. When tapped, sap begins to “leak” out since the internal pressure of the tree is greater than the surrounding atmospheric pressure, much like blood flow through a cut in one’s skin.

When the temperature falls below 0° C, the pressure in the tree becomes negative in relation to atmospheric pressure. The sap remains in the tree and freezes, causing gases (like carbon dioxide) in the sapwood to contract. This leaves room for more water to be sucked up from the ground through the roots, much like drinking juice through a straw. The extra water mixes with sugars in the sapwood, creating more sap. For a strong sap flow, a suitable temperature cycle above and below freezing must occur to allow a strong, positive sap pressure to develop. At its strongest, the sap can actually flow at rates up to 10 litres every 6 hours! The sap flow ceases for the season when these temperature cycles cease to exist.

### **From Sap to Syrup**

Maple syrup is made by boiling off the water in the sap of the sugar maple tree.

Sap flow and the making of syrup depends completely on the weather. The sugar maker waits for the right “sugar weather” —cold nights followed by mild days. Tapping involves going from tree to tree, drilling holes 11 mm in diameter and 7 cm deep into the wood. The maple tree must be at least 10 inches in diameter and in good health before it can be tapped – this usually requires the tree to be about 40 years old. The hole is placed waist-high on the tree and away from previous holes. If buckets are used, a metal spout is tapped into the hole and a covered bucket is hung underneath. If a plastic tubing system is used to collect sap, a plastic spout connected to a forest-wide pipeline is tapped into the tree. The sap flows via gravity to a collection tank and taken to the sugar evaporator be boiled down into maple syrup. Throughout a 4-6 week sugar season, each “tapped” tree will yield about 40 litres of sap, (a small percentage of the tree’s total sap production). When the excess water is boiled off, about 1 litre of syrup is made from this quantity of sap.



**Bucket collection**



**A forest pipeline**

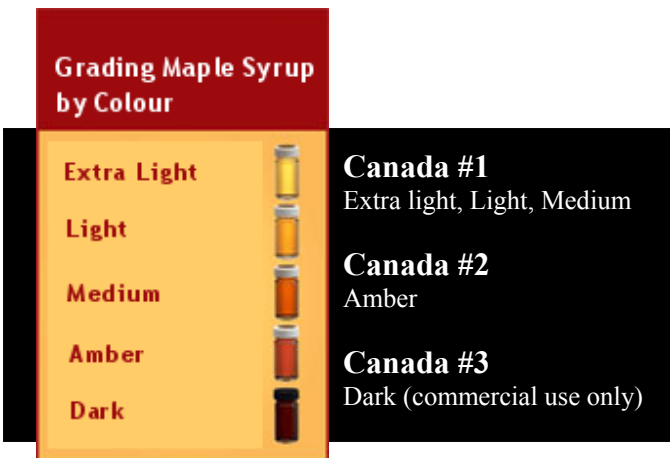
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## Grading the Maple Syrup

Canadian maple syrup is graded into 3 classes primarily based on colour. The first sap of the season (Extra light) is the lightest coloured, and the sweetest, with the most delicate maple flavour. At the beginning of the season, the maple water has a high-grade of saccharose, whereas at the end of the season, the concentration of fructose and glucose increases. While saccharose, fructose and glucose are all sugars, they have different degrees of sweetness, thereby imparting different flavours to the syrup.

As the days get longer and warmer, the syrup gets darker with a stronger maple flavour (Light to Amber classes). Similar to the variations that occur with the sugars, the concentration of other natural components (amino acids and minerals) found in maple water varies throughout the season. These changes will affect the color and taste of maple syrup, depending on the time of harvest.



## Ontario Maple Regulations

There are no license requirements to make maple syrup in Ontario. However, all maple syrup sold in Ontario must be graded in accordance with Regulation 386 of the Farm Products Grades and Sales Act of Ontario. All containers must be marked with the name, quantity, grade and colour class of the syrup as well as the name and address of the producer. All syrups must meet a minimum sugar content of 66% by weight, while maple sugar cannot exceed a maximum moisture content of 10%.

The **Ontario Maple Seal of Quality** is a voluntary producer-led quality assurance program that allows Ontario producers to rate their maple operation from the woodlot to the packaged maple syrup. Producers examine their production practices, identify areas for improvement to "best" practices, and develop an action plan. Industry monitors and government inspectors ensure compliance with the criteria established by the Ontario Maple Syrup Producers Association (OMSPA) for the use of the Seal of Quality logo.



## Storing Maple Products

All unopened maple products, whether they are syrup, sugar, or butter, should be kept in a cool, dry place – the refrigerator or freezer. The flavour is best preserved over a long period by storing the product in the deep freezer. Once opened, store the maple product in a tightly covered container in the refrigerator.

## Nutritional Analysis

Maple syrup is an "all natural product", containing no additives, artificial colours, or preservatives of any kind.

### NUTRITION FACTS

Serving Size one tbsp. (15 ml)

#### Amount per Serving

50	calories
14g	sugar
35mg	potassium
21mg	calcium
2mg	sodium
1mg	zinc

*Maple syrup also includes trace amounts of phosphorus, iron, and B vitamins*

But that's not all! Recent studies report that sap contains polyphenolic compounds (phenolic and flavonoid acids) that have important antioxidant and organoleptic (fragrance and flavour) properties. With this wide nutrition range and its smooth sweet aroma, maple syrup adds value to your meals ... nutritional value!

## Substitution in Recipes

Maple syrup gives a unique taste to recipes. It is a substitute for any sweetener such as corn syrup, honey, molasses and sugar. To replace sugar, use the same quantity of syrup. However, for every 250 milliliters (1 cup) of sugar replaced, reduce by 60 milliliters (1/4 cup) the quantity of liquid (milk, water or juice) indicated in the recipe.

### Did You Know?

**Sap from the tree is about 98% water and 2% sugar, maple syrup is 33% water and 67% sugar**

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## Where to buy maple syrup direct from the farm



Foodlink's Buy Local! Buy Fresh! Map lists a number of farms and farm stands across Waterloo Region that sell maple products direct to the consumer. Looking for maple syrup this spring? You can refer to both the 2003 Map and the new 2004 edition (available in May) as your guide. The following local farmers have product on hand. In most cases it's a good idea to call ahead.

### 2003 MAP

#### **Cleason Martin**

6452 Middlebrook Road, West Montrose  
Tel. 669-1565  
2003 Map Listing # 3  
Maple syrup, maple butter and maple sugar

#### **Amon and Anna Martin**

3124 Lobsinger Line, St. Clements  
2003 Map Listing # 6  
Maple Syrup

#### **Martin's Maple Syrup**

1222 Apple Grove Road, Waterloo  
Tel. 664-3222  
2003 Map Listing # 7  
Maple syrup, maple products

#### **David B. Weber**

2494 Floradale Road, Elmira  
2003 Map Listing # 17  
Maple Syrup

#### **Henry M. Martin**

1119 Scotch Line Road, Elmira  
Tel. 664-1575  
2003 Map Listing # 34  
Maple syrup, maple butter, maple candy and taffy cones

### 2004 MAP

#### **Amos Bauman**

2560 Floradale Road, Elmira  
Tel. 669-3102  
2004 Map Listing # 7 (2003 Map listing #22)  
Maple syrup

#### **Bauman's Maple Syrup**

2463 Kressler Road, St. Clement's  
Tel. 669-4718  
2004 Map Listing # 9  
Maple syrup

#### **Ivan and Elmeda Brubacher**

926 King Street North, Waterloo  
2004 Map Listing # 12  
Maple syrup

#### **Burkhart's Maple Products**

2892 Hackbart Road, St. Clements  
Tel. 699-5366  
2004 Map Listing # 15 (2003 Map listing # 5)  
Maple syrup, maple butter and sugar

#### **Cedar Spring Flowers**

1547 Cedar Spring Road, Elmira  
Tel. 699-4529  
2004 Map Listing # 16 (2003 Map listing # 26)  
Maple syrup

#### **Faul Farms**

1180 Wrigley Road, Ayr  
Tel. 632-7678  
2004 Map Listing # 28  
Maple syrup

#### **Hilltop Acres Poultry**

1501 Maple Bend Road, Breslau  
Tel. 743-6884  
2004 Map Listing # 37  
Maple syrup

#### **Mapleview**

RR#1, County Rd. # 43 936883, New Dundee  
Tel. 696-3551  
2004 Map Listing # 43  
Maple syrup

#### **Edgar B. Martin**

2280 Kressler Road, St. Clements  
Tel. 699-4138  
2004 Map Listing # 47  
Maple syrup

#### **Pleasant Hill Farm**

4724 Boomer Line, Linwood  
Tel. 699-5495  
2004 Map Listing # 59  
Maple syrup

#### **Paul M. Sherk Farm**

2818 Hackbart Road, St. Clements  
2004 Map Listing # 66  
Maple syrup

### Maple Syrup Production in Canada, Ontario and Waterloo Region

Maple syrup and sugar production are worth nearly \$15 million annually in Ontario. Approximately 2,000 sugar makers, with a combined total of 1,300,000 taps, sell 1 million litres of syrup and 40,000kg of maple sugar each year. Ontario is the 4<sup>th</sup> largest syrup producer in the world after Quebec, Vermont, and New York State.

The highest producing maple syrup areas in Ontario are Waterloo-Wellington in Southern Ontario and Lanark County in Eastern Ontario. According to the Growing Food and Economy Study, 284 farms in Waterloo Region reported a total of 151,130 taps on maple trees—nearly 12% of the provincial total.

Canada is a leader in world exports with maple syrup sales to more than 30 countries. Export sales were worth \$145 million in 2002. The United States is our main customer, buying 81% of our maple syrup exports.

**Did you know?...** According to Ontario Ministry of Agriculture and Food, 80% of maple syrup produced in Ontario is sold at the farm gate!