

Hops

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# Visionary Planning

Any success you have in life **must** begin with a vision. A vision is the ability to see what others cannot see. It is being able to have a picture in your mind of exactly the result you intend to produce. The visionary entrepreneur is able to see exactly what his or her business is going to look like in every detail when it is finished. Write your business vision – ours is included at the end of this presentation.

Ask yourself these questions?

What am I passionate about?

What is going to get me out of bed when things aren't going well?

When I have completed my start up? What do I want my business to be famous/known for? What is the end result that I am hoping to achieve once I have my business functioning? And how am I going to achieve it?





# Sole Proprietorship, Partnership, or Corporation?

Step 1 – you need to decide on your business structure. As a sole Proprietor you are fully responsible for all of the debts and obligations related to your business. The profits would be yours to keep but a creditor can make a claim against your personal or business assets to pay off any debt if the need should arise. A Partnership allows you to carry on a business with a partner if you do not wish to incorporate your business. Financial resources are combined. You can draw up a specific business agreement with your partner to protect yourselves. You would share in the profits of your business according to your agreement. Incorporation can be done at the federal or provincial level. It is considered to be a legal entity that is separate from the shareholders. We are a corporation. It was the first decision that we made as a business – after we wrote our vision. There are some funding programs that require that you are incorporated for 2 years to apply. Deciding on your business structure is an important decision that needs to be made when you start up your new business.



## What are Hops ?

Hops are the female flowers of the hop plant. They begin as a burr, which resembles a flower - but it is not the flower.

The hop cone that forms from the burrs - on the upper part of the bine is the flower.

The hops act as a flavoring and stability agent in beer. They impart a bitter flavour.

They can also be used for medicinal purposes. They are antibacterial. Different types of hops produce different styles of beers.





## Reviving the Hop Industry in Ontario

The hop industry in Ontario is expanding exponentially with the Craft Beer Industry. The number of hop growers in Ontario will double by spring 2015.



## Craft Beer Market Explosion

The explosion of the Craft Beer Industry has created opportunities for new hop production throughout various regions of the United States and Canada. Ontario, Quebec, British Columbia as well as the Maritime provinces have all begun to re-establish hop yards. How many new Craft Brew Pubs and Breweries do you have in your area?



# Start Up Costs for a hop yard

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- Initial establishment of your hop yard will include – Trellis/Poles, Planting material, and an irrigation system.





## Trellis System

Trellis system includes 22-24 foot length cedar/tamarack poles with the width at the top of the poles at 4-5 inches - base size 7-10-inches. The Grids usually hold approximately 55 poles per acre, but there are lots of different designs being used by the commercial growers. Cedar trees are used in Southern Ontario and Tamarack is used in Northern Ontario. Prices range from \$20-\$60 per pole – You can save thousands of dollars if you have cedar growing on your farm that can be used. 3/16th and 5/16<sup>th</sup> Aircraft Cable is used for the trellis to provide support for the hop plants. Prices also vary greatly for the aircraft cable.. We used 3/16 and paid \$.10/foot.







## 7 Acre Hop Yard in Quebec

Beautiful cover crop! Little to no weeds in the rows.

## Planting Material- Rhizomes

Traditionally rhizomes were planted to grow hops. Pricing and quality fluctuate greatly – You will find prices as high as \$6.00 for a single rhizome – with instructions to plant 2-3 rhizomes in each hole – to ensure that you end up with one hop plant. Difficult to tell if there is any disease present? Rhizomes will delay your start up one year.





## Planting Material - Hop Plants

We propagate using cloning-and only clone female plants.

In biology, **cloning** is the process of producing similar populations of genetically identical individuals that occurs in nature when organisms such as bacteria, insects or plants reproduce asexually.

Cloning produces a genetically identical plant to the parent. In nature, the male hop plant pollinates the female to initiate seed production. If we were to grow from seeds - they would all be slightly genetically different. Purchasing hop plants – allows you to visually inspect them for both disease and pests before you plant them in your hop yard. The field grade hop plants have an established root system when they are shipped – and most times they are 40-50% less in cost than a rhizome – we currently sell our plants for commercial orders @ \$3.45 per plant. The choice is easy! Start up and production costs must be kept to a minimum.





Male Hop Plant



## Irrigation + Additional Hop Yard Costs

Drip irrigation allows commercial hop growers to deliver water and nutrients that are required by the hops throughout the growing season. Drip irrigation lines are either set on the ground or attached above ground approximately 1-2 feet and secured by the poles. Nutrients can be added easily to the water and added directly to each plant. Hops need to be trained in the spring - to twine. The hop vine is actually called a bine - and they only twine one way - looking down on the string - clock wise. Coir is imported from Sri Lanka and tied to the aircraft cable and attached at the plants crown area with a "w" clip. The cost for 1000 strings of coir is \$150.00 ( \$.15 per string) The "w" clips are \$ .02 or \$ .03 cents each. Hops must be re-strung every spring - as the entire bine and string are cut down and removed at harvest. 1-2 week delay in stringing your hops in the spring can equal 6-8 feet of growing height at harvest. Hops don't develop the flowers/cones at the bottom part of the bine – so it is important to get them as tall as possible to ensure optimum harvest.





Our current customers need to supply the craft brew industry with the hops that they require to produce their craft beer. Cascade is currently the most commonly used hop in the United States & Canada in the craft beer industry. Chinook and Centennial are next in line. It is important for us, as hop plant propagators to be able to supply large quantities of these varieties of hops. Our goal is to have 100,000 hop plants available in spring 2015. That is our goal – our vision.

Know What Your Customers Need Are– This will ensure that you have no problem marketing your product when you are ready to send it to market.



## What are your customers needs & wants?

It is important to know what your customers are going to want to purchase? A market analysis will provide you with this information.

What is a market analysis?

A **market analysis** studies the attractiveness and the dynamics of a special **market** within a special industry. It is part of the industry **analysis** and thus in turn of the global environmental **analysis**.

Go talk to your local Craft Brewer to find out what varieties of hops they use to brew their beer. Be careful - there are numerous varieties of proprietary - patented hops on the market that you are not able to grow !



# Get to know your competition

It is as important to know your competition – as it is to know what your customers needs are. What is your competition famous for? Are you selling similar products? Will the same customer base want your product? Or will you be marketing your product to a different customer base? If your competitions products are similar to yours – what value – added can you include? that will make your product stand out?

## DEFINITION of 'Value Added'

The enhancement a company gives its product or service before offering the product to customers. Value added is used to describe instances where a firm takes a product that may be considered a homogeneous product, with few differences (if any) from that of a competitor, and provides potential customers with a feature or add-on that gives it a greater sense of value.

“I've learned that people will forget what you said, people will forget what you did, but people will never forget how you made them feel.”

— Maya Angelou

Last year our value-added was to provide our customers with a Plant Propagation Seminar in May - teaching them how to propagate their own plants - to increase their acreage at very little cost. Money saved could be re-invested into increasing their hop yard. This year we have partnered with a consultant from Michigan - to help our customers with their hop yard plans and provide the information that they will need to help them through their first growing season.





## Important Factors for Choosing Varieties

Factors to consider when deciding on varieties for commercial hop production are resistance to disease, yield per acre, and what varieties are your local Craft Brewers Brewing with?

Go out and talk to your local Craft Brewers! You need to be able to market your hops at harvest – Make a connection with them and ask what varieties they are currently brewing with? The brewers want quality vs quantity. The hops must be dried, packaged, and stored correctly - to assure you deliver a top quality hop. Resistance to disease is another important factor to consider when choosing your varieties. U.S.A Hops website is an excellent resource of information on hop varieties and yields and disease resistance in different varieties of hops. Some varieties are more resistant to downy mildew than others. Downy mildew was one of the main reasons that caused the hop industry to disappear many years ago . Currently – we are using a product developed in the United States. It is misted onto the plants when they are cut/cloned. This product creates a membrane on the leaves and stems of the cuttings that keeps out mildews and pests throughout the cloning stage.

*[www.usahops.org](http://www.usahops.org)*





## Variety Vs Yield

One of the most important factors to consider when choosing your variety is yield per acre. Hops can be divided into 3 groups – North American – European – British

The North American Varieties – such as Cascade, Centennial, Galena, Chinook, Zeus –all grow well here. The farther you try to grow a hop from its origin of birth – the harder it is to grow. Cascade is the most popular hop used in Craft Brewing in North America. The North American Varieties have larger bines and larger root systems. They require more room to grow – so are usually planted approx. 3 feet apart. The European and British varieties of hops are smaller in size and have a smaller root mass. The yields are usually smaller for these varieties as well. British Hops have been bred and born to grow in higher PH soils(6.6-6.8) – whereas the European Hops require low Ph soils (eg PH 5.6-6.2) – Ph is a very important factor to consider when growing hops –both in your soil as well as your water! The European and British varieties of hops can be planted closer together – usually approximately 2 feet apart. Packing more plants per acre to make up for the lesser yield that you will get from them. Research the yield per acre of similar aroma and flavored hops . Then check with your brewer to see if they would brew with a higher yield per acre hop.





# Comparing Yield per Acre

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## CTZ<sub>(Columbus/Tomahawk/Zeus)</sub>

- Yield per acre = 2500-2900 lbs
- Alpha Acids 14.5-16.5%
- Beta Acids 4-5 %
- Storage - Fair to moderate
- Possible Substitutions = Galena, Nugget, Chinook

## Galena

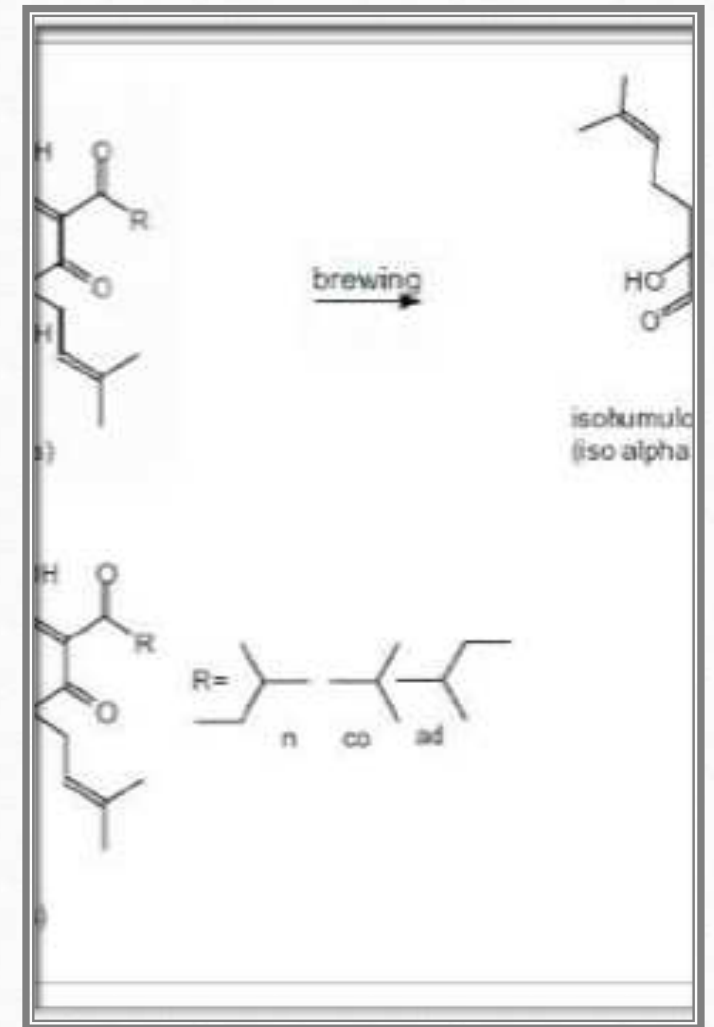
- Yield per acre = 1700-2100 lbs
- Alpha Acids 11.5-13.5 %
- Beta Acids 7.2-8.7 %
- Storage - Good +
- Possible substitutions = Nugget, CTZ





# Chemistry of the Hop

The lupulin glands contain the resins and oils that the craft brewers are looking for when they brew their beer. The 3 main chemicals are Alpha & Beta Acids and essential oils. Each hop has its own distinct alpha and beta percentage. This percentage can be used to identify certain hops. An example of this is the Teamaker hop - where the alpha and beta reversed. Alpha Acids give each style of beer its unique bitterness. The alpha acids are also antiseptic. The beta acids contribute to the bitter nature of beer as well. Their effect becomes more developed with long fermentation. Beta acids also are antiseptic. The essential oils produce most of the hop flavor and aroma - citrusy - grassy - lemony - spicy



# Stationary Wolf Harvester Vs Mobile Harvester

There are currently only a few Wolf processors in Ontario. These processors are usually imported from Germany - or purchased from a commercial grower in Canada/United States who is upsizing to a larger unit. Starting costs of the Wolf is around \$50,000 ++ There are also mobile harvesters available for sale in Ontario. The mobile harvesters pricing begins at \$23,000. The size of your hop yard will determine which harvester is right for you? You **will** need to have your processing/harvest plans in place in year two.





## Processing Hops

Hops can be shipped to craft brewers in many different forms – Wet Hops – picked and used in the kettle within 12-20 hours – Whole Leaf baled hops – or Pelletized Hops. Each time the hop is processed it loses some of its aroma/flavour. Harvest ales brewed with wet hops are now available in Ontario – with the re- establishment of the hop industry. Sierra Nevada - a Craft Brewery in the United States - uses only whole leaf hops - that is their "famous"





## Hop Rub

You will see bowls filled with hops located around the room – Pick up a handful and rub them between your hands to release the aromas from the lupulin in the hops



# Hop Yard Product Suppliers

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- Dornoch Hops – Hop Plants
- S & L Natural Fibre - Coir
- Tavistock Hop Yard – Processing
- Nation Hops – Mobile Harvester Manufacturer
- 80 Lb Breaking Strength Consulting

## Dornoch Hops Corporate Vision

Today is a beautiful sunny September day. Harvest is complete. Springtime sold out our field grade plantings. The sun is just beginning to tie the fields and the sky together to become one. Dornoch Hops is the #1 supplier of Hop Plants in Canada. Today we are hosting our Annual Hop Tour & Brewers Festival for Ontario. Local Brewers, Hop Growers, Employees, Customers and Close Friends will be arriving shortly. As I walk into our newly constructed 2 storey stone barn brew house, the aroma of apple wood escapes the wood burning pizza oven recently installed behind the bar. Fresh wood fired pizzas laden with buffalo mozzarella, delivered fresh this morning from Sterling, are waiting impatiently to be placed inside. Large vats of fresh basil from the greenhouses, grown especially for today's celebration await their moment to be placed on the pizzas exiting the fire heated ovens. 3 kegs of our recently brewed fresh harvest ales sit chilling, silently behind the bar, waiting to be tapped. A band is setting up at the entrance, awaiting the first guest to arrive. Tomorrow we will complete the packaging of the last hops. Today, though, we will concentrate on the party that is just about to begin. A party to thank all involved in the progression, that just a few years ago, was nothing more than a brief "what if"