

Hop Farm Business Plan and Economic Study

A Senior Project

presented to

the Faculty of the Liberal Arts & Engineering Studies  
California Polytechnic State University, San Luis Obispo

In Partial Fulfillment

of the Requirements for the Degree

Bachelor of Arts

by

Matt Polvi

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## **Senior Project Written Component**

### **1. Introduction**

The purpose of this project is to create a business plan for a hop farm in the Willamette Valley of western Oregon with the final document including a study for both financial and agricultural feasibility. I became interested in this project initially while investigating the feasibility of starting a brewery, only to discover that hops are both integral to the brewing process as well as in short supply. As such, I started researching what it takes to farm hops and began creating a business plan to get into the business.

According to the American Brewer's Association's website, craft beer production has seen an enormous increase in market share over the past couple years. For reference, the United States had approximately 500 breweries in 1994, and has more than 3500 as of 2014. Of these 3500, more than 1000 were started between 2012 and 2014. This drastic rise in market share contributed directly to the high demand for hops.

This project is perfect for LAES because it combines the technical aspects of economic analysis and feasibility study with the communicative nature of creating a business plan and selling the idea to investors. I have been able to apply lessons from Industrial Engineering, Bio-Resource and Agricultural Engineering, Communication Studies, Sociology, and more.

### **2. Deliverable**

The final deliverable is a business plan that includes an outline of the initial and operating costs of the business, sensitivity reports for projected production, investigation into farming techniques and equipment, investigation of processing equipment and associated costs, and an analysis of the commercial hop market. These elements of the business plan were included after researching business plans on the internet, consulting with current and former business students, and utilizing recommendations from professionals in related fields. The primary structure of the business plan includes market analysis, industry analysis, production plan, marketing plan, and economic analysis.

### **3. Literature and Technology Review**

As cited in my annotated bibliography, I used an online manual titled "Small Scale & Organic Hop Production" for reference to hop horticulture and general hop yard specifications but my project differs in a few distinct ways. To start, the manual focuses specifically on British Columbia, Canada, so much of the information is tailored to the climate and soil of that region. My project will take the soil and climate of a specific location in Oregon into consideration, so much of the data will differ in that respect. Additionally, the market research included in the manual is from 2001, so the data here will be irrelevant to the current market.

Next to the online manual for reference, I have had a chance to visit two separate existing operations in the Willamette Valley, which has given me perspective on commercial sized operations that are 5 to 25 times the size of my proposed project. Both of these visits provided me with literature to take home as well as references online and this information will help determine what large-scale production, processing, and distribution entails.

My project and the related research is unique because it focuses on a specific property in Oregon with a 40-50 acre crop. Although there is a relatively plentiful amount of information on the processes involved in production and distribution, specific research will need to be carried out to figure the exact details for this project in regards to expenses and revenue.

#### **4. Design & Implementation Description and Timeline**

The research collected for this project will be organized in the format of a business plan and economic analysis. This final document will be used as supporting documents for proposal to potential investors as well as the foundation of the business's organizational structure.

Timeline:

*December 2014:* Site visit and soil samples collected

*January 2015:* Project proposal submitted and presented  
Background research continued and compiled

*February 2015:* Analysis and Verification detailed roughly and submitted  
Business plan outline started  
Contacted Soil Science faculty for soil testing

*March 2015:* Written Component rough draft  
Soil Testing  
Began economic analysis/feasibility study  
Contacted advisory board

*April 2015:* Finished business plan document

*May 2015:* Completed economic analysis with soil test results

*June 2015:* Polished final document according to critique from advisory board  
Submit and present project

#### **5. Analysis and Verification of Project Success**

Analysis and verification of the success of this project was completed by having three business professionals critique the business plan against a rubric that was developed for an online business plan competition by the National Society of Black Engineers. The three professionals were Scott Dawson, Dean of Cal Poly's College of Business, Mellie Pullman, Professor at Portland State University and founder of the Business of Craft Brewing minor, and Jeff Witous, co-founder of Cal Poly's Center for Innovation and Entrepreneurship.

The rubric consists of 12 questions with 4 gradations each, and only 10 of the 12 sections were used, due to the nature of the other 2 being too specific to apply to my project. As such, the applicable questions will yield a total possible score of 40 points (4 gradations on 10 questions). For the project to be satisfactory to present to investors, I set a goal of 32 out of 40 points on the rubric, for a score of 80%. Unfortunately, my average score between the two returned rubrics was 29.5/30, which is nearly to the 32 mark, but not quite there. Despite the graded critique being slightly short of my goal, the analysis by the professionals provided insight into what I need to improve and include in order to bring the business plan to a satisfactory level.

Although one of the three professionals did not have time to return the completed rubric to me before the project submission deadline, all three were able to provide feedback on the business plan itself, which helps refine the plan for the future application. The primary weaknesses of the business plan had to do with the level of detail regarding production, growth, and financial specifics. All of my advisory board felt that my production analysis could use some more specific details in regards to the cited data and because of this, the plans for expansion in the future is slightly vague. Additionally, the financial analysis is missing a couple of components to make the conclusive data useable. Specifically, the initial investment should be amortized to allow for salaries in the first few years, and the investment should be subject to interest costs.

On the other hand though, my advisory board had a number of positive comments regarding the administrative and marketing plans. Though the administrative detail is relatively straight forward, the marketing plan is one of the strongest elements of my business plan. This

section of the business plan details the steps to advertise, market, sell, and deliver the product according to the specific nature of the craft brew market and the hop growing industry.

In the future, I plan to add a considerable amount of detail to the market analysis section of the document, as well as the production (operational) plan. Though these sections have some detail currently, it is recommended that the final document be fully inclusive for an investor, rather than citing sources of research.

## **6. Societal impacts**

The primary impact of this project is that the findings will be useful to starting a business in the craft beer industry, which is currently experiencing a hop supply shortage. Additionally, because the proposed property is not being used for other production and has its own water supply, there should not be any significant negative societal effect on the community or related industries.

## **7. Future work**

I intend to use the final deliverable to present to investors in order to secure funding to bring the proposed business into fruition. After funding the project, the business plan will be used as a guideline to starting the business.

## **8. Conclusion**

Ultimately, this project has been a success in regards to establishing a business plan and assessing economic feasibility. Though the analysis and verification of project success fell slightly short of the intended numerical grade, the insight by the assembled committee proved to be extremely helpful to the long term goal of starting a business in this industry.

## **9. References**

Refer to attached annotated bibliography.



# Willamette Valley Hop Yard Business Plan and Economic Study

Prepared by: Matt Polvi  
June 1, 2015

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# EXECUTIVE SUMMARY

## **Who We Are**

Willamette Valley Hop Yard LLC is an Oregon based agricultural company focused on growing, harvesting, and processing hop cones for the American craft beer and homebrew markets. The primary goal of this company is to produce and supply high quality hops for craft beer production by local and regional breweries as well as homebrew hobbyists.

## **What We Sell**

Willamette Valley Hop Yard will grow hop cones of various varieties, process them into pellets for ease of storage and transportation, then package the pellets in quantities ranging from 60 grams (approximately 2 ounces) to 20 kilograms (44 pounds), according to industry standards. These hop pellets are used in beer production for flavor and preservation of the brewed product.

## **Who We Sell To**

Willamette Valley Hop Yard will supply local and regional craft breweries through contract based sales as well as home brewers through both online supply and homebrew stores. Product that is not sold through these methods will be sold to hop brokers at wholesale price.

## **Financial Summary**

The initial investment required for this project is approximately \$570,000, which includes the equipment necessary for harvest, processing, pelletizing, and storage. Additionally, annual expenses are approximately \$120,000. At a conservative market wholesale price of \$5 per pound, the business will break even during the third year of full production. In a contract based market, the product can be sold at approximately \$10 per pound or more, in which case the business will see a profit in the first year of full production yield.



# COMPANY OVERVIEW

## **Mission**

The mission of this business is to grow and process hop cones to supply the American craft brew and home brew markets.

## **Model**

The business will focus on the growing, processing, storing, and distributing hops for the craft beer industry.

## **Strategy**

*Short Term:* Establish the farm to a break-even point, establish market presence through contracts with breweries and/or distribution networks

*Long Term:* Sell product in smaller quantity but on larger scale by reaching out to smaller breweries and homebrew markets (both online and through physical stores). Network through trade-shows and beer competitions.

# ADMINISTRATIVE PLAN

## **Location**

The farm will be located in Northwestern Oregon state, between Highway 221 and the Willamette River, approximately 20 miles North of Salem, OR

## **Legal Structure**

The business will operate under a Domestic Limited Liability Company (LLC) structure, with the registered office located at the farm property.

## **Management**

Austin Dupuy - Chief Executive Officer (CEO)

Dillon Katz - Chief Sales and Marketing Officer (CSMO)

Matt Polvi - Chief Operations Officer (COO)

Quin Donahue - Chief Information and Technology Officer (CITO)

## **Personnel Responsibilities**

CEO - Responsible for legal and administrative obligations associated with the company

CSMO - Responsible for bringing the product to market, distribution of the product, and maintaining customer relationships.

COO - Responsible for the daily operations of production, harvest, and processing

CITO - Responsible for duties associated with technology, USDA testing, quality control, and keeping the company relevant with current trends within the alcohol industry

## **Insurance**

This business will need insurance coverage for accidents by the hired labor and damage to business property, including but not limited to: buildings, vehicles (trucks and tractors), harvest equipment, and processing facilities.

## **Intellectual Property**

Intellectual Property will be protected under a Limited Liability Company (LLC)

# PRODUCTS AND SERVICES

## **Product Description**

The business will grow, process, and sell multiple varieties of hops, which will be pelletized and packaged in various quantities. These varieties will be differentiated slightly by chemical qualities, but will all be of the *Humulus Lupulus* family.

## **Production**

### *Pre-production*

Before hop production, the land will be conditioned to the appropriate soil conditions and a trellis system will be installed to support the hop vines during growth. This trellis system will be a network of steel cables supported by poles. The cable network will be suspended approximately 20 feet from the ground, with fibrous string hanging from the network at 3 foot intervals along a set row. These strings will hang directly above the rhizomes in the

ground and will allow the hop bine to grow vertically to its full height of 20 feet. Once the trellis network is in place, the rhizomes will be planted in groups of three to one string, spaced 3 feet apart with 10 feet between the rows to allow harvesting equipment to pass through.

### *Production*

At the beginning of production each season, the subterranean rhizomes will produce bines that will be trained to grow clockwise up the strings that hang over each group of rhizomes. Within the first month of each season (during April or May), the bines will reach nearly their full height and begin to fill out horizontally. This process will continue until September, at which point the bines will have produced hop cones that are ready to harvest. During the growing season, the plants will need to be cared for by providing supplementary water when necessary, nutrients in the form of fertilizers, and pesticides to prevent destruction of the crop by aphids and mildew.

### *Harvest*

Because hops mature quickly, harvest is timed very specifically to the chemical content of the hop cones. The entire crop must be harvested in a 2-6 week window in late September, October, and sometimes early November. This process is the most labor intensive and is absolutely crucial to producing a quality product due to timing. When harvested, the bines are cut from their stems at the bottom and the trellis at the top, leaving the rhizomes in the ground and the trellis above for the next season. These bines are then taken to a picking machine, which separates the hop cones from the bines. The cones are then moved to post-harvest processing and the bine material is recycled for fertilizer or animal feed.

### *Post-Harvest Processing*

After the hop cones are mechanically separated from the bines, they are transported immediately to an adjacent structure containing a kiln to dry the hop material's moisture content from 75-85% to 8-10% by weight. This prevents the hops from decomposing too quickly or growing mildew while in storage. Once dried, the hops will be baled in 200 pound bales (by industry regulation) to be inspected by the USDA.

### *Pelletization*

Once the bales are approved by the USDA quality control, the dried hop cones will be ground and pelletized for ease of storage and usability. These ground pellets are packaged in vacuum sealed mylar bags for longevity of freshness.

### *Storage*

After pelletization and packaging, the hops will be stored in refrigeration until the product is sold and shipped. The sealed product can be stored under refrigeration for approximately 6-12 months without significant degradation in quality.

## MARKETING PLAN

### **Overview and Goals of Marketing Strategy**

The current state of the hop market exhibits a relative shortage of product availability to consumers. Because of this, the market dictates contract-based sales and low surplus product. The primary marketing goal will be to pursue a similar contract based strategy with future emphasis on sales of smaller quantities to microbreweries, brewpubs, and home brewers.

### **Market Analysis**

#### *Target Market*

The target market will consist of microbreweries and homebrewers with emphasis on the pacific northwest initially and expanding to the US market

#### *Market Trends*

Because hops are an integral part of beer, the market is heavily influenced by the growth of the craft beer market. Currently, the hop market has experienced growth over the last few years with the beer industry, but at a much slower rate. As such, there is a widening gap between the production volume of beer and hops, with hops becoming increasingly in demand.

#### *Competition*

Primary competition in this market is mostly by large, multi-generation hop yards with 500+ acres. These companies typically sell in bulk amounts to large breweries, brewery conglomerates, or hop brokers. Because of the nature of the current market and the associated shortage of hop availability, the product is typically sold under 3 to 5 year

contract, in the interest of brewery consistency. Because of this, the market is in favor of the hop suppliers, who have few problems with bringing surplus product to market.

## **Marketing Strategy**

### *General Description*

The marketing strategy will largely consist of business to business sales through cold-calling and on-site visits. due to the nature of the industry, it's likely that word of mouth marketing will be integral to operations as well. In the future, we hope to look into the online marketplace as a way to reach individual consumers in the homebrew market. Additionally, surplus product can be sold to hop supply companies if necessary.

### *Method of Sales and Distribution*

Sales will be facilitated by the Chief Sales and Marketing Officer (CSMO) and distributed on a case by case basis. Large, local quantities can be distributed with available trucks and non-local distribution will be arranged as necessary. Theoretically, the contract-based sales will entail a shipping arrangement built into the contract. In the case of the online homebrew market and other small, non-local deliveries, the product can be shipped via FedEx, USPS, UPS, or other common delivery methods. There are currently no restrictions on shipping hops via mail.

### *Packaging*

After harvest, hops will be packaged in 200lb bales for quality testing according to USDA regulations. From here, the bales can be sold to breweries for large volume, whole-cone applications. Otherwise, the hop cones will be ground and pelletized, then packaged in vacuum-sealed mylar bags in quantities ranging from 44lbs (20kg) to 2oz (57 g).

### *Branding*

The product will be branded as a Willamette Valley hop for craft brewing applications. Though the bulk of the product volume will be sold on a contract based, business-to-business platform, the brand will need recognition for consumer applications (homebrew market)

### *Sales Strategy*

Product sales will largely be contract based, and these contracts will be developed through networking and associated inbound and outbound sales efforts. Cold call sales will be implemented to sell product that has not been contracted.

### *Sales Incentives/Promotions*

Promotions will exist in the way that larger quantities will cost less per pound (wholesale strategy)

### *Advertising Strategies*

Advertising will take place through a largely word of mouth platform but the opportunity to visit brewery festivals could be potentially lucrative. Additionally, brewery competitions and collectives can help spread brand recognition, as well as homebrew competitions.

### *Public Relations*

Public relations efforts will be conducted through trade shows and various industry related events. Additionally, the potential for an “account executive” exists, with the primary responsibility of maintaining contract relations and developing leads of interested parties.

### *Networking*

Beer competitions and industry trade shows will be integral to networking in the industry.

## **Customer Service**

### *Description of customer service activities*

Customer service would be the responsibility of the CSMO, who would be in charge of keeping in contact with customers and fielding questions from the public as necessary.

### *Expected outcomes of achieving our standards*

A high standard of customer service is integral to the success of this business due to the nature of the craft brewing industry. Because the community is tight knit and networking is usually recommendation based, maintaining a positive image is vital within the industry.

# ECONOMIC ANALYSIS

## **Income**

Costs of goods sold will be determined by averaging results from this study with previously completed economic studies to provide an estimated COGS.

*Assumptions are as follows:*

- Year 0 will produce 0% yield, Year 1 = 30% yield, year 2 = 70% yield, Year 3 = 90% yield, Year 4 = 100% production
- Varietals will produce an average of 1500lbs of processed product per acre at full yield.
- A wholesale market price of \$5/lb will be established as the initial benchmark, and will increase at 3% year over year.
- The market price will be further investigated at \$7/lb and \$10/lb with a more conservative price increase of 2% year over year.
- Production income will be taxed at 38%
- Analysis will be based on a 50 acre production

## **Expenses**

*Operating expenses* - This category includes expenses associated with electricity, water, fuel, soil conditioning, and pesticides. Expenses such as electricity, soil conditioning, and pesticides will be on an as-needed basis and are difficult to predict, therefore the numbers represented here will be based on a study from Washington State University and are not necessarily specific to this project.

*Rent* - Farm property will be rented from Polvi Farms Inc. at approximately \$400 per acre annually.

*Labor* - Labor costs will be dependent on the year (due to the inconsistent nature of farming), so the estimated expenses here will be based on the Washington State University study.

## **Investments**

*Administrative Costs* - Includes the legal costs associated with starting the business

*Trellis Network* - The trellis system will be a largely one-time investment, consisting of purchasing the materials to set up the trellis, as well as the labor to install the network. After the initial investment, the network will likely require some additional annual investment to fix broken wires or poles.

*Irrigation* - The irrigation system will consist of a drip irrigation line fed by a water pump on the Willamette River. The hop yard will be able to use the existing irrigation pump,

and the piping will be a one-time investment with the potential necessity for annual maintenance.

*Rhizomes* - Rhizomes will be a one-time cost and subject to availability and pricing at the time of planting. Due to the nature of the hop plant, no further investment should be required for approximately 25 years.

*Harvesting Equipment* - This includes the harvesting machines (2) and the necessary building to house the machines. These machines will likely be second-hand, refurbished units for cost reasons. Although it is possible to purchase a single unit to handle the full harvest, it is a safer option to buy two machines of lower harvest volume (relative to a single machine) so the annual harvest doesn't depend entirely on the single machine (in the case where it may slow or stop for maintenance).

*Processing Equipment* - This includes the drying kiln, building to house the kiln, baling equipment, and pelletizing equipment.





## Willamette Valley Hop Yard

Investments										
Year	Administrative Costs	Trellis Network	Irrigation	Rhizomes	Harvesting Equipment	Processing Kiln	Pelletizing Equipment	Building	Sum Of Investments	
2015	\$100.00	\$156,200.00	\$75,000.00	\$161,000.00	\$100,000.00	\$40,000.00	\$20,000	\$15,000	\$567,300.00	
2016	\$0.00	\$1,000.00	\$500.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,500.00	
2017	\$0.00	\$1,000.00	\$500.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,500.00	
2018	\$0.00	\$1,000.00	\$500.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,500.00	
2019	\$0.00	\$1,000.00	\$500.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,500.00	
2020	\$0.00	\$1,000.00	\$500.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,500.00	
2021	\$0.00	\$1,000.00	\$500.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,500.00	
2022	\$0.00	\$1,000.00	\$500.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,500.00	
2023	\$0.00	\$1,000.00	\$500.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,500.00	
2024	\$0.00	\$1,000.00	\$500.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,500.00	
2025	\$0.00	\$1,000.00	\$500.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,500.00	

## Willamette Valley Hop Yard

Expenses			
Year	Operating Expenses	Rent	Sum of Expenses
2015	\$0.00	\$20,000	\$20,000.00
2016	\$100,000.00	\$20,000	\$120,000.00
2017	\$100,000.00	\$20,000	\$120,000.00
2018	\$100,000.00	\$20,000	\$120,000.00
2019	\$100,000.00	\$20,000	\$120,000.00
2020	\$100,000.00	\$20,000	\$120,000.00
2021	\$100,000.00	\$20,000	\$120,000.00
2022	\$100,000.00	\$20,000	\$120,000.00
2023	\$100,000.00	\$20,000	\$120,000.00
2024	\$100,000.00	\$20,000	\$120,000.00
2025	\$100,000.00	\$20,000	\$120,000.00

### Willamette Valley Hop Yard

#### Income

Year	Volume (lbs)	Price/lb	Revenue	Cost of Goods Sold	Gross Margin	Expenses	Before Tax Cash Flow	Taxable Income	Taxes	After Tax Cash Flow (Prior to Investments & Working Capital)	Investments & Working Capital	After Tax Cash Flow (After Investments & Working Capital)	Cumulative Value
2015	0	\$7.00	\$0.00	\$50,000.00	0.00%	\$20,000.00	-\$70,000.00	-\$70,000.00	\$0.00	-\$70,000.00	\$567,300.00	-\$637,300.00	-\$637,300.00
2016	1	\$7.28	\$163,750.46	\$75,000.00	54.20%	\$120,000.00	-\$31,249.54	-\$31,249.54	\$0.00	-\$31,249.54	\$1,500.00	-\$32,749.54	-\$670,049.54
2017	2	\$7.57	\$397,556.91	\$75,000.00	81.13%	\$120,000.00	\$202,556.91	\$202,556.91	\$76,971.63	\$125,585.28	\$1,500.00	\$124,085.28	-\$545,964.26
2018	3	\$7.89	\$532,265.81	\$75,000.00	85.91%	\$120,000.00	\$337,265.81	\$337,265.81	\$128,161.01	\$209,104.80	\$1,500.00	\$207,604.80	-\$338,359.46
2019	4	\$8.22	\$616,343.13	\$75,000.00	87.83%	\$120,000.00	\$421,343.13	\$421,343.13	\$160,110.39	\$261,232.74	\$1,500.00	\$259,732.74	-\$78,626.71
2020	5	\$8.57	\$642,862.05	\$75,000.00	88.33%	\$120,000.00	\$447,862.05	\$447,862.05	\$170,187.58	\$277,674.47	\$1,500.00	\$276,174.47	\$197,547.75
2021	6	\$8.95	\$671,087.14	\$75,000.00	88.82%	\$120,000.00	\$476,087.14	\$476,087.14	\$180,913.11	\$295,174.03	\$1,500.00	\$293,674.03	\$491,221.78
2022	7	\$9.35	\$701,153.76	\$75,000.00	89.30%	\$120,000.00	\$506,153.76	\$506,153.76	\$192,338.43	\$313,815.33	\$1,500.00	\$312,315.33	\$803,537.11
2023	8	\$9.78	\$733,209.88	\$75,000.00	89.77%	\$120,000.00	\$538,209.88	\$538,209.88	\$204,519.76	\$333,690.13	\$1,500.00	\$332,190.13	\$1,135,727.24
2024	9	\$10.23	\$767,417.42	\$75,000.00	90.23%	\$120,000.00	\$572,417.42	\$572,417.42	\$217,518.62	\$354,898.80	\$1,500.00	\$353,398.80	\$1,489,126.04
2025	10	\$10.72	\$803,953.74	\$75,000.00	90.67%	\$120,000.00	\$608,953.74	\$608,953.74	\$231,402.42	\$377,551.32	\$1,500.00	\$376,051.32	\$1,865,177.36

Price per lb appreciation 1.02

### Willamette Valley Hop Yard

#### Income

Year	Volume (lbs)	Price/lb	Revenue	Cost of Goods Sold	Gross Margin	Expenses	Before Tax Cash Flow	Taxable Income	Taxes	After Tax Cash Flow (Prior to Investments & Working Capital)	Investments & Working Capital	After Tax Cash Flow (After Investments & Working Capital)	Cumulative Value
2015	0	\$10.00	\$0.00	\$50,000.00	0.00%	\$20,000.00	-\$70,000.00	-\$70,000.00	\$0.00	-\$70,000.00	\$567,300.00	-\$637,300.00	-\$637,300.00
2016	1	\$10.47	\$235,603.92	\$75,000.00	68.17%	\$120,000.00	\$40,603.92	\$40,603.92	\$15,429.49	\$25,174.43	\$1,500.00	\$23,674.43	-\$613,625.57
2017	2	\$10.97	\$576,181.49	\$75,000.00	86.98%	\$120,000.00	\$381,181.49	\$381,181.49	\$144,848.97	\$236,332.52	\$1,500.00	\$234,832.52	-\$378,793.04
2018	3	\$11.51	\$777,162.39	\$75,000.00	90.35%	\$120,000.00	\$582,162.39	\$582,162.39	\$221,221.71	\$360,940.68	\$1,500.00	\$359,440.68	-\$19,352.36
2019	4	\$12.09	\$908,762.23	\$75,000.00	91.73%	\$120,000.00	\$711,762.23	\$711,762.23	\$270,469.65	\$441,292.58	\$1,500.00	\$439,792.58	\$420,440.22
2020	5	\$12.71	\$953,107.89	\$75,000.00	92.13%	\$120,000.00	\$758,107.89	\$758,107.89	\$288,081.00	\$470,026.89	\$1,500.00	\$468,526.89	\$888,967.12
2021	6	\$13.37	\$1,002,821.61	\$75,000.00	92.52%	\$120,000.00	\$807,821.61	\$807,821.61	\$306,972.21	\$500,849.40	\$1,500.00	\$499,349.40	\$1,388,316.51
2022	7	\$14.08	\$1,056,201.87	\$75,000.00	92.90%	\$120,000.00	\$861,201.87	\$861,201.87	\$327,256.71	\$533,945.16	\$1,500.00	\$532,445.16	\$1,920,761.67
2023	8	\$14.85	\$1,113,578.01	\$75,000.00	93.26%	\$120,000.00	\$918,578.01	\$918,578.01	\$349,059.64	\$569,518.36	\$1,500.00	\$568,018.36	\$2,488,780.03
2024	9	\$15.67	\$1,175,313.79	\$75,000.00	93.62%	\$120,000.00	\$980,313.79	\$980,313.79	\$372,519.24	\$607,794.55	\$1,500.00	\$606,294.55	\$3,095,074.58
2025	10	\$16.56	\$1,241,811.52	\$75,000.00	93.96%	\$120,000.00	\$1,046,811.52	\$1,046,811.52	\$397,788.38	\$649,023.14	\$1,500.00	\$647,523.14	\$3,742,597.72

Price per lb appreciation 1.02

## Annotated Bibliography

Kneen, Rebecca. "Small Scale & Organic Hops Production" [crannogales.com](http://crannogales.com) Crannog Ales, 2001. Web. January 11, 2015

This document details the cultivation process for hops and the strategy associated with planning the hop yard. This information will provide a basis for information necessary to determining the best plan of action for setting up the hop trellis system, planning the harvest process, and assessing the land for determining the best varieties. Although most of the sources cited are 15 years old or more, the information is still relevant and applicable to modern applications.

"Variety Manual" [usahops.org](http://usahops.org) USA Hops, 2009. Web. January 11, 2015

This publication provides detailed information on each of the known hop varieties. It includes information such as a aroma and taste profile, yield per acre, alpha and beta acid content, details on 5 specific oils as a percentage of the total oils, storability as a percentage of degradation after 6 months, and similar varieties. This information is vital to determining the ideal variety(ies) to grow on the selected property, taking into account soil type and climate.

"2013 Statistical Report" [hops.msu.edu](http://hops.msu.edu) Hop Growers of America, January 2014. Web. January 11, 2015

This report provides analytical data for the state of the U.S. hop market with some information regarding international details and trends associated with the market. This data will help establish estimates for projections associated with the business plan, specifically those involving hypothetical hop yields and their associated representation in the market share. Though the information represents a survey of the market, the information is still helpful for feasibility analysis.

Galinato, Suzette, Ann George, and Herbert Hinman. *"2010 Estimated Cost of Producing Hops in the Yakima Valley, Washington"* Study. Washington State University 2011. Web. January 11, 2015.

This study by WSU provides a basis for the economic analysis included in the business plan. Here, the authors detail specific costs associated with the hop growing process from start to finish. Additionally, they investigate a multiple scenarios with respect to production size and available resources.



Team Name: \_\_\_\_\_ Chapter: \_\_\_\_\_

Total Points: \_\_\_\_\_

## Grading Rubric for Business Plan

Grading Criteria	Excellent 4 points	Good 3 points	Fair 2 points	Inadequate 1 point
<b>Executive Summary</b>	Summary generated excitement, was brief, provided an overview of the business, and outlined main points.	Summary was brief, provided an overview of the business, and outlined main points.	Summary was brief, provided an overview of the business, and outlined some main points.	Summary was brief and provided only an overview of the business OR an outline of main points.
<b>Product or Service Plan</b>	Description of the product or service and its unique features was highly effective and detailed.	Description of the product or service and its unique features was effective and detailed.	Description of product or service and features were provided, but without sufficient detail.	Description of product or service was provided, but unique features were not.
<b>Management Team Plan</b>	Member(s) of management team were identified, and their qualifications and experiences described in a way that led credibility to the business.	Member(s) of management team were identified, and their qualifications and experiences described.	Member(s) of management team were identified, and some their qualifications and experiences listed, but not described.	Members of management team were identified, but their qualifications and experiences were not included.
<b>Industry and Market Analysis</b>	Analysis identified and described target consumer and competitors, as well as industry and/or product outlook. Characteristics of a desirable business location were also identified.	Analysis identified and described target consumer and competitors. Characteristics of a desirable business location were also identified.	Analysis identified target consumer and competitors. Characteristics of a desirable business location were also identified.	Analysis failed to provide at least one aspect of required information.
<b>Operational Plan</b>	Section contained detailed information regarding all requested information.	Section contained information regarding at least four aspects of requested information, with some degree of detail.	Section contained information regarding at least three aspects of requested information, with some degree of detail.	Section contained information regarding less than three aspects of requested information, with little or no detail.

Paula McCall, *National PCI Chair*
[nsbeinfo@nsbe.org](mailto:nsbeinfo@nsbe.org)



<b>Organizational Plan</b>	Legal description corresponded with lesson on entrepreneurship. Philosophies and policies were well thought out and described in detail.	Legal description corresponded with lesson on entrepreneurship. Philosophies and policies were well thought out and presented.	Legal description presented didn't correspond with lesson on entrepreneurship and/or philosophies and policies were presented but lacked thought or detail.	Section failed to identify at least one aspect of required information.
<b>Marketing Plan</b>	Desired company and/or product image was described. Advertisement methods were described and appropriate for product.	Desired image was described. Some advertisement methods were described and appropriate for product.	Some advertisement methods were described and appropriate for product. Desired image was not discussed.	Advertisement methods provided weren't described and/or were inappropriate for product. Image wasn't discussed.
<b>Financial Plan</b>	Possible financing sources were identified and business financial outlook was described in detail.	Possible financing sources were identified and business financial outlook was described.	Possible financing sources were identified and business financial outlook was mentioned.	Section failed to identify at least one aspect of required information.
<b>Growth Plan</b>	Business plan outlined practical, yet ambitious, plans for expansion.	Business plan outlined practical plans for expansion.	Expansion plans were outlined, but not very practical or well thought out.	Business plan didn't adequately describe plans for expansion.
<b>Detail</b>	Plan was presented in great detail and it was consistently obvious there was great thought behind it.	Plan was generally presented in great detail and appeared to have great thought behind it.	Business plan was presented in some detail with some thought behind it.	Business plan was somewhat lacking in detail and seemed to lack much thought behind it.
<b>Professionalism</b>	Plan was presented in paragraph format and had no spelling or grammatical errors.	Plan was presented in paragraph format and had few spelling or grammatical errors.	Plan was presented in sentence format and had few spelling or grammatical errors.	Plan wasn't presented in sentence format and/or had many spelling or grammatical errors.
<b>Effectiveness</b>	Plan was highly effective in describing the business and its operations, as well as eliciting support.	Plan was effective in describing the business and its operations, as well as garnering some support.	Plan described the business and its operations, but didn't garner much support.	Plan lacked overall effectiveness, as it failed to describe business or garner support.

Paula McCall, *National PCI Chair*

[nabpci@nsbe.org](mailto:nabpci@nsbe.org)

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