

Beyond Barrels & Bottles: A Spirited Guide for On Farm Distilling

Prepared by:

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INTRODUCTION

Matson Consulting was hired by the Virginia Foundation for Agriculture Innovation & Rural Sustainability (VA FAIRS) to conduct a study that provides an in-depth analysis of the possibility of establishing a prototypical micro-distillery (referred to as "the distillery") in Virginia. Through analysis of the current spirits industry and examination of existing businesses, the study presents a prototypical micro-distillery comprised of a broad range of industry factors and components.

This document presents basic direction and thought processes that can better increase chances of success when starting a micro-distillery. Using a study format to assess the components affecting the feasibility of a distillery allows an objective exploration of the business venture and provides valuable lessons for those interested in such a venture.

The goal of the study is to create a document that is as adaptable to as many similar ventures as possible, and every attempt was made to be as realistic as possible while still permitting ease of interpretation and application. While there are a wide variety of distillery businesses in existence today, they share similar costs, no matter the unique aspects of individual entities. This study has been organized into three main sections: **General Business & Industry Information**, **Thinking Through Your Business**, and **Distillery Financial Study & Scenario Analysis**.

The United States is in the midst of a small-distillery revolution as evidenced in the increasing number of entrepreneurs and consumers becoming involved in the alcohol industry. According to a 2013 Annual Report by the Virginia Department of Alcoholic Beverage Control (VABC), "Craft distillers are popping up across the country, and Virginia is no exception."

Unlike farm-based wineries, there is no specific licensure for "craft distillers" or "farm distilleries." The VABC lists two divisions under the distillery license category based on the volume of production; distilleries are either categorized as producing 5,000 gallons or less annually or more than 5,000 gallons annually.

A newsletter published by the VABC[1] states that of the 17 licensed distilleries in the state, six operate under an unlimited license that allows them to produce more than 5,000 gallons annually. Of the total, ten self-identify as "craft" or "artisan" distilleries. The 2013 VABC Annual Report also highlights two legislative changes that seek to promote these entities.

- **House Bill 2300** allows exceptions for distilleries in cross-ownership of manufacturing and retailing establishments. Wineries and breweries have similar exemptions, and the bill adds the ability of distilleries to participate as well. The VABC currently has contracts with several Virginia distillers that allow them to operate an on-site ABC store.

- **Senate Bill 1235** allows distilleries operating an on-site ABC store to charge for tasting events on the premises, when previously these tastings had to be conducted at no charge.

[1] "Craft Distilleries on the Rise." (Spring 2013). *Licensee*. Virginia Department of Alcoholic Beverage Control.



The Code of Virginia § 4.1-119 "Operation of government stores" states that alcoholic beverages are to be sold by employees of the Board, "except that the Board may appoint the holder of a distiller's license or its officers and employees as agents of the Board for the sale of spirits, manufactured by or for, or blended by such licensee on the licensed premises, at government stores established by the Board on the distiller's licensed premises" subject to the following five requirements:

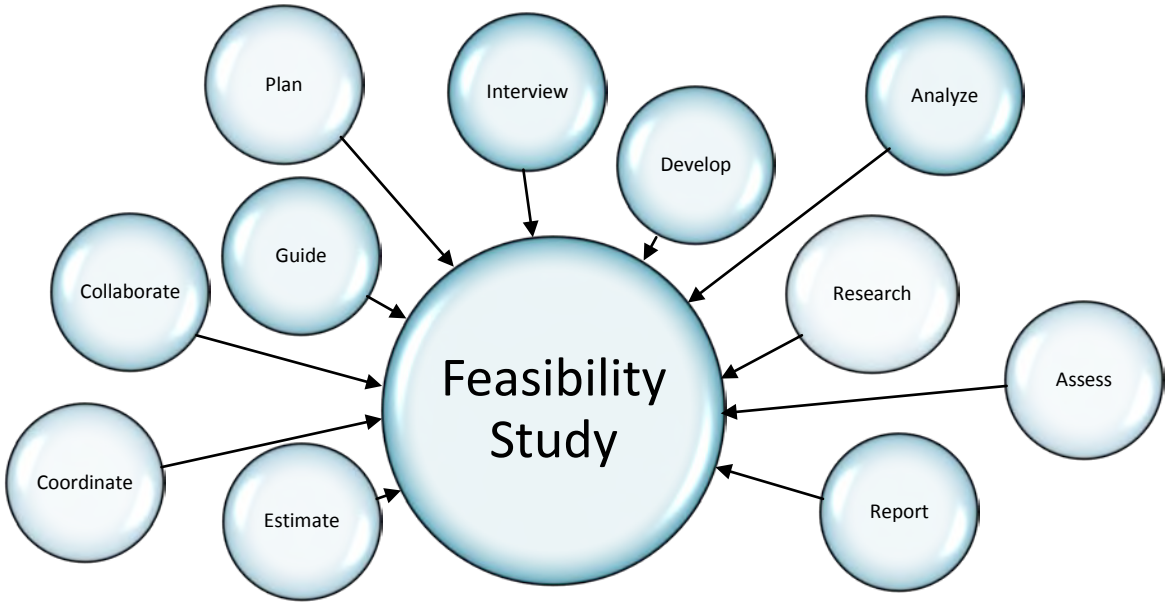
- At least 51 percent of the agricultural products used by the distillery for the manufacturing of the spirits are grown on a farm or land in Virginia leased by the licensee, and no more than 25 percent of the agricultural products are grown or produced outside of Virginia.
- The licensee is an organized nonprofit organization possessing real property, together with improvements that are significant in American history, under a charter to preserve such property, and which organization accepts no federal, state, or local funds.
- The licensee is a museum whose licensed premises are located on the grounds of a local historic building or site.
- They are an independently certified organic distillery, with such certification by a USDA-accredited certification agency.
- The licensee uses traditional distilling techniques, including the use of authentic copper pot stills to blend or produce spirits in any county with a population of less than 20,000.

It is clear that this type of entity can be both technically and economically viable given certain circumstances. Subject to approval, meeting one of the five exemption criteria listed above will allow a distillery to establish its own on-site ABC store at which the distillery may sell its products and conduct tastings.

From an operational point of view, the general technology for distilling is well established and has been in use for centuries. Once the business is able to obtain the necessary legal permits and passes any applicable inspections, such a business will be in the position to produce un-aged, aged, and flavored liquor for sale to the public.



Tasks & Activities



Over the course of the document's creation, the consultants undertook many tasks and activities, including research and data collection, interviews, and financial modeling. This study evaluates the conditions under which such a distillery can become commercially viable and profitable. To make the study as realistic as possible, Matson Consulting worked with VA FAIRS to:

- Determine critical factors for success
- Assess management and operation options
- Estimate operating costs for distillery and tasting room for spirits marketing operation
- Estimate what equipment levels are required to equate with production as the business expands
- Estimate the scale of labor and other operations activities necessary to maintain efficient operations
- Develop financial model for sensitivity studies
- Determine at what level the prototypical distillery would need to operate to be profitable
- Create objective study report

Research and Data Collection

To conduct an analysis of the venture from a market and operations standpoint, both the current market and industry standards for distilling operations were researched. The study relies on public data and other resources possessed by the consultants, as well as information gathered through a literature and database search. Additional data has been has been used to support different claims, including market structures, government statistics, market information, and the knowledge of the consultants.



Interviews
In an attempt to gain information and understanding regarding the industry as a whole, Matson Consulting staff contacted experts within various fields related to distilling and those familiar with the industry.

Financial Model
A financial model for the prototypical business venture was developed, which includes sensitivity scenario assessments that can be used in the business decision process. The model reports monthly data for the first year of operation and quarterly thereafter, and contains a detailed sales breakdown, labor, profit and loss statement, depreciation schedule, cash flows, and balance sheet.

It is important to note that while every effort was made to reflect reality in the description of a typical micro-distillery, the model is not intended to reflect any existing business, but is a reflection of the industry and is meant to be purely prototypical in nature.

As a prototype, the study represents a micro-distillery with moderate financial resources. This consultancy's goal is to create a study that is as adaptable to as many similar ventures as possible. Year one of the study is not considered to be the startup of the project; the three year segment is intended to represent a snapshot of operations for a typical period during the early development of a prototypical micro-distillery located in Virginia.





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Terminology

The following are industry related terms used throughout the document. The definitions accompanying these terms give general definitions for the use within the industry.

Alcohol and Tobacco Tax and Trade Bureau (TTB)

Federal bureau that collects excise taxes on alcohol, and regulates labeling and marketing requirements to protect consumers. Any business producing or selling alcohol will have to coordinate with the TTB. More information can be found in the Legal considerations section of this study.

Virginia Department of Alcoholic Beverage Control (VABC)

The VABC was created under the provisions of the Alcoholic Beverage Control Act, Chapter 94 of Acts of Assembly, Session of 1934, and subject to amendments thereto. Their mission is to control the distribution of alcoholic beverages; operate efficient, conveniently located retail outlets; enforce the laws of the Commonwealth pertaining to alcoholic beverages and youth access to tobacco products; and provide excellent customer service, a reliable source of revenue, and effective public safety.[2]

Distilling

The process of producing distilled spirits is the method of separating a mixture of ingredients into more base form, usually involving a change of liquid to gas, followed by condensation to return the elements into a liquid state, with the result being the distilled spirit. More information on this process is located in the Spirits Making section of this study

Micro-Distillery

A specific definition of requirements to be considered a micro-distillery does not exist. This term is often used interchangeably with "boutique," "artisan," "small batch," and "craft". These types of distilleries produce spirits in relatively small batches, and are not traditionally owned by a large producer.

Proof

Alcohol proof is the unit for measuring alcoholic content of a spirit. It is twice the percentage of alcohol by volume: so a 100-proof spirit would contain 50 percent alcohol by volume.

Proof Gallon

A proof gallon is a gallon of liquid that is 50% alcohol at 60 degrees Fahrenheit. Spirits bottled at 80 proof (40% alcohol would be 0.8 proof gallons per gallon of liquid[3]) Distilleries commonly measure their output in proof gallons.

Converting U.S. Gallons by the percent of alcohol by volume:

1. Multiply U.S. gallons by percent of alcohol by volume (ABV).
2. Multiply by 2.
3. Divide by 100.

Sample calculation:

1. 100 U.S. Gallons x 40% ABV = 4,000
2. 4,000 x 2 = 8,000
3. 8,000 / 100 = 80 proof gallons

[2] (2014) About VABC. VABC. www.abc.virginia.gov/admin/aboutabc.html
[3] (2014) Distilled Spirits FAQs. Alcohol and Tax Trade Bureau. www.ttb.gov/spirits/faq.shtml



General Business & Industry Information

While entrepreneurs considering the startup of an alcohol related business may have anecdotal knowledge gained from experience, it is often best to seek out information from regulatory agencies and industry associations to provide a more thorough understanding of what it will take to begin a distilling business.

The research presented in this section of the document encompasses not only aspects of the distilling industry, but also basic best practices for establishing a small business. Taking the time to think critically about the best way to organize a business and determine how it will function over the long-term can prevent later issues when a successful business attempts to grow.



The ***Alcohol and Tobacco Tax and Trade Bureau*** (TTB) website provides several helpful "Getting Started" guides on their website (www.ttb.gov) that are oriented towards businesses in the alcoholic beverage industry.

The TTB's Distilled Spirits Industry Guide[4] presents an overview to help potential business owners consider the major aspects of identifying what type of operation they wish to begin, qualifying for approval under current regulatory guidelines, and completing the approval process.

The TTB site provides several resources for new distillery owners, such as:

- **Requirements for labeling**
www.ttb.gov/spirits/bam.shtml

- **Laws and regulatory information**
www.ttb.gov/labeling/laws_and_regs.shtml

- **Industry circulars**
www.ttb.gov/industry_circulars/index.shtml

- **General FAQs**
www.ttb.gov/faqs/alcohol_faqs.shtml

Organizing Steps

Organizing and starting a business is an exceedingly involved process with multiple steps and procedures necessary to ensure compliance with laws and regulations. The TTB has outlined various points to consider when beginning a new business. The following is adapted from the Alcohol and Tobacco Tax and Trade Bureau's "Thinking of Starting a Business."[5]

There are multiple questions to address when organizing a new business, including:

- What business structure is advantageous to the venture?
- What makes an effective business?
- Where will the financing come from?
- What licenses, permits, and registrations do the state and federal governments require?

The following are general steps to assist any new business venture in addressing the questions outlined above.

1. Formulating Your Organization
    a. Write a Business Plan
    b. Get business assistance and training
    c. Choose a business location

2. Financing the Business
    a. Map out the business financially
    b. Use SBA resources to determine what specific lenders are looking for and available financing options

3. Establishing the Business
    a. Determine the legal structure of the business
    b. Register a business name, including any intended DBAs

[4] www.ttb.gov/industry-startup/spirits/spirits-startup.shtml. Accessed 12-5-2014.
[5] Alcohol and Tobacco Tax and Trade Bureau (2014). "Thinking of Starting a Business." TTB.gov. www.ttb.gov/main_pages/start-a-business.shtml.

4. Fulfilling Taxes and Licensing Requirements
    a. Get a tax identification number
    b. Determine the federal excise tax
    c. Register for state and local taxes
    d. Obtain a federal permit to operate
    e. Obtain state licenses and permits



Business Structure

When analyzing any potential business, it is necessary to examine and understand possible legal business structures in order to choose one that best fits the venture. There are numerous possibilities for the actual legal structure of the entity. The type of organization structure selected for a distillery may influence the amount of paperwork and other requirements for obtaining federal and state licenses.

Below is a brief overview of potential legal organizations that has been excerpted from "Virginia Business Legal Structures" created by VA FAIRS, and available on their website at www.vafairs.com. More information is available from numerous other resources as well, including the Small Business Association (SBA) at www.sba.gov and SCORE at www.score.org.

Sole proprietorship

Sole proprietorship is the simplest and least regulated business structure. When establishing a sole proprietorship, there are likely to be fees to obtain business name registration, a fictitious name certificate, and other necessary licenses. Any potential attorneys' fees for starting the business, however, will be less than the other business forms because less preparation of documents is required.

To finance the sole proprietorship, the sole owner must contribute or borrow all of the capital needed to start the business. Any outside funding sources must be in the form of loans.

Advantages and Disadvantages of Sole Proprietorships

- As a sole proprietorship, the business itself does not pay income tax
- The profit or loss of the business is taxed as personal income and is included on the owner's individual tax return
- The sole proprietor has total control of the business and receives all profits
- An individual who is responsible for all aspects of the business, including any debts, even in excess of the amount invested, owns it
- In addition to potential personal liability for the owner, there is the possibility of dissolution of the business upon the owner's death



Partnership
A general partnership (sometimes simply referred to as “a partnership”) is an association of two or more persons to carry on as co-owners of a business for profit. Each partner contributes money, property, and/or services, and agrees to share in the profits or losses of the business. Ordinarily, each partner is liable for all obligations of the partnership.

To form a partnership, two or more persons sign and file partnership agreements (Statement of Partnership Authority –with the appropriate state office; this agreement states the exact contributions and returns of the members). The two most common types of this business structure are general partnerships and limited partnerships.

Advantages and Disadvantages of Partnerships

- A partnership allows for additional financial resources
- A partnership allows members to escape double taxation
- The requirements and procedures for formation are fairly simple
- All partners are personally liable for business debts and liabilities

Limited Liability Company
An LLC's purpose is to combine the limited liability for its members usually found in the corporate structure (and to limited partners in limited partnerships) with the pass-through tax advantages of the general partnership. (Any profits/losses pass through to the individual investor and appear on the individual’s tax return). Therefore, an LLC has some, but not all, of the characteristics of each entity. Just one person may form an LLC, but it commonly requires two or more persons.

LLC formation and liability characteristics are similar to that of a corporation. To form a corporation or LLC, the necessary documents are filed with the designated state agency. Unlike a general partnership, shareholders are not personally liable. Other characteristics may be similar to or different from corporate characteristics, depending upon how the LLC members wish to structure the entity and comply with IRS regulations to receive favorable tax treatment.

Advantages and Disadvantages of LLCs

- Provides its members limited liability
- Allows members to escape double taxation
- Any "person," either natural (an individual) or legal (another legal entity, such as a partnership), can be a member
- Members may actively manage the LLC without incurring personal liability
- More regulations on transferring ownership
- Uncertain tax status
- Drafting the agreement can be fairly complex
- When applying for federal licenses, all members must provide personal information, such as band reference, personal references, credit rating, residence for past 10 years, and sources of invested funds



C-Corporation
C-Corporations are the most common structure for large businesses in the United States. The structure offers the investor (stockholder) limited liability protection – any liability is limited to the value of the stock held in the corporation. Businesses formed under this structure require oversight by state regulatory boards at a minimum and in some cases by the Federal Security and Exchange Commission. A Corporation has a perpetual existence. Owners can routinely sell or reassign stock (or ownership) without disrupting ongoing operations.

Advantages and Disadvantages of C-Corporations

- The corporation is the most complex of business structures because it acts as a legal entity that exists separately from its owners
- Control depends on stock ownership
- Stockholders are at risk only for money they have invested in the stock of the corporation
- When applying for federal licenses, the only members required to provide personal information are officer, directors, and shareholders with more than 10 percent ownership
- Allows capital to be raised more easily through the sale of stocks or bonds
- Can continue to function even without key individuals
- Double taxation occurs because the business exists as a separate entity

S-Corporation
The S-corporation is a special tax designation applied for and granted by the IRS to corporations that have already been formed. To become an S-corporation, the business first must form a general or professional corporation, and the company must complete Form 2553, Election by a Small Business Corporation, and file it with the IRS.

Many entrepreneurs and small business owners take advantage of the S-corporation structure because it combines many of the advantages of the sole proprietorship, partnership, and corporate forms of business.

Advantages and Disadvantages of S-Corporations

- Restrictions on the number and type of ownership
- S-corporations have the same basic advantages of the general corporation

Legal Considerations

In addition to standard business considerations, the highly regulatory nature of alcohol production means that any business seeking to begin operations in the industry must maintain a high level of awareness about the legal environment in which it will operate.

The following are samples of the types of facts and information that potential owners should become familiar with when considering a new business in the alcohol industry.

- From 1919 to 1932, the U.S. did not allow the commercial production and sale of alcohol. The 21st Amendment repealed Prohibition in 1933, but allowed each state to make its own laws governing the sale and production of alcoholic beverages.
- In administrative terms, the Alcohol and Tobacco Tax and Trade Bureau (TTB) works at the Federal level and the Virginia Department of Alcoholic Beverage Control (VABC) works at the state level.

- TTB establishes the rules governing the regulation of alcoholic beverages, and establishes the distilled spirits permits required for distilled spirits plants. Details are available at www.ttb.gov/spirits/spirits-permits.shtml.
- Section 117(a) of the Federal Alcohol Administration Act (27 U.S.C. 211(a)) defines "distilled spirits" as ethyl alcohol, hydrated oxide of ethyl, spirits of liquor, whiskey, rum, brandy, gin, and other distilled spirits, including all dilutions and mixtures thereof for nonindustrial use. Details are available at www.ttb.gov.
- The Bioterrorism Act of 2002 requires that anyone who manufactures, processes, packs, or holds food (including alcohol beverages) for consumption in the United States must register with the Food and Drug Administration
- Specific licenses are required to sell alcohol within Virginia, and additional licenses may be needed should the distillery choose to sell products outside of the state. Ensuring compliance with all regulations and laws concerning out of state liquor sales will be vital for the continuance of the business. Each state may have different licensing and permit procedures for selling alcohol, so more research into the requirements for each state will be necessary.

Potential business owners should seek to contact their local Virginia Department of Alcoholic Beverage Control Regional or Satellite Office or their local compliance agent for more information. Contact information can be found at www.abc.virginia.gov.



RISKS, REGISTRATION, REGULATIONS, AND POTENTIAL ISSUES

It is the owners' responsibility to familiarize themselves with the federal, state, county, and local laws governing their business. Failure to do so may result in penalties, fines, and ultimately cessation of business. The following sections are intended to provide a general overview in an attempt to highlight possible considerations that could affect a business, and are not intended to be exhaustive.

While the prototypical distillery discussed throughout this document is described in a particular manner and with certain defined assumptions about the type of business operation it will be, there are numerous and varied activities that can be associated with such a business that may fall under the authority of various non-alcohol related entities, such as agri-tourism or food service.



Categorical Risks

The distillery venture will face many potential risks as it continues to develop and increase sales. Though it may be difficult to quantify a specific dollar value of these risks, it is useful to present them and permit the venture and its owners to determine their own level of risk tolerance.

- **Capital Risks**

The project will continue to require capital outlay. Insufficient access to capital funds is a primary reason that new businesses fail. The assumptions in this study do not include much leeway for unexpected cost overruns that could endanger the venture.

- **Cash Flow Risks**

There may be periods during the year that the venture experiences negative cash flow. This should be closely monitored for business liquidity. A small change in price or payment period could quickly turn a profit into a loss or exacerbate this cash flow risk.

- **Management Experience Risks**

Businesses "fly" or "die" based on the caliber of management. It is imperative that management has experience in the industry. The selection and oversight of management, both at the business as well as the operational level, are critical for the success of the venture.

- **Legal Liabilities and Risks**

The venture will face legal liabilities and potential risks due to the nature of the product, visitor risk, transport of the product, worker safety, and environmental risks. Because the distillery serves alcoholic spirits, the owners should exercise great care to minimize risks from serving products to underage persons and reduce risks from traffic accidents after leaving the distillery. Risk should be reduced with insurance and written policies where possible.

- **Regulatory Risks**

The venture will need to continue to address a large number of regulatory risks as it moves forward. There is potential that these factors could substantially constrict the ability of the venture to operate profitably. Additionally, regulations are in constant flux; statutes that may not affect the operation today could have a dramatic impact on it in the future. For example, environmental regulations for the production of spirits might change, labor and farm operation



regulations may change, and changes enacted in the regulatory framework of liquor could affect the entire organization of the sector within the state.

The distillery must undergo a fairly intensive process to sell product within the state of Virginia. The Virginia ABC's goal when choosing new products to offer on store shelves is to find products that will increase the overall profitability of the store. Because the prototypical distillery will be producing a Virginia-made product, the business may be able to obtain leniency if sales are not as robust as other product lines produced out of state, but this is not a guarantee, and the owners must be aware of the significant risk tied to the existing regulatory environment surrounding liquor sales in Virginia.

- **Operational Risks**

Due to the newness of the venture, several operational issues will exist that do not proceed along the lines of the assumptions of this study. The quality of the company's spirits are highly dependent on the skill of the distiller and the production practices used, and sales are in turn dependent on reaching the venture's target market.

The owners could face operational risks in equipment handling and processing if the human resources are not enough to cover the minimum management requirements. For instance, if quality of the equipment such as tanks, or analysis of water or spirits handling does not comply with state and federal regulations, then it could risk the failure of the whole venture.

- **Market Development Risks**

The distillery will need to establish itself as a vendor in a competitive industry with previously established players. There is no guarantee that the venture will succeed in encountering sufficient buyers to purchase its products. It is assumed that consumers actually have an interest in a specific style spirit from the distillery; this may not be a true assumption.

"the distillery will need to establish itself as a vendor in a competitive industry with previously established players"

Sale of products through Virginia ABC liquor stores is subject to a minimum annual profit requirement, and companies that do not achieve this minimum may have their products removed from the stores' shelves, further exacerbating sales declines. The proposed image for the distillery is based on a minimum promotional strategy budgeted and explained in the study, but there is still a risk that the proposed activities may not be sufficient to support the sales strategy.

- **Price Risks**

There is no doubt that consumers are becoming far more interested in how and where their food products are produced. The Virginia spirits industry is still evolving, and the market is still in development, with numerous producers entering and exiting the market on a yearly basis. For this type of product, it is not unusual for prices to go through wide swings and periods of significant depression. Likewise, local and national prices of liquors may maintain or improve their price positions.

- **Food Contamination Risks**

Although spirits have been produced for centuries, food contamination has recently become an area of great concern in the agriculture and food industry. Various forms of contamination could



occur, causing possible illness, product recalls, or simply leading to a poor reputation and irreparable damage to the brand. Careless bottling and storage techniques by the retailer could also cause the risks previously mentioned.

Spirits making utilizes water as a major ingredient. Failure to source water from a potable source could jeopardize the whole project. Strict regulations exist regarding this ingredient, and the owners will need to ensure continued compliance.

- **Production Risks**

Should the distillery experience production issues due to adverse weather conditions affecting input supplies, the venture could be highly dependent on other producers providing necessary commodities. The distillery could be at risk from the farm or from producers not supplying a sufficient quantity for the distillery to purchase. In such situations, the distillery would also be subject to the timely delivery of product in order to meet production goals.

- **Inventory Risks**

Even though most businesses like to keep inventory, in the early stages of the venture, high inventory quantities could represent a risk in terms of cash flow shortages. If sales are not as expected, then inventory may increase, and if negative cash flows occur, then the distillery may not be able to comply with its short-term obligations.

Business Registration

The registration needs of a venture can vary, depending on federal, state, and local laws. Some registration processes are free of charge, but certain types of business are subject to various registration fees and permits.

Registration and Licensing Resource

Williams Compliance is Virginia-based beverage compliance company that works with wineries, distilleries, and importers to help ensure businesses are meeting all laws and regulations.

Mary Beth Williams
http://williamscompliance.com/

Businesses can form under another business or the owner's name, or they can choose to do business under a fictitious name, which requires the filing of a DBA (Doing Business As) form. Sometimes known as an "assumed name" certificate, a DBA is a document that provides owner identification when a business is operating under any name other than their legal name. Ventures organized as corporations may also need a DBA if they plan to use a different name than the one provided on their corporation paperwork (legal name).

Registration of Food Facilities

Facilities that process, store, or ship food for human or animal consumption are required to register with the FDA. First, a person must establish, at no cost, an on-line account at www.cfsan.fda.gov/~furls/ovffreg.html. Once an account is established, a person can register his or her farm or company, and edit the registration information. The Food Safety and Inspection Service (FSIS) of the USDA has prepared a guideline with good practices for food processors to take into account, which is available at www.fsis.usda.gov.

Brand Registration and Trademark

According to the U.S. Patent and Trademark Office (USPTO), a trademark includes any word, name, symbol, device, or any combination thereof, used or intended to be used in commerce to identify and distinguish the goods of one manufacturer or seller from goods manufactured or sold by others, and to indicate the source of the goods. In short, a trademark is a brand name.

The name and logo design of the venture should be trademarked and registered at the national level. Failure to acquire appropriate intellectual property protection invites others to pirate the venture's work. The practical purpose of a trademark is to prevent consumers from becoming confused about who provided the goods or services they purchased.

Taxpayer ID and Employer Identification Numbers

The Federal (Employer) Identification Number, also known as a Tax Identification Number or EIN, is a number issued by the IRS for the purposes of identifying businesses. If the business has no employees or is a type other than a corporation, a Social Security number generally functions as the EIN. Nearly all business structures that employ individuals, as well as other business entities, use EINs for this purpose.

It is necessary to keep accurate recordkeeping for tax purposes (bank deposits, sales receipts and other elements of support) and to have those records available for examination by IRS.

Methods to apply for an EIN:

- Use form SS-4: Application for Employer Identification Number
- Contact the IRS at: 1-800-829-1040 or 866-816-2065
- Online at: www.irs.gov

Some of the most complex issues facing small business owners today are the various taxes and tax structures. The business may be subject to, or responsible for, collecting or withholding:

- Taxes on the business itself
- Sales and Use taxes
- Ad Valorem Taxes (Taxes on Property)
- Employment and Income Taxes

Federal Taxes

For specific information regarding federal tax requirements, contact the Internal Revenue Service (IRS) to obtain a copy of the Small Business Resource Guide. This guide contains information on federal tax obligations as well as various publications for starting a business.

Required Federal Employment Taxes

- Federal Income Tax Withholding
- Social Security and Medicare Taxes (FICA)
- Federal Unemployment Tax (FUTA)



Forms and Employees
It is required that all employers have their employees fill out a Form I-9 and Form W-4. More information explaining employers' Federal tax responsibilities can be found in the IRS' Publication 15, Circular E, Employer's Tax Guide.

- **Form I-9**, Employment Eligibility Verification. This document is available from the Immigration and Naturalization Service by calling 800-357-2099 or online at www.bcis.gov.
- **Form W-4**, Employee's Withholding Allowance Certificate. This form is available from the Internal Revenue Service. Call FORMS/PUBLICATIONS at 800-829-3676, or INFORMATION at 800-829-1040. The form can also be downloaded by visiting www.irs.gov.

Certain agricultural employers are required to fill out specialized forms depending on their type of work or they may be exempt from certain laws. For more information, see www.irs.gov.

State and Local Taxes
In addition to business taxes required by the federal government, some state and local taxes will normally have to be paid. Having knowledge of each state and locality's specific tax laws and requirements can help avoid problems and save money.

- **Tax Permit**
  In most states, business owners are required to register their business with a state tax agency and apply for certain tax permits. For example, in order to collect sales tax from customers, many states require businesses to apply for a state sales tax permit.

- **Income Taxes**
  Nearly every state levies a business or corporate income tax. The tax requirement depends on the legal structure of the business. For example, if the business is a Limited Liability Company (LLC), the LLC is taxed separately from the owners, while sole proprietors report their personal and business income taxes using the same form. Consult a tax advisor/CPA for specific requirements for the business.

- **Employment Taxes**
  In addition to federal employment taxes, business owners with employees are also responsible for paying certain taxes required by the state. All states require payment of state workers' compensation insurance and unemployment insurance taxes. In addition, some states require a business to pay for temporary disability insurance.

- **Sales Tax and Resellers**
  In the case of a business purchasing items that are intended for resale, many states that collect sales taxes allow a business to purchase resale items tax-free. The requirements and guidelines vary from state to state; check with the locality for specific information.

Liquor and Excise Taxes
In addition to income, business, and sales taxes, liquor, as an alcoholic beverage, will be subject to both state and federal taxes. The Virginia Department of Alcoholic Beverage control includes their tax in the markup of their products, while the Federal Excise Tax is enforced at the federal

level. In addition to these taxes, label approval must be obtained from the Virginia Department of Alcoholic Beverage Control and the Alcohol Tobacco Tax and Trade Bureau.

Business Regulation

USDA

The United States Department of Agriculture (USDA) is responsible for overseeing federal policy regarding farming, agriculture, and food. Distribution, labeling and packaging, quality, recalls, safety, and security are all functions governed by the USDA. Regulations and requirements of the USDA must be met in order to comply with applicable laws.

Because of the current world climate, especially with concerns of terrorism, a plan regarding food defense may be required to prevent intentional contamination of the products produced by the plant.

FSIS

The Food Safety and Inspection Service (FSIS) is the public health agency in the U.S. Department of Agriculture responsible for ensuring that the nation's commercial supply of meat, poultry, and egg products is safe, wholesome, and correctly labeled and packaged.

Environmental Constraints (EPA)

The U.S. Environmental Protection Agency (EPA) and state environmental agencies regulate the impact of businesses on the environment. The EPA develops and enforces regulations that implement environmental laws enacted by Congress. Likewise, state agencies enforce regulations that implement laws enacted by the state legislature.

The U.S. Small Business Administration divides the environmental regulations into different areas such as air pollution, basics of environmental compliance, cleanup, ecosystems, environmental management (odor control, etc.), environmental permits and planning, pollutants and chemicals, pollution prevention, storage tanks, waste, and water (preventing contamination of water supplies, etc.). More specifics on each case are available at www.sba.gov.

Owners of the venture need to consider environmental constraints related to the use of natural resources as well as in processing and waste disposal. Thus, the environmental effects of food processing are linked intimately with the type of product, processing technique, and the effluents from that process. It is necessary to determine the characteristics of the effluent to identify the best option for treatment according to the end purpose (for example land application). The Environmental Protection Agency, as well as FDA and Department of Agriculture coordinate efforts to enforce laws in agri-food activities.

FDA

The U.S. Food and Drug Administration (FDA) oversee much of the nation’s food supply as well as drugs and medical devices. The agency is also responsible for interpreting the law and writing regulations concerning specific food products and processes. Rules and regulations

established by the FDA are published in Title 21 of the Code of Federal Regulations (CFR), which can be found at www.ecfr.gov. These laws are intended to assure that foods are safe to eat, pure, wholesome, and produced under sanitary conditions.

FDA inspectors have the authority to inspect any establishment where food is processed, packaged, or held for shipment in interstate commerce. They can also inspect products after shipment, vehicles used to transport food in interstate commerce, equipment, finished products, containers, and labeling procedures.

Food Safety Modernization Act (FSMA)

The FSMA, the broadest reform of the food safety laws in more than 70 years, was signed into law on January 4, 2011. It aims to ensure the U.S. food supply is safe by shifting the focus from responding to contamination to preventing it, and requires that food from abroad be as safe as domestically produced goods.

The FDA has redesigned its webpage dedicated to the Food Safety Modernization Act (FSMA), accessible at www.fda.gov/FSMA. The agency encourages consumers, industry and food-safety professionals, local and state regulators, and international trading partners to get more involved in implementing the new law by learning what the FDA is doing, as well as providing feedback to help guide the FDA in the future. Key elements of the page include:

- A link to the new web-based search engine for recalled foods
- Frequently asked questions about the landmark food-safety legislation
- Videos and graphics explaining how the law will be implemented
- Information about public meetings on these reforms

A new rule strengthens the FDA's ability to prevent potentially unsafe food from entering commerce. It allows the FDA to detain food the agency believes has been produced under unsanitary or unsafe conditions. Previously, the FDA's ability to detain food products applied only when the agency had credible evidence that a food product presented was contaminated or mislabeled in a way that presented a threat of serious adverse health consequences or death to humans or animals. Full implementation of the law will take time; however, beginning July 2011, the FDA is able to detain food products that it has reason to believe are adulterated or misbranded for up to 30 days, if needed, to ensure they are kept out of the marketplace.

Preventive controls, that is, systems that a manufacturer of foods would put in place to identify the hazards associated to the product, and the scientific controls to minimize the risk of occurrence of those hazards are the manufacturer's responsibilities, though FDA can provide guidance. The legislation provides some exemptions based on size, who the facility distributes to (for example to a retailer grocery facility, etc.), and low risk activities, especially those that occur at the farm that may be manufacturing but are still considered low risk. This new law reinforces the need for farmers to tabulate and document procedures as well as evaluate the risks to human health from ingestion of the products they produce.



Virginia Department of Agriculture and Consumer Services (VDACS)

Production of liquor and spirits, as a food product, falls under the authority of VDACS, specifically the mandate to "Administer regulatory programs to ensure that safe, wholesome, unadulterated and truthfully labeled food and agricultural products are offered for sale to consumers."

According to their site, VDACS' Food Safety and Security Office is responsible for the enforcement of food related laws, including "related regulations within retail food establishments (except restaurants), food processing and manufacturing establishments, and food warehouse establishments." In order to ensure compliance with applicable food laws and regulations, distilleries are subject to a mandatory inspection by VDACS prior to beginning operations.

VDACS has divided the state into territories and assigned Food Safety Specialists to each territory responsible for conducting the necessary activities within their region. Activities include "unannounced sanitary inspections of facilities, sampling of food products, investigation of consumer complaints, consultations with consumers and the food industry, and cooperative working relationships with other food safety agencies such as state and local health departments, the U.S. Food and Drug Administration and the U.S. Department of Agriculture."

Traceability

The federal Bioterrorism Act (BTA) is driving significant changes in food regulation. This federal law mandates regulations regarding record keeping and product traceability. The FDA has published a guidance document that summarized the recordkeeping and traceability requirements. More information is available at www.fda.gov.

Producers will be required to trace ingredients one-step backward in the food chain and tie the ingredients to finished products one-step forward in the chain if the products are being sold through retailers or wholesale distributors.

Labeling

As part of labeling regulations, all alcohol producers are required to apply for a Certification of Label Approval (COLA) from the TTB. A COLA helps ensure that a producer is creating, labeling, and marketing products in accordance with Federal laws and regulations.

The distillery will need to obtain a COLA before selling any products. The typical wait time for approval is 90 days. For many alcoholic beverage products, the TTB requires a Pre-COLA Product Evaluation to determine if the proposed label represents the product adequately and does not mislead the consumer. During this process, the TTB will review the ingredients and formulation, and may include a laboratory analysis of the product.

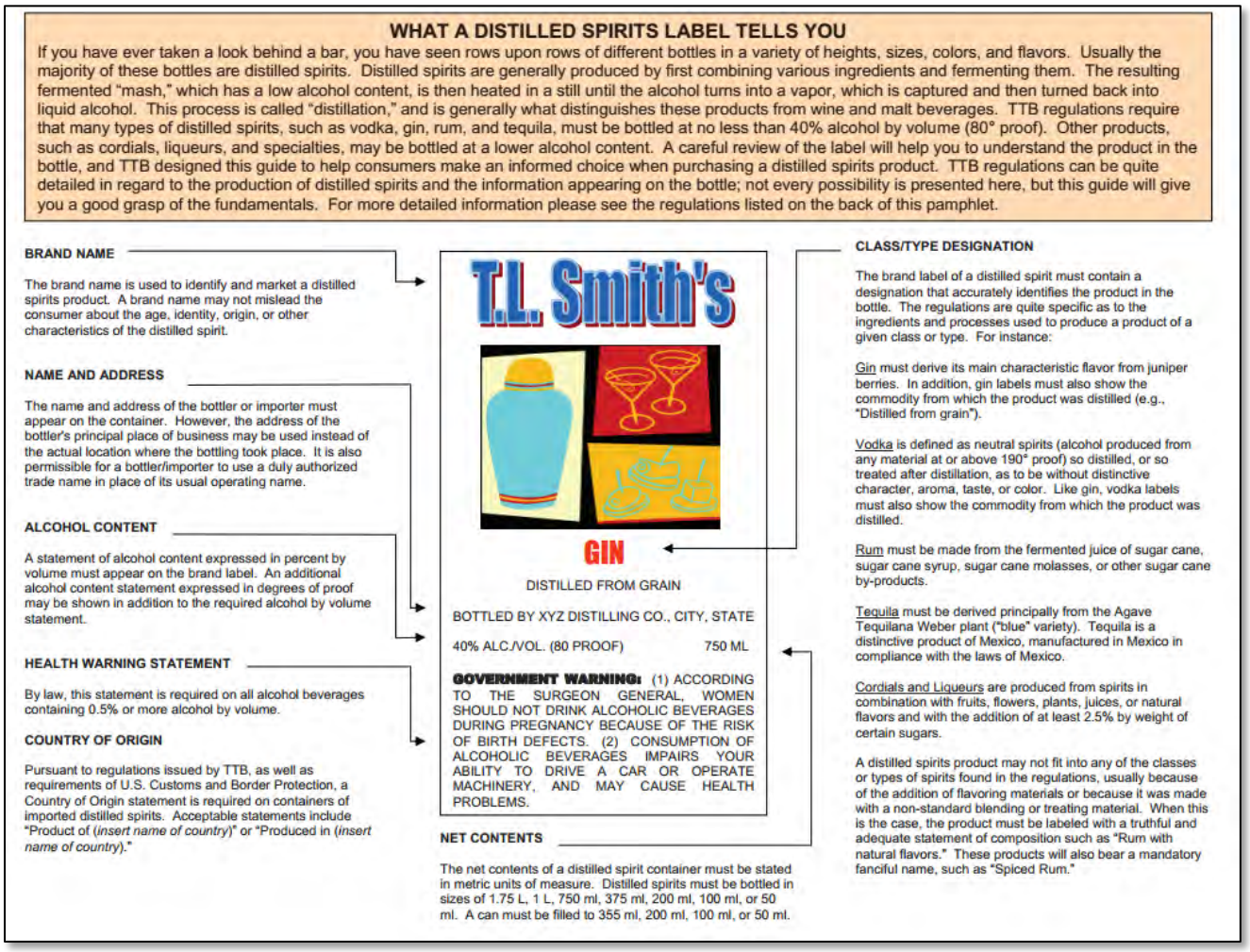
Labeling Resources

- **Applying for a COLA:** www.ttb.gov/alfd/alfd_cola_exemption.shtml.
- **Products requiring a Pre-COLA Product Evaluation:** www.ttb.gov/industry_circulars/archives/2007/pre-cola_eval_spirits.pdf.

The TTB is responsible for approval and enforcement of labeling requirements for distilled spirits. Essential information required by the section 27 of the Code of Federal Regulations (CFR) includes Brand Name, Name and Address, Alcohol Content, Caloric and Carbohydrate Representations, Health Warning Statement, Country of Origin, Class and Type, Presence of Neutral spirits and Coloring, Flavoring and Blending Materials, Net

Contents, Prohibited Practices, Statements of Age and Percentage, and Voluntary Disclosure of Major Food Allergens. The following figure shows the type of information typically found on an alcoholic beverage label.

Figure 1: TTB Labeling Guide



Licensing

Licensing and permits are an essential part of any venture that involves alcoholic beverages. The VABC controls licensing in Virginia. Businesses must acquire a Distillery License in order produce liquor. This licensing consists of a limited license allowing 5,000 gallons or less, and an unlimited license allowing more than 5,000 gallons produced annually. Different fees are associated with the type of licenses a business can obtain.

On the federal level, the Alcohol and Tobacco Tax and Trade Bureau (TTB) oversees licensing and regulation. Owners must obtain permission to operate a Distilled Spirits Plant (DSP) beverage facility in order to begin operations.

When applying for a federal license, the distillery will need to have detailed diagrams and architectural drawings of the facility and process showing the product flow and equipment list.



The distillery will also need proof that it has obtained a federal bond. A realistic timeframe for applying for federal license is four months.

After applying for a federal license, the distillery can then apply for a state license. It only needs to have a pending federal license to apply for a state license. The distillery is required to have at least minimal production equipment on site before the state will issue a license. The state will also conduct site visits to confirm the necessary equipment and facilities are available.

There is a 31-day minimum waiting period before the distillery can receive its state license. When applying to the state, the distillery must place a legal notice in a local newspaper in the region where it is located, for two consecutive weeks. The 30-day timeframe begins on the date the notice is first published and the distillery must provide an affidavit from the newspaper.

Once a business has been issued a state and federal license, it may then apply for a license to sell its products through a remote ABC store, which is typically an on-site tasting room for the distillery. To apply for a remote ABC license, the distillery must submit a minimum bond of $25,000. The business must also have a minimum of $100,000 in identity theft and phishing insurance coverage. The state's ABC will conduct a formal audit of the distillery and the business must meet the minimal technology standards, including the ability to partner with the state's POS software.

For information regarding local permits and licensing, consult a local Chamber of Commerce or Small Business Development Center.

For information on Federal permits, contact the TTB's National Revenue Center toll-free at 1-877-882-3277, directly at (513) 684-3334, or by email at ttbquestions@ttb.gov.

Potential distillery owners should set aside time to familiarize themselves with the local, state, and federal regulation and taxation laws governing the production and sale of liquor. Because there are variations depending on the type of product produced, quantities, and intended usage, it can be difficult at times to ascertain the applicability of a certain law or regulation.

It is recommended that a distillery or other alcohol producing operation in Virginia works closely with its local ABC compliance agent. A list of Virginia ABC compliance agents can be found at the VABC website.

Bonds

The bond's price is determined by the amount of product the distillery produces and how much product on average the business has on-site for two weeks. This includes product in tanks, barrels, bottles, etc. The bond helps secure the business' excise tax (there is no federal sales tax).

State Health Department Regulations

Businesses must consider state Department of Health regulations. These regulations, designed to protect the health of employees as well as the environment, must be considered if the business handles food of any kind, or sewage or drainage. Typically, specific licenses or permits are required depending on the nature of the venture.

Food Handling Regulations

Any person who handles food should be aware of current food legislation. The primary enabling legislation states the aims and objectives of the law. This provides the power to the relevant U.S. Departments of State to introduce specific regulations. For example, the Food Safety Modernization Act is a legislation approved by Congress and later allows the Food and Drug Administration to write a regulation/s for that particular law. In general, food legislation has two objectives: to ensure that the food offered is of the quality it is supposed to be, and that it will not be harmful to the consumer.

In the US, about 48 million people (1 in 6 Americans) get sick, 128,000 are hospitalized, and 3,000 die each year from food-borne diseases, according to recent data from the Centers for Disease Control and Prevention. This significant public health burden is largely preventable.[6]

For food processors, there are parameters for minimum standards with which products have to comply. For example, in bacteriological quality terms, tests done by laboratories have to follow the specifications as stated in the Bacteriological Analytical Manual (BAM) of the U.S. Department of Health & Human Services, U.S. Food and Drug Administration (FDA). This manual is available at www.fda.gov.

Labor Regulations

It is important to choose the right method for recruiting and selection that best adapts to a business venture. Having clear and defined objectives, duties, and responsibilities for each position will ensure the proper selection of personnel, as well as avoid costly lawsuits related to discrimination and sexual harassment.

Many additional labor laws and regulations will begin to affect the business, should it approach 50 employees. It is important to monitor operations carefully to determine if the extra labor is feasible given the additional cost that new regulations may carry. Affirmative Action, Equal Employment Opportunity, the Family and Medical Leave Act, and the Affordable Care Act all have provisions and regulations that are triggered once a business reaches the “50 or more” employee mark.

Employment Eligibility Verification

Workers must have valid work permits if not U.S. citizens. Each farm labor contractor, agricultural employer and agricultural association which is subject to the MSPA and who employs any migrant or seasonal agricultural worker(s) shall post and keep posted in a conspicuous place at the place of employment a poster prepared by the Department of Labor which explains the rights and protections for workers required under the Migrant and Seasonal Agricultural Worker Protection Act (source: DOL).

Safety Issues and OSHA

The Occupational Safety and Health Administration, or OSHA, is responsible for enforcing compliance with US laws regarding safety and workplace conditions. Compliance is expected to be voluntary, with inspections as a consequence of extended non-compliance.

[6] http://www.fda.gov/Food/FoodSafety/FSMA/

Employers have the responsibility to provide a safe workplace. Employers must provide their employees with a workplace that does not have serious hazards and follows all OSHA safety and health standards. Employers must find and correct safety and health problems. OSHA further requires that employers try to eliminate or reduce hazards first by making changes in working conditions rather than just relying on masks, gloves, earplugs or other types of personal protective equipment (PPE). Switching to safer chemicals, enclosing processes to trap harmful fumes, or using ventilation systems to clean the air are examples of effective ways to get rid of or minimize risks.

If there are laboratories in the firm, then a manual with clear procedures for each quality test must be in place and in compliance with FDA and USDA regulations. Safety globes, hats, industrial aprons, boots, and glasses should be available for workers in the processing areas. In this context, having accident insurance for workers is an important matter as well.

Exit signs, easy access in and out, fire extinguishers, evaluation, medical supplies, and procedures are important considerations. Other issues include hazard prevention and control, safety and health recordkeeping, and injury/illness records. It is important to develop an action plan to cover these types of situations. More details are available at www.osha.gov.

Transportation Regulations[7]

The processing facility must comply with certain federal transportation regulations in regards to the pickup and delivery of products. Any pick-ups or deliveries made within a 60-mile radius of the facility may fall under several exceptions designated by the Federal Motor Carrier Safety Administration (FMCSA).

An air mile is a term used by the FMCSA to define a unit of measurement used in transportation. An air mile is longer than a statute mile, with 100 air miles equally 115.08 statute miles. The 100 air mile radius exemption may apply to a facility if all pick-ups and deliveries occur within 100 air miles of the facility and no driver works more than 12 hours in one day, the drivers are not required by law to maintain a logbook of their on and off duty hours.

Drivers are required to hold a commercial drivers license (CDL) if the truckload is greater than 26,001 pounds. Drivers of any semi-trucks used to transport product are required to hold a CDL. Individuals in South Carolina may apply for a CDL at his or her local DMV.

In general, commercial drivers must abide by the 14-hour consecutive duty period limit, meaning that they cannot have more than 14 hours of drive time in a 24-hour period. For drivers who fall under the 16-hour short haul exemption, an allowance is made to extend the 14 hour per day drive time limit to 16 hours once every seven consecutive workdays or after 34 hours off duty.

Deliveries not utilizing a truck that requires a CDL will not be subject to certain restrictions. In order to qualify for this exemption, the driver must operate a truck that does not require a CDL and work within 150 air miles of their reporting location. Under this exemption, drivers are not

[7] Interstate Truckers Guide to Hours of Service. Federal Motor Carrier Safety Administration. < http://www.fmcsa.dot.gov/rules-regulations/truck/driver/hos/fmcsa-guide-to-hos.PDF>



required to keep a logbook. They are also allowed to maintain 16-hour duty periods twice every 7 days or after 34 hours of off duty time.

Processing Procedures
Written product specifications, processing flow diagrams, and processing procedures should be constructed both for the ease of tabulation for the owners of the venture, as well as for use in inspection and regulation aspects of the business. In some cases, detailed diagrams and other information regarding processing procedures may be required.

Food Safety and Quality Assurance
The production of safe, high-quality products are of primary concern to the owners of the project. Food safety begins with an appreciation for cleanliness through the entire supply chain. Good agricultural practices, an understanding of microbiology, adequate manufacturing practices, safe procedures for cleaning and sanitizing, and a thorough understanding of the principles of Hazard Analysis and Critical Control Point (HACCP) development are all critical to the project.

Good Manufacturing Practices
There are basic sanitation principles with which food manufacturers have to comply. These are contained in the Good Manufacturing Practices as detailed in Title 21 of the Code of Federal Regulations Subpart E-- Production and Process Controls. The CFR is accessible on-line via www.ecfr.gov.

Good Manufacturing Practices (GMP) has two meanings when used in the context of a food processing facility. The first refers to actual federal code sections of GMPs, and the second is a set of operating procedures based upon these codes. The actual codes provide the basis for both the federal and state food-processing regulations that serve as guidance for facility construction, equipment and utensil selection, sanitation, personnel hygiene, food handing, and production and processing controls.

While these GMPs are generic, they provide an excellent overview of most facets of sanitary facility operation. Once understood, a facility operator can use these codes as to develop GMPs for his or her own facility. A typical GMP program consists of several parts, each of which has a written set of policies and a checklist based upon those policies.

"a written GMP program should… include information about cleaning chemicals used in the plant, how effectively they are handled and stored, and how the Material Safety Data Sheets are maintained"

A written GMP program should also include sanitation and pest control policies, and documentation. The sanitation program should include information about cleaning chemicals used in the plant, how effectively they are handled and stored, and how the Material Safety Data Sheets (MSDS) are maintained. The sanitation program should detail weekly, monthly, and periodic cleaning schedules and how cleaning is conducted, monitored, and recorded.

The pest control program should be developed in conjunction with a professional pest control operator who will assist in recordkeeping as well as making facility recommendations that will help to exclude pests and reduce harborage areas.



The GMP plan should include a section on “Production and Process Controls” that addresses the methods of preventing contamination of the spirits being produced, processing time, temperature controls, and other critical factors, such as moisture, salinity and acidity.

The distillery must have a means of lot coding each batch of product, so that a product recall can be initiated, in the event that it is necessary.

Hazard Analysis Critical Control Point (HACCP)
HACCP is a widely recognized system for increasing safe food production. A HACCP Program identifies the steps within a food process that contain the greatest hazards, identifies scientifically validated steps that can reduce these hazards to an acceptable level, institutes these control measures, and documents their use and effectiveness.

Developing and implementing a HACCP plan requires a considerable commitment of time, money, and effort. It is important to recognize that an HACCP plan only works if an effective sanitation program and documented GMPs are in place. A HACCP program is not designed to compensate for generally poor practices, but rather to use solid practices as a basis for a food safety program that can provide the highest assurance of safety.

A HACCP system is a way to address food safety requirements for third party audits, federal and state inspections, and wholesale customer requirements. Providing this type of written analysis documentation can address the food safety requirements outlined by these various agents, and serve as a benchmark for quality assurance.

Potential Issues

Product Liability Insurance
Similar to other food products intended for retail sale and consumption, liquor may be subject to various contamination risks and potential for recalls and food safety issues carries a risk of liability. The operation will need to have a product liability insurance policy in place. This type of insurance is available through most commercial insurance carriers. Insurance carriers should be contacted to provide actual quotes.

Internet

The Internet Corporation for Assigned Names and Numbers (ICANN) is responsible for managing and coordinating the Domain Name System (DNS) to ensure that every address is unique and internet users can find all valid addresses. For more information, see www.icann.org.

Domain names can be registered through many different companies (known as "registrars") that compete with one another. A listing of these companies appears in the Registrar Directory available at www.internic.net/regist.html.

Regardless of the sales channel, all foods sold in the U.S. must be in full compliance with FDA food labeling requirements that are specified in the U.S. Code of Federal Regulations. The FDA regularly monitors companies’ websites so they have to comply with all regulations and claims that are made about the foods and/or its ingredients.

Water & Sewer

Specific regulations govern the sources of water used in the production of food products. When locating any agricultural business that includes the production of large amounts of waste or byproducts, it is essential to address the regulations and constraints of disposal. Should a facility utilize a municipal water and sewer source, specific regulations governing the allowable limit of dissolved solids, as well as chemicals, nutrients, and PH levels allowed in wastewater will need to be addressed prior to production.

Should the facility be located in a region that does not include access to a municipal or other standardized water and sewer supply, environmental regulation may affect the disposal of production waste or by-products.

Many pretreatment protocols mandate that the facility treat the wastewater, either by physical, chemical, or biological processes, to reduce the amount of pollutants, or alter pollutants to a less harmful state prior to discharging to the sewer system.

Programs and regulations often include rules stating that the facility must self-test its effluent water on a regular basis, and provide records and result of this monitoring to the governing sewer authority. In addition to self-monitoring, the facility may be subject to annual local government testing.

Failure to abide by applicable laws and regulations in this arena may result in fines or the cessation of business if they are not properly addressed.

Consumer Protection Concerns

The Federal Trade Commission (FTC) is the nation's consumer protection agency. The FTC's Bureau of Consumer Protection works for the consumer to prevent fraud, deception, and unfair business practices in the marketplace. More information is available at www.ftc.gov.

The owner(s) is/are responsible to provide a safe environment for both employees and the public. Examples include:

- Security elements set in place such as clear exit signs at the facility, fire extinguishers, access for disabled persons, first aid kits and emergency procedures
- Laboratories providing designated areas for sample analysis where special ventilation systems must be in place if chemical substances are used
- Using “caution hot” signs after burners have been used
- Using “caution wet floor” signs after floors are washed
- Protecting processing facilities to prevent vermin entering the production area
- Ensuring customers do not get intoxicated during an alcoholic tasting
- Access/entrance to the farm. What was once acceptable as access to a farm for agricultural purposes, may no longer be legal access for the general public



Zoning – General Requirements

It is critical that the business remains current with any zoning requirements related to the proposed venture and any expansion in the future. For the sake of the study, basic zoning information follows as a reminder of the steps that may need to be taken as the project moves ahead. If the owners decide to expand the facility, they would need to address a number of issues including, but not limited to, the following:

- Visual impact - including the need for buffering, screening and landscaping of the facility
- Flora and fauna, and their effects on the local eco-system
- The impact of noise from the plant (limited)
- Traffic study addressing the intersection design, turnaround areas, and car parking
- Management of additional wastewater
- Additional requirements for water and power to the site
- Soil suitability in regards to building foundation, erosion control and absorption

Table 1: Standard Requirements for Site Development

1	Grade the site to a 2 to 4 percent slope
2	Slope the site toward a collection pond
3	Add minimal paving under the facility
4	Build beams around the perimeter to control run-off and run-on, if required
5	Plan areas for raw material storage, if applicable
6	Set up equipment in locations convenient to the process
7	Construct retainer walls and footings
8	Develop a screen/landscaping around the site
9	Install appropriate utilities depending on the method and process
10	Obtain proper permits (this is mandatory) —Local: zoning, building, and land use —State: water discharge, access, air, and health department

For more information on zoning, see www.sba.gov/content/basic-zoning-laws. Alternatively, contact your city, municipality, or county zoning official.

Zoning is a critical factor. The key to securing local approval is a combination of sound site planning, presentation and persistence. A properly zoned site makes it easier to provide continued protection against incompatible uses.

Vegetative controls that may need to be implemented include tree protection tape, permanent and temporary seeding, and erosion control. Erosion control would include blanket/matting on steep slopes. Structural controls that may be implemented include construction entrances, silt fencing, diversion dikes, temporary sediment traps, rock check dams, storm drain inlet & outlet protection, and surface roughening. The Table above presents the requirement for site development of a typical facility. Local requirements and the exact type of facility to be constructed will determine the exact site requirements.

INDUSTRY FACTORS

The venture's success hinges on multiple components of the spirit industry all working together, ranging from maintaining adequate supply arrangements to meeting state and local level regulatory requirements. The following section presents an example of a few of these components and their influence on the spirits market.

The liquor industry, especially in the area of smaller artisan producers, continues to show signs of growth. However, as a whole, the liquor industry represents smaller part of the overall alcoholic industry. While growth within the distilled spirits segment may be substantial, the segment of alcoholic market share remains small overall.

Supply Arrangements

A key factor in the production of any product utilizing agricultural inputs is securing a consistent supply for production. The distillery may choose several arrangements in order to secure a supply of inputs for production. For this prototypical study, the distillery will not be located on a farm, so the business will have to purchase all of the inputs needed for production. Those distilleries that choose to grow their own inputs will need to consider a plan of alternative supply in case of crop failure. As demand grows for the distillery's products, it may begin purchasing inputs from additional producers to help increase its supply of extra grains.

The following list is a sample of commonly used inputs in distilled spirit production. The United States Department of Agriculture (USDA) Census of Agriculture provides statistical information related to the production of such crops, and is an excellent resource for potential owners trying to assess the overall supply of inputs in their region of the state. The following information was obtained from the Census of Agriculture information regarding Virginia[8] and North Carolina.[9]



Rye is a main component of whiskey and most vodka varieties. According to the 2012 Census of Agriculture, rye for grain was grown on 4,291 acres of land in Virginia, which produced almost 156,000 bushels. North Carolina, with almost triple the acres invested and over double the bushels of rye produced, provides an option for additional supply arrangements in the event that enough rye cannot be procured from within the state.



Barley is another major component of vodka and whiskey. In 2012, approximately 37,023 acres were dedicated to growth of barley for grain, resulting in over 2.9 million bushels harvested. Compared to North Carolina, with 16,695 acres and 985 thousand bushels produced, the distillery may be able to depend solely on Virginia for inputs.



Corn is a necessary ingredient of several varieties of spirits, including whiskey. Over 338,000 acres of land in Virginia were dedicated to the growth of corn for grain in 2012, producing almost 34 million bushels overall. North Carolina, by

[8] www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_1_State_Level/Virginia/st51_1_037_037.pdf

[9] www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_1_State_Level/North_Carolina/st37_1_037_037.pdf

comparison, has over double the amount of acres devoted to corn, and almost triple the overall bushels produced, making it an ideal location for additional input sourcing if needed.

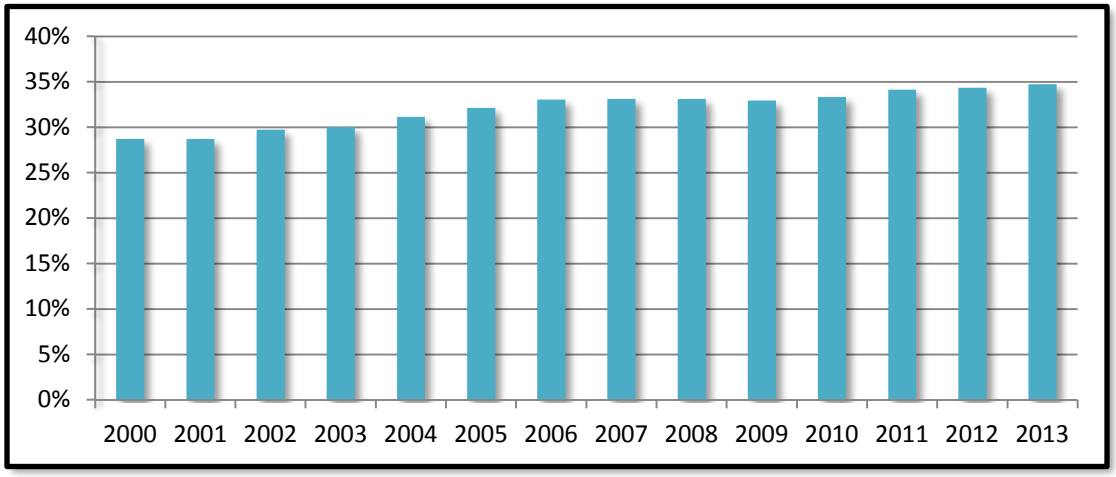
Potatoes are a major component of some varieties of vodka. Grown on approximately 5,000 acres in Virginia in 2012, potatoes do not represent a significant portion of the state's output. North Carolina, in contrast, had around 16,000 acres of potato crops in 2012, making it a likely candidate for additional input sourcing.



Market Context: United States Spirits Industry

The distilled spirits industry is a sector of the overall alcoholic beverage industry within the United States. In 2013, the spirits' share of the total alcoholic beverage market was approximately 35 percent in revenue terms. There was a positive tendency to the growth in market share of the spirits market between the period 2000 and 2013, which seems to indicate a favorable market environment for new entrants (see Figure 2).

Figure 2: U.S. Spirits: Revenue Market Share 2000-2013[10]



Within the spirits market, products can be divided into separate classification categories based on quality. These categories are value, premium, high end, and super premium, and are segmented based on supplier prices and with market leaders typically defining each segment. The following table shows the breakdown of prices associated with each price segment for spirit products. Examples of pricing for different products (vodka, whiskey, brandy, and gin) can be found under the Pricing Strategy section of this document.

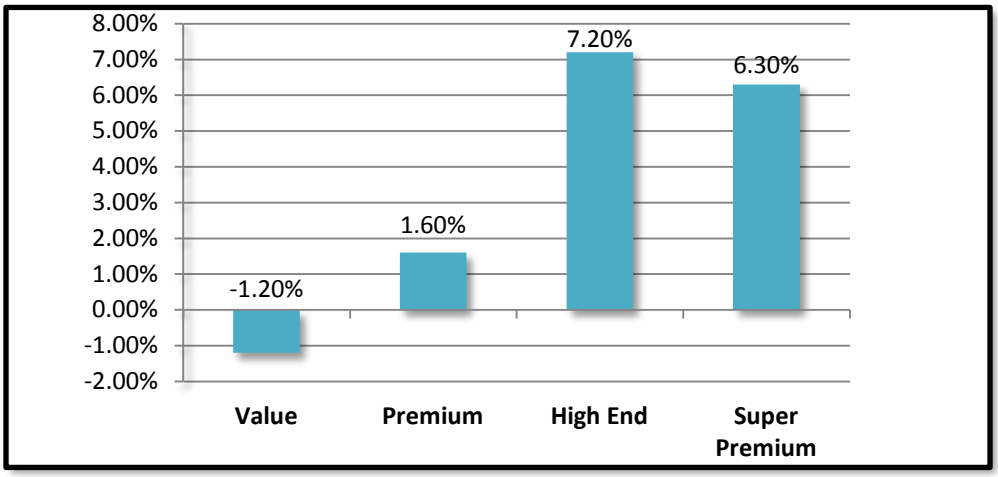
Table 2: Product Price Segments

Price Segment	Gross Revenue per Case	Retail Bottle Price
Value	$50	<$12
Premium	$100	$12-$18
High End	$165	$18-$30
Super Premium	$250	$30+

[10] Distilled Spirits Council of the United States (February 2014). "Distilled Spirits Council 2013 Industry Review." www.discus.org/assets/1/7/Distilled_Spirits_Industry_Briefing_Feb_4_2014.pdf

All price categories have experienced variations in their volume growth over the years. The highest growth in 2013 was in the high end category, which grew by 7.2 percent. The premium category experienced the least amount of growth in 2013, with an increase of 1.6 percent and the value line saw a decrease during this time of 1.2 percent. These trends seem to suggest a consumer preference for higher end spirits, smaller volumes, and higher quality (see Figure 3).

Figure 3: Spirits growth by Volume, 2013



Although high end spirits saw the greatest growth by volume, premium spirits continued to account for the largest amount of revenue with $7.4 billion in U.S. supplier gross revenues. High end spirits followed with $6.5 billion, which accounted for the least amount of revenue.[11]

Many factors play into the growth and decline of specific product categories. For example, the growth of the middle class and those with more disposable income can contribute to the rise in high end spirits. Consumers are also becoming more cognizant of the quality of their products and the benefit of buying higher end products.

The distilled spirits industry has had a favorable impact on the nation's economy. According to the latest data from 2010, the industry contributed over 1.25 million jobs, with about 671,000 jobs directly related to distilled spirits. With these jobs, the industry represented almost $90 billion wages received by workers. In terms of economic activity, the industry brought almost $402 billion to the economy and about $41.4 billion in state and local taxes.[12]

Market Context: Imports and Exports

In an increasingly global economy, imports and exports of products can have a tremendous positive or negative impact on domestic producers. While some risks may be mitigated by niche marketing or concentrating sales within a small geographic region, those considering a business in which imports and exports play major roles should consider what effects these factors could have on a venture.

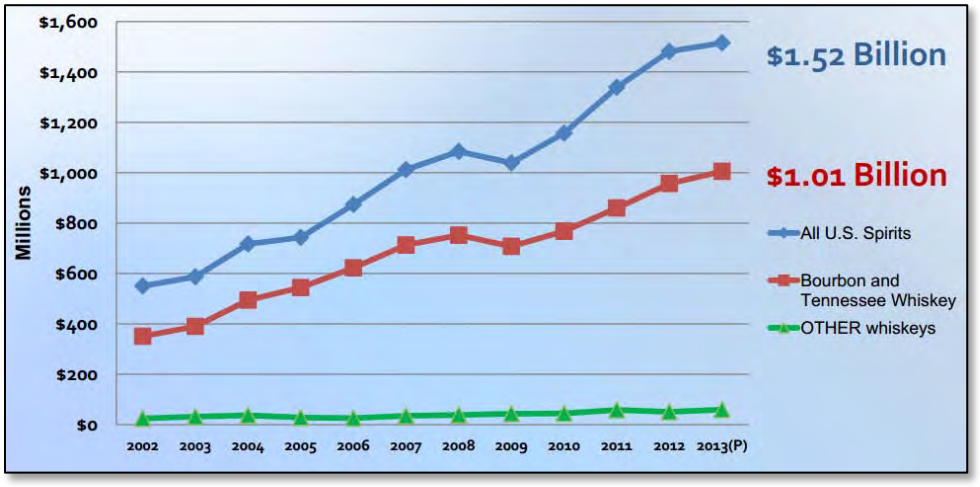
[11] Distilled Spirits Council. (February 2014). "Industry Review Supplemental Tables and Charts-2013." www.discus.org/assets/1/7/2013_Industry_Review_Supplemental_Tables_and_Charts.pdf
[12] DISCUS (2010)." Economic Contribution of Alcohol Beverage Industry." www.discus.org/assets/1/7/ContributionFactSheet.pdf

Exports

Exports of spirits from the United States have steadily grown in recent years. According to the Distilled Spirits Council of the United States' annual report, the nation exported over 98 million proof gallons of spirits in 2013, showing an increase of almost two million proof gallons from the previous year. From 2009 to 2013, the nation's exports increased by over 44.8 million proof gallons, almost doubling over the five year span.[13]

For 2013, spirits exports value totaled $1.52 billion. Whiskey products accounted for 70 percent of these sales, with bourbon and Tennessee whiskey accounting for over $1 billion in export value. The following figure, from the Distilled Spirits Council's 2013 Industry Review, shows the growth of U.S. spirit exports between 2002 and 2013.

Figure 4: U.S. Spirit Export Value



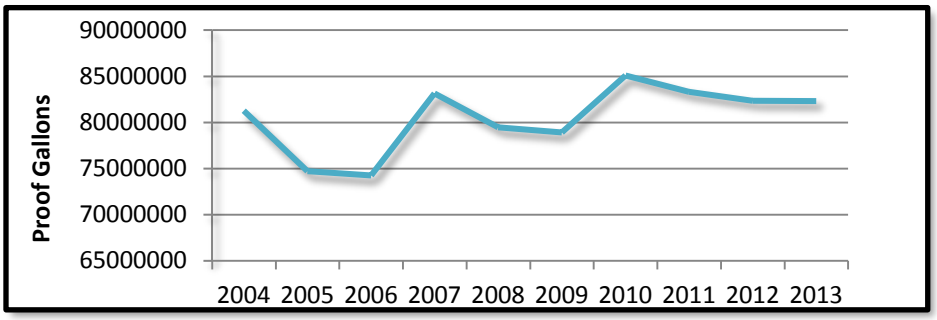
Canada was the nation's largest export market in 2013, with $212.1 million in exports. This represents a growth of 224 percent since 2002. The United Kingdom was the second largest export market for the United States, with $159.6 million in products exported.

Imports

In 2013, the United States imported over 82.3 million proof gallons of spirits, with rum being the most imported product. The total amount of imported spirits slightly decreased between 2012 and 2013 by about 38,000 proof gallons and has shown steady decline over recent years. Overall, during the period between 2004 and 2013, the United States' spirit imports increased by a little over 1 million proof gallons. The following figure shows the trends in the imports between 2004 and 2013.

[13] DISCUS. (2014). "Last Five Year Annual Imports Exports." www.discus.org/assets/1/7/Last_Five_Year_Annual_Imports_Exports.pdf

Figure 5: United States Spirits Imports



Market Context: Virginia Spirits Industry

Virginia operates its alcohol industry with a three-tier system that separates the manufacturers of alcoholic products from wholesalers and retailers. Manufacturers include entities such as breweries, wineries, and distilleries. The three main categories of alcoholic products, beer, wine, and distilled spirits have different rules that apply to the wholesaler and retailer tiers.

The Virginia Department of Alcoholic Beverage Control (VABC) has a monopoly on the sale of hard liquor in Virginia, essentially functioning as the sole wholesale and retail outlet for these types of alcoholic beverages. Because of alcohol legislation enacted after the repeal of U.S. Prohibition laws, each state was given responsibility to govern the sale of alcoholic beverages, and Virginia is one of 18 states with some form of state monopoly that functions at the wholesale and/or retail level.

While beer, wine, and spirits are sold together in ABC stores in the state of Virginia, distilled alcohol beverages are the most heavily taxed, and consumer prices for spirits are set by an array of mark-ups, taxes, and fees. Overall, spirits occupy second place by volume of alcohol consumed in Virginia, less than the volume of beer, but more than the volume of wine.

For Fiscal Year 2013 in Virginia, VABC alcohol sales were $768.8 million, including $134 million through more than 340 state-run stores. Almost 4.3 million cases were sold, an increase of 2.4 percent from the previous year. Of the total alcoholic beverages sold through state stores in Virginia, over $760 million, or 99 percent, of those sales were of distilled spirits. Distilled spirit sales equated to nearly 39 million liters, or over 10 million gallons of product. The top product by cases sold for the year was vodka, including domestic, imported and flavored.

In total, Virginia contains 8,133 establishments with licenses to sell alcoholic products. Of these establishments, 5,014 are restaurants that sell either mixed beverages or beer and wine. According to the VABC, 15 establishments located in various counties and four located in Virginia cities hold distillery licenses in the state.[14]

Resources and Significant Industry Entities

There are numerous entities involved in the alcohol and distilled spirits industry. These groups can often provide a wealth of information and practical knowledge to members, and provide opportunities for ongoing education and the ability to make industry contacts.

[14] Virginia Department of Alcoholic Beverage Control (2013). "Annual Report, 2013." www.abc.virginia.gov/admin/annual/docs/2013ar.pdf

The Distilled Spirits Council of the U.S. (DISCUS) claims to be the national trade association representing America's leading distillers and nearly 70 percent of all distilled spirits brands sold in the country. It serves as the voice of distilleries on policy and legislative issues and advocates on legislative, regulatory, and public affairs that affect the industry.

The American Distilling Institute is another important organization in the distilleries sector. Known as "The Voice of Craft Distilling," its mission is to disseminate essential information regarding the art and science of distilling. The institute provides multiple resources including a craft spirits database, business development information, and craft certification resources.

American Craft Spirits Association is a not-for-profit Trade Association that represents craft distillers throughout North America. According to their website, their goal is "to create a network of distilling entrepreneurs who collaborate by sharing knowledge and experience."

National Alcohol Beverage Control Association (NABCA) is a national association that seeks to represent Control State Systems, or those entities in direct control of the distribution and sale of alcoholic beverages. They seek to support the different jurisdictions in the US by providing information, and helping to connect federal, state and local governments with research groups and other entities involved in alcohol policy.

Examining the Consumer Marketplace & Market Potential

Given the smaller scale of the prototypical distillery examined in this study, potential owners should invest time in considering local and regional factors that affect market conditions within their sales region. Factors, such as population growth or decline, access to transportation and infrastructure, and the environment of local communities where the distillery will conduct sales, can reveal unforeseen opportunities or obstacles. While each business owner will need to examine his or her own unique business environment, the following demographic and market research information is provided as an example of the type of information that can be gathered through available public sources.

The Commonwealth of Virginia possesses an extensive and efficient interstate highway system and numerous commercial airports, thereby providing marketing opportunities for high value products and niche market agricultural products. It is possible to access the consumer demographics that are culturally and ethnically diverse, well educated, and upwardly mobile in terms of income.

Both the Mid-Atlantic and South-Atlantic regions are comprised of some of the nation's most populated areas. A distillery could easily reach these areas with concentrated marketing efforts. Parts of the Central regions of the country could also be penetrated with marketing efforts. Table 3 shows the large potential consumer base of a Virginia-based distillery.

Table 3: Metropolitan Areas within the Distillery's Marketing Reach

Metropolitan Statistical Area (MSAs)	2010 Population	2013 Population	% Change	2013 U.S. Rank
Atlanta-Sandy Springs-Roswell, GA	5,286,732	5,522,942	4.5	9
Charleston, WV	227,071	224,743	-1.0	195
Charlotte-Concord-Gastonia, NC-SC	2,217,030	2,335,358	5.3	23
Greensboro-High Point, NC	723,798	741,065	2.4	73
Hagerstown-Martinsburg, MD-WV	251,599	258,294	2.7	181
Huntington-Ashland, WV-KY-OH	364,906	364,101	-0.2	144
Kingsport-Bristol-Bristol, TN-VA	309,544	308,283	-0.4	161
Knoxville, TN	837,579	852,715	1.8	64
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	5,965,341	6,034,678	1.2	6
Raleigh, NC	1,130,490	1,214,516	7.4	47
Richmond, VA	1,208,101	1,245,764	3.1	44
Virginia Beach-Norfolk-Newport News, VA-NC	1,676,820	1,707,369	1.8	37
Washington-Arlington-Alexandria, DC-VA-MD-WV	5,636,276	5,949,859	5.6	7

According to the U.S. Census Bureau, Virginia's population grew an estimated 3.2 percent between April 1, 2010, and July 1, 2013, resulting in a total estimated population of 8,260,405 people.[15] The following section provides general information about some of the larger areas in Virginia and gives a representation about different areas throughout the state. This information comes from The United States Census Bureau State & County Quick Facts.

- ***Tidewater area of Virginia***

As defined by the Chesapeake Bay Preservation Act, Tidewater includes major cities such as Virginia Beach and Norfolk. This area is located on the South East coast of the state, less than an hour from the North Carolina border.

Virginia Beach

- **2013 Population**: 448,479
- **2008-2012 Households:** 164,226
- **2008-2012 Median Household Income:** $65,980

Norfolk

- **2013 Population:** 246,139
- **2008-2012 Households:** 85,247
- **2008-2012 Median Household Income:** $44,164

- ***Chesapeake***

Chesapeake is also located among the Tidewater area, just south of Norfolk. This city's population accounts for approximately 2.8 percent of Virginia's overall population.

- **2013 Population:** 230,571
- **2008-2012 Households:** 79,380
- **2008-2012 Median Household Income:** $70,244

[15] US Census Bureau (2014). "State & County Quickfacts: Virginia." http://quickfacts.census.gov/qfd/states/51000.htmlhttp://quickfacts.census.gov/qfd/states/51000.html



- ***Richmond***

The city of Richmond is located centrally within Virginia, about two hours south of Washington, D.C. The city's 2013 estimated population represents a nearly five percent increase since 2010. The land area of the city is almost 60 square miles with over 3,400 people per square mile.

- **2013 Population:** 214,114
- **2008-2012 Households:** 83,775
- **2008-2012 Median Household Income:** $39,445

- ***Alexandria***

Alexandria is located in northern Virginia, just south of Washington D.C. and contains about 1.8 percent of Virginia's overall population. This area occupies a land area of 15 square miles, with over 9,000 people per square mile.

- **2013 Population:** 149,000
- **2008-2012 Households:** 64,729
- **2008-2012 Median Household Income:** $83,996

- ***Roanoke***

This city is located in the South West area of Virginia, about three hours from Richmond. The city represents about 1.2 percent of Virginia's overall population and has increased by 1.6 percent since 2010. The city's land area in 2010 was almost 42.6 square miles and had about 2,280 people per square mile.

- **2013 Population:** 98,465
- **2008-2012 Households:** 42,644
- **2008-2012 Median Household Income:** $38,265

- ***Charlottesville***

The City of Charlottesville is also located centrally in Virginia, about an hour and a half to the west of Richmond. The city occupies a land area of about ten square miles with about 4,246 people per square mile.

- **2013 Population:** 44,349
- **2008-2012 Households:** 17,319
- **2008-2012 Median Household Income:** $44,535

Current and Potential Market

The agricultural production sector in Virginia is diverse and varied. Non-traditional operations, such as distilleries, are becoming more commonplace as evidenced by the increasing number of applications to Virginia ABC authorities.

Alcohol

According to the 2013 annual report[16] of the Virginia Department of Alcoholic Beverage Control (VABC), gross sales of the retail operations division totaled $769 million, a $35 million increase from 2012.

[16] (2013). "Virginia Department of Alcohol Beverage Control Annual Report." VABC www.abc.virginia.gov/admin/annual/docs/2013ar.pdf

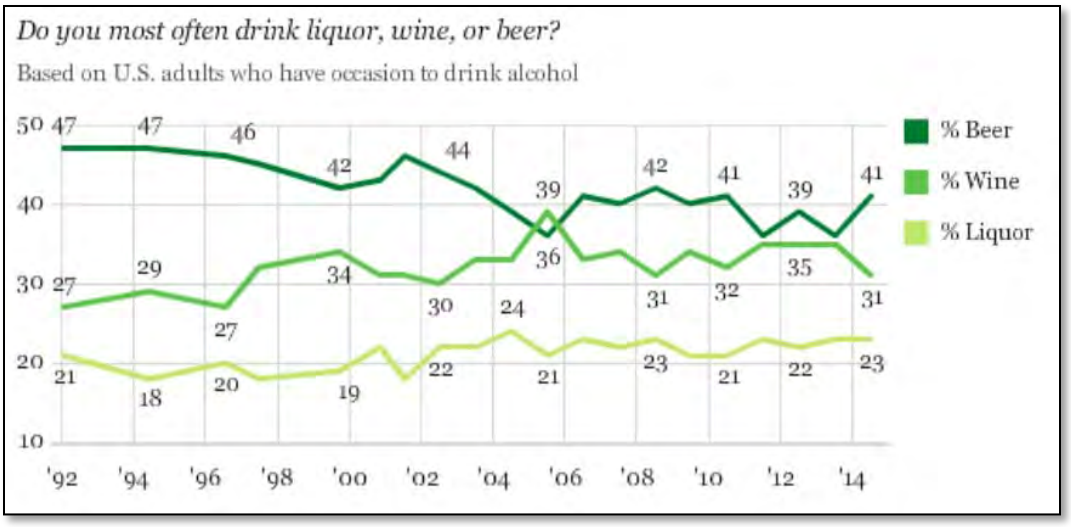
The largest sales category for Virginia ABC stores was distilled spirits (accounting for 99 percent gross sales percentage), and Virginia wine was second in sales with just over 103,000 liters of wine representing $1.5 million in gross sales.

The report also provides a comparison of market share by product types, and reveals that vodka is the number one product by volume sold, at 32.5 percent of all products sold at ABC stores. Corn whiskey more than doubled the 2012 figures, moving from 11,861 cases sold in 2012 to 24,643 cases sold in 2013. The VABC attributes this increase to sales of licensed moonshine.

Straight bourbon whiskey has experienced a 7 percent increase, moving from approximately 400,000 cases sold to nearly 430,000 cases in 2013. Brandy sales showed declines for the same period, dropping by nearly 3 percent from 138,000 cases to 134,000 in 2013.

According to a 2014 Gallup poll,[17] 64 percent of Americans consume alcohol, a figure that has remained largely the same on average over the long term. Demographics information indicates that among women, wine is the top alcoholic drink at 46 percent, while the ranking for men is beer at 57 percent, followed by liquor at 20 percent and wine at 17 percent.

Figure 6: 2014 Gallup Poll Results



As a whole, beer is the most commonly consumed alcoholic beverage, followed closely by wine. Liquor products are the least commonly consumed. In general, slight declines in beer consumption, coupled with slight increases in wine consumption show these two products converging, while liquor percentages have remained relatively stable.

Distilleries have many opportunities to market spirits directly to consumers in Virginia. Markets exist not only for superior, high end spirits, but also for the classic spirits styles as well.

Within the Mid-Atlantic region, there is more than enough demand to sell the entire amount of product that the distillery can produce; therefore, it will be the marketing capacity of the distillery that will determine how far and how fast demand increases.

[17] www.gallup.com/poll/141656/drinking-rate-edges-slightly-year-high.aspx



THINKING THROUGH YOUR BUSINESS

In order to consider the various factors that would affect the establishment and successful operation of the distillery, using a "castle in the air" approach to thinking through the various pieces of operations and production can reveal areas for improvement. This approach often results in a deeper understanding of how the distillery will likely operate on a yearly, monthly, and even daily basis.

Constructing a narrative from this thought process could serve several functions. It allows the owners to have a record of their vision from the beginning, as well as more effectively communicate that vision to potential investors or financiers. It also provides source material for possible marketing and promotions. Once the story of the "castle" is complete, owners can use the written thought process they have constructed to make the business real as they implement the various stages of startup and operations, and record their overall idea in a business plan.

Like any successful enterprise, the distillery will need to continue to revise its procedures as its production and sales increase, as it encounters opportunities or obstacles in the marketplace, and as it revises its short and long-term goals. Such changes are normal and necessary for a distillery or any business to remain viable. Any changes in vision or mission should be updated in the narrative, and used to guide further business choices.



FICTIONALIZED DISTILLERY NARRATIVE

The narrative below outlines the broad assumptions used to construct the distillery financial model presented in this study and serves to examine the overall business idea and its realism. It may also function as a model example of how a business owner could construct a narrative to help communicate a business idea to others. This narrative is a result of industry research, discussions, interviews, and the knowledge of the consultants, and does not represent any distillery in business today.

"The distillery is a small craft distillery with its own character and story located in a rural region of the US. The site has been properly zoned for the production of distilled spirits and the distillery's owners have addressed all the necessary permitting and licensing requirements to legally produce distilled liquor products.

All sales of the distillery's products will take place within the state. The commercial strategy involves sales taking place via the on-site retail area based on the ABC license, and the remainder of sales taking place through distribution to other ABC stores via the Virginia ABC system.

Some supplementary sales of souvenirs and gift related items will also take place through a small, on-site retail area co-located with the on-site tasting room. The owners have also obtained permission to establish their own on-site tasting room and ABC store, where their products are displayed and sold along with marketing oriented non-alcohol products, such as logo imprinted t-shirts, key-chains, and other memorabilia related to distilled spirits and the distillery's brands.

These items are tied closely to other marketing activities of the distillery, which focus on driving sales through the distillery's on-site store.

The production facility is within driving distance of the source inputs required for production, and within driving distance of a major population center, which serves as the focus of the business's initial sales and marketing strategy. Though this artisan venture cannot compete directly with the large commercial mashing and distilling facilities in operation today, the owners have chosen to target the demands of niche markets in their region, and eventually expanding to the state.

The initial products produced by the distillery include an un-aged corn whiskey product ("moonshine"), aged bourbon, and potato-based vodka made from regionally sourced potatoes. Each product line will grow to include some limited variations, and the owners intend to consider offering seasonal or special/limited edition products in the future.

As a small distillery, higher operational costs will require the owners to create value through product differentiation and production of high quality, superior spirits. Each of the products offered by the distillery is produced in a carefully monitored production process that generates high quality, "value for the money" style product.

The products are bottled in the same style 750 ml containers, each with a unique label to identify its contents. The overall appearance presents an "old-timey" look with labels and marketing heavily influenced by smoky browns and burnt orange colors.



A chief component of the distillery's marketing strategy is the creation of a strong story to accompany the major product lines produced by the business. Detailed information is provided to current and potential customers regarding the various aspects of production and the owners' personal history and involvement with craft distilling.

The production strategy will center on the knowledge and capabilities of an experienced Master Distiller. On a daily basis, and assisted by other employees, the Master Distiller oversees the steps of production of both the aged and un-aged products. From a quality control perspective, this individual is also responsible for directing all production activities and approving the quality of all products produced by the distillery.

The distillery utilizes several mash tuns for cooking mash and beginning the production process for the whiskey, bourbon, and vodka product lines. After mashing is complete, the product is allowed to ferment and then processed through the distillery's antique copper pot still.

Once the product distillation is complete, each line is further processed according to regulatory requirements and the distillery's proprietary recipe, with the un-aged corn whiskey and vodka products being mixed with water to achieve the proper proof level before bottling, and the bourbon product being placed in white oak barrels to begin the aging process.

Finished product is stored on-site until sold. When the product is ready for transfer to the retail portion of the distillery's on-site ABC store, the necessary paperwork is completed to maintain compliance with the VABC and TTB, and applicable fees and taxes are paid.

Product destined for sales through the Virginia ABC wholesale system is transported via common carrier to a local distribution hub on a per order basis. The ABC distribution network then handles placing product in individual ABC stores around the state.

The owners of the distillery have arranged for spent grains and other waste products produced during distillation to be picked up by area farmers and ranchers, who utilize the materials as a feed additive or for other farm-based activities. This results in the waste product generated by the distillery being a revenue-neutral product."





OPERATIONAL CONCERNS

While the following section presents details about the basic procedures envisioned for the distillery, each business will need to examine and respond to its own unique business environment. In order to remain a successful commercial enterprise, the owners of a distillery should continuously revise procedures as they discover new opportunities or obstacles.

Location and Site Specifications

The location of the distillery is an important factor in the business's daily operation, because it will affect the relative costs experienced by the distillery. Labor, transportation, utilities, waste disposal, and other components of operations will be affected the ultimate location of the business. From a marketing point of view, a good location is essential to establishing a successful business, and the facilities would ideally be visible from a major roadway.

For this study, the owners have leased a site to house the distillery and tasting room. The site will have sufficient space to handle the initial operations as well as room for growth, should demand make this necessary. The building will house normal operations as well as the distillery's tasting room. The tasting room, used as a marketing tool to drive consumer awareness of the product, will also serve as a possible income stream from the sales of non-alcoholic products. The goal is for the facility to be a destination as well as a distillery.

The facility space dedicated to events and tastings will allow the distillery to generate additional revenue from offering event services for special occasions, tours of the premises, and showing the actual production process. The site could also serve as a host for other events or tastings that would increase the distillery's brand recognition in the region. The facility should also include space or appropriate structures for storage of production inputs and equipment, including grain storage, fermenting, and bottling equipment.

> *"the goal is for the facility to be a destination as well as a distillery"*

Because sales will occur on site, visibility near high traffic routes will facilitate customer flow, and will require adequate parking for employees and visitors, including cars and buses. The facility should include a reception area for guests, a bar or tasting area, and a space to sell products and souvenirs. The site should also include miscellaneous space, such as office space, break rooms, storage, and restrooms. The distillery and production space should be separate from the guest and tasting room space. The distillation equipment room can be located at the back of the building and can include windows from the tasting room to the distillery, so visitors can watch the liquor being made.

The facility must be safe, clean, and follow all the requirements by both groups. The building must be inspected to ensure compliance, and the owners should begin inspections as early as possible in order to prevent any delays in opening the business.

Zoning – General Requirements

The distillery will need to receive zoning approval from the town in which it is located. The guidelines for zoning may differ for each area. Information on zoning requirements can be found on county websites specific for the county in which the distillery is located.

At times, zoning can drastically delay the opening of a new business, especially since zoning boards can deny approval for a business a force the owners to change their location or building plans. It may be hard for distillery owners to establish a location within a rural county, either due to resistance surrounding the associations with the alcohol industry, and these areas may require additional steps before to obtain zoning approval. The best approach to overcoming zoning delays is to begin the process early while the business is still organizing and before approaching the VABC.

Spirits Making

"Spirits Making" refers to the process of distillation. The distillery may choose to work with batch artisan distillation rather than continuous distillation. Because the types of stills differ from one another, variations in size, shape, and processing techniques give the operator the opportunity to make unique spirits. The basic ingredients are grain, yeast, and water, and the master distiller is in charge of creating distinct flavors.

Basic Process Overview[18]



1. The Fermenter

Yeast is necessary to create alcohol. The choice of yeast is important because it plays a role in contributing to the character of the spirits. The quality of the water is another key component in the spirits-making process.

The distiller mixes yeast, water, and sugar (or a sugar-containing grain) in a fermenter, also called a mash tun. After three to seven days of voracious fermenting, the yeast has consumed most of the sugar, turning the mash (the mixture of fermentable carbohydrates in the water) into a wash (10 or 12 percent alcohol by volume). A pump moves the wash into the pot of the still.

2. The Pot

A boiler pumps steam into a jacket, or two-walled metal sleeve that surrounds the bottom of the pot. The heat builds for half an hour or so, to raise the wash to its boiling points—plural. Alcohol boils at 173 degrees F; water at 212.

3. The Distillation Column

As blended alcohol and water vapor rises from the pot, it enters a cool copper column. Most of the vapor condenses and falls back into the pot as reflux. Flat copper condensing plates span the column, controlling the pace of the process (and taste of the product). Vapor with the highest alcohol content, and the lowest boiling point, continues to the outlet at the top of the column.

4 .The Lyne Arm

Concentrated alcohol vapor enters a horizontal pipe called a lyne arm. Precise heat is key. Too hot and the vapor contains excess water; too cool and not enough vapor enters the arm.

[18] Gurstelle, William. (March 2012). “How Distilling Works.” Popular Mechanics. Hearst Communications, Inc. www.popularmechanics.com/home/skills/how-distilling-works

5. The Condenser

Vapor in the lyne arm flows into a vertical chamber, where a pipe of cool water surrounds a pipe of alcohol vapor. As vapor cools, it condenses into liquid ethanol, which drips from the condenser into a collection vessel.

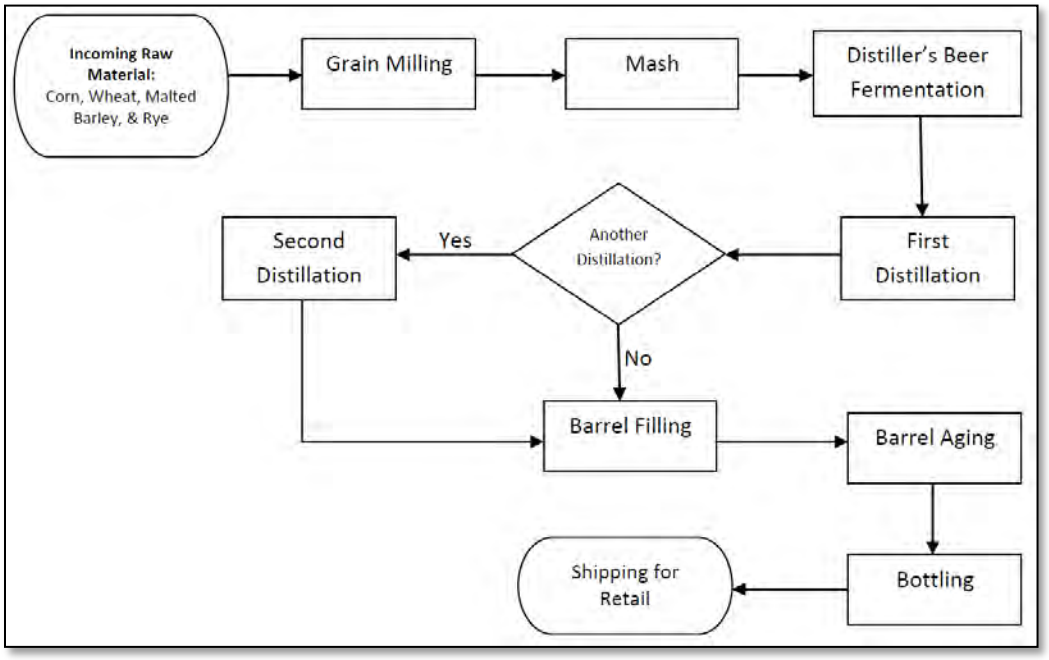
6. The Distillate

The first five percent of the run, aka the foreshots or heads, contains large amounts of cogeners, or volatile chemical compounds such as acetone, aldehydes, esters, and fusel oils. Next are the hearts, the high-proof alcohol base. Distillers mix the hearts with small quantities of heads, and the blend is diluted and aged to make spirits. With too high a percentage of cogeners, the drink tastes rough; with too little, it is bland. The last bit, the tails, is a low-proof mix often set aside and redistilled later.

7. Aging Barrels

The clear liquid emerging from the still is called moonshine, white dog, or white lightning. It is colorless and harsh. After a few years in oak barrels, it takes on color, richness, and complexity of flavor. Bourbon whiskey is aged in new but charred oak barrels. Scotch whisky resides in old bourbon barrels, and Irish whiskey ages in used sherry casks. Gin, ideal for impatient distillers, takes on its character once the white dog is re-distilled with a botanical blend stirred into the pot.

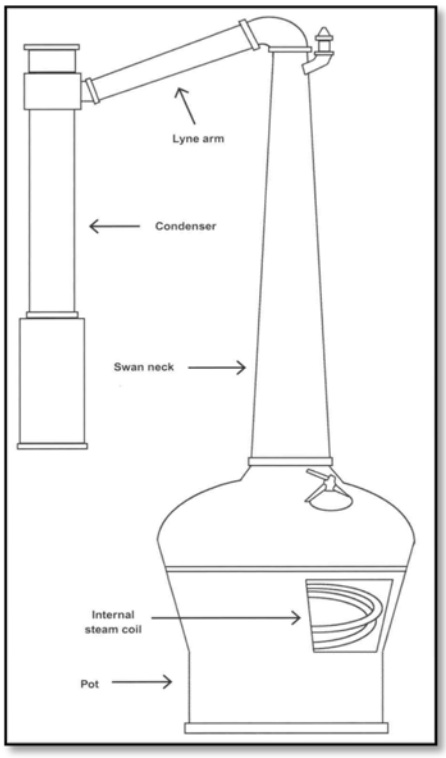
Figure 7: Sample Production Process: Bourbon[19]



Stills

There are two main types of stills for the production of spirits, pot stills and column stills. The shape has an influence on the rectification (purity) of the spirits, its flavor, and the type of distillation: batch or continuous.

[19] Gardner, Denise. "Distillation & Whiskey Production: Notes from the Kentucky Bourbon Trail." Penn State University.



Pot Stills (Batch Production)[20]

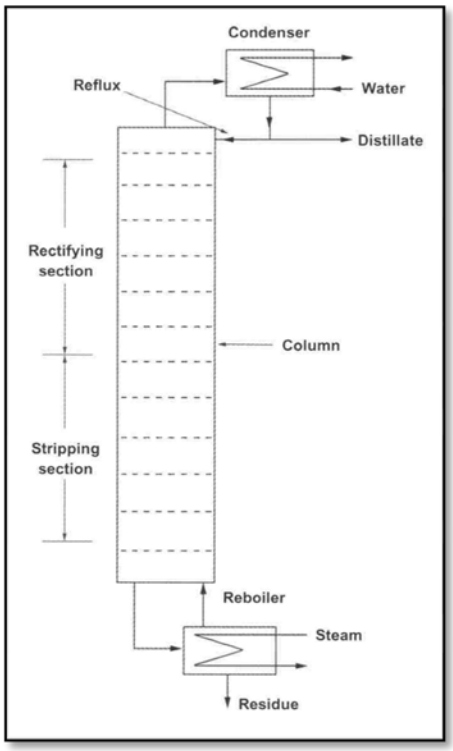
Pots are wider than they are tall to allow vapors to escape from the wash, with specific shapes resulting in specific flavors. Most pot stills consist of four sections: pot, swan neck, lyne arm, and condenser. The pot's shape affects how the wash is heated, and the method of heating can be direct fire, steam, gas, or wood. A sight glass in the pot allows the distiller to check for foaming during the process.

Many pot stills have a tapered swan neck that allows better separation in the distillation process. The lyne arm sits on top of the swan neck and tilts up or down, functioning to enrich spirits before they go to the condenser.

Copper pot stills are excellent conductors of heat. The copper is a catalyst in removing foul-smelling, highly volatile sulfur compounds, and facilitates the creation of desirable fragrant, fruity notes (chemically called esters). In general, the more contact with copper in the process the lighter and purer the spirit will be.

Column Stills (Continuous Production)[21]

A column still is essentially a series of pot stills arranged in a column atop a heating source raising the wash to the correct temperature. The number of columns and chambers within each column can vary depending on the desired output.



Because of their design, column stills can be operated in continuous production, rather than the batch operation required by pot stills. Similar to an assembly line operation, using column stills often results in a more refined product and greater production efficiency.

Column stills operate on the principle that the desirable alcohol content of the wash will vaporize at a lower temperature than the rest of the liquid; thus the vertical sections of the column still further refine higher and higher concentrations of alcohol until the desired product characteristics are obtained.

Rather than continuing to increase the height of the column, subsequent column sections are often linked in a side-by-side manner, with the number of chambers dependent on the products' desired characteristics.

[20] Image Source: Owens, B., Dikty, A. (2009) The Art of Distilling Whiskey and other Sprits.
[21] Owens, B., Dikty, A. (2009) The Art of Distilling Whiskey and other Sprits. &
Difford, Simon. "Distillation: Pot vs. Column." www.diffordsguide.com/magazine/2014-03-04/6/distillation.



Equipment

The owners should consider several equipment manufacturers before deciding which will fit best for the distillery. This may involve consulting experts on artisan distilling operations to provide advice for the various options available. The owners may choose to purchase state of the art distillation equipment that is specifically designed for a small artisan distillation operation, or may source used or vintage equipment.

Many equipment manufacturers require at least some basic information about the intended scope and scale of the operation, while others require specific product characteristics in order to provide quote information. Some manufacturers take a "cradle to the grave" approach to customer service, and work with nascent distillers to help develop product ideas before reaching a conclusion on the type of equipment that best suits the distillery's intended operations. Owners of the potential distillery should seek out a manufacturer that can provide the necessary level of quality in equipment, but also works well with the stage at which the owners find themselves in the business development process.

Depending on the level of the distillery's operations, and the intended marketing approach, other items may be needed for the project, such as tasting room equipment, or general furniture to create the appropriate sales atmosphere in the tasting room/retail area. The following table represents equipment typically found for the distilling portion of a business.

Table 4: Examples of Distillery Equipment

Mash tank	Pump lines	Bags, single bottle u-line
Milling equipment	10 gallon tubs/trash cans	Water filtration systems
Oak barrels	Pump (sanitary)	Milling systems/hoppers
Bottles and Labels	Fermentation tank	Fermentation systems
Fruit crusher	Storage maturation flex tanks	Cooker
Fruit de-pipper	Bottling holding tanks	Pot still equipment
Still (of some form)	Measuring vessels	Waste water filtration
Burner	Alternate pneumatic capper	Piping
Barrel racks	Tubing	CIP systems
Hoses, fittings, valves	Condensing equipment	Bottler/filler
Lab equipment	Cooling systems	Manual capper
Temp/Humidity indicators	Propagation systems	Bottle labeler

Human Resources

As with most businesses, the efficient operation of the distillery will require the fulfillment of numerous roles in order to operate successfully. The venture should utilize highly qualified and experienced staff to operate the business as it grows. For efficiency, it is necessary for a business to clearly define the necessary roles, positions and responsibilities, and seek to hire qualified individuals to perform the necessary labor functions of the business.

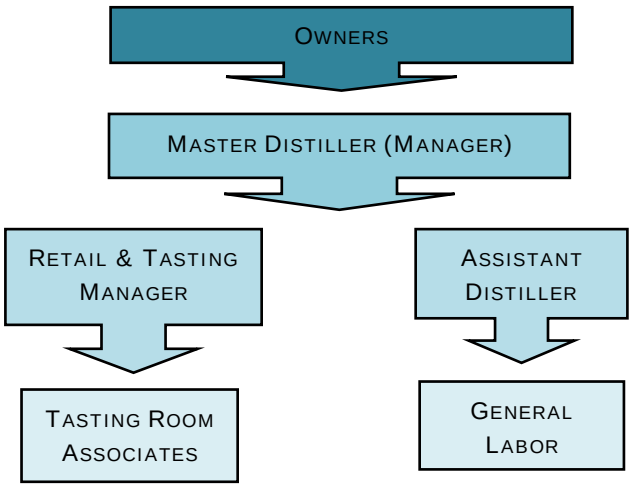
"during initial years of operation, multiple roles may be fulfilled by single individuals, while in subsequent years, the responsibility of a single role may need to be assigned to multiple employees"

During initial years of operation, multiple roles may be fulfilled by single individuals (often the owners themselves), while in subsequent years, the responsibility of a single role may need to be assigned to multiple employees. Another time related consideration is the fact that wage increases will be necessary at certain points in order to retain qualified employees. At points when individuals take on additional responsibility, or when they acquire additional knowledge, skill, or training, the owners may need to consider pay increases to reflect such changes.

Regardless of the exact arrangement, certain basic functions will be required. The following descriptions of duties are generic and intended as a guide. The minimum role requirements for the venture are Owner/Director, Master Distiller/Manager, Assistant Distiller, Retail & Tasting Room/Store Manager, Tasting Room/Store Associates, and General Labor/Delivery Personnel. The business may require outside expertise as well, and typical advisors include spirits production consultants, accountants, and attorney or compliance services.

While the hierarchy presented below uses personnel titles, the titles represent a role within the venture along with its associated functions. As previously noted, it is often the case that one individual will fulfill multiple roles, and where possible, individuals may be shared for several roles within the distillery based on availability.

Figure 8: Distillery Human Resources



- **Master Distiller (Manager)**

The Master Distiller's main responsibilities are production, safety management, and quality control of the distilling operation. In addition, once the consumer taste for the spirits has been defined, the Master Distiller will apply his/her science and technological knowledge to achieve the traits the consumer desires. The Master Distiller Manager is a full time employee who reports to the Owners.

- **Assistant Distiller**

This individual assists the Master Distiller in all production activities, and provides relief to allow the Master Distiller to take on other responsibilities related to general business management and operations. This role will require significant knowledge, and can be thought of as a "Master Distiller in Training" or apprentice-type role that has significant involvement in producing the distilleries products.



- **Retail & Tasting Manager**

He/she provides leadership of the retail store at the distillery. This is a full time position and reports to the Master Distiller. This person works to develop and implement retail store operating strategies and principles. He/she is accountable for executing an operating plan that is consistent with the strategy and principles of the Owners and monitors and analyzes retail store operations against goals. This person is responsible for store profit and loss, which includes driving revenue growth, market growth/market share, and effectively manages expenses and profitability. This employee is responsible for organization and function of tasting room activities.

- **Tasting Room Associates**

These associates are part-time workers under the supervision of the Retail and Tasting Manager. They help in the sales of spirits and non-alcohol items, help promote the distillery's products, greet visitors, guide people through the facility, encourage visitors to complete evaluation forms, give presentations, and recruit and organize groups of visitors to the distillery for tours.

- **General Labor**

General Labor positions represent other roles and duties that need to be filled on an as needed basis, and may or may not include skilled labor positions related to marketing, giving tours, production, or general maintenance and clean-up. These positions may be full or part time depending on the needs of the business.

- **Additional Future Roles**

As the business grows and as additional roles and outside personnel are hired to supplement the owners' efforts, there will be other organizational needs for the business and adjustments should be made to the distribution of tasks and responsibilities among the distillery's employees.

Once the business achieves a certain size or scale of operations, there may be a need to hire outside personnel or agencies to perform various functions for the business, such as accounting, legal, and IT functions. The owners should carefully weigh the costs and benefits of additional personnel or human resource expenses in order to determine the best strategy for addressing the distillery's needs.

Product Characteristics

Because of the rise in popularity of local foods, and the significant increase in interest in locally produced artisan spirits, the distillery will focus marketing efforts on promoting those attributes of its products that embody these trends. The distillery could offer two broad types of spirits: Classic and Aged, along with several varieties of each that would incorporate additional flavor profiles, flavorings, or infusions.

"when considering what types of product to offer, the owners of a distillery should carefully consider many aspects relating to their product, from both a product characteristic standpoint as well as from a marketing standpoint"

When considering what types of product to offer, the owners of a distillery should carefully consider many aspects relating to their product, from both a product characteristic standpoint (type, flavor, quality, etc.) as well as from a marketing standpoint.



Most operations will eventually choose to focus on one product type or the other as a main product line, with other products offered to round out sales or provide some variety. This choice is mostly due to factors such as:

- **Budget Constraints:** Many smaller distilleries may lack the funds necessary to focus on multiple separate and distinct product lines. Different production techniques, specialized knowledge regarding the processes, and other factors make it difficult to focus time and energy on widely diverse products.
- **Overhead Reduction:** The economy of scale and efficiency that results from the production of a single product line can significantly affect the overhead of a new distillery.
- **Avoiding Multiple Packaging Types:** Closely related to overhead, avoiding the need to purchase multiple types of bottles, caps, labels, and inputs can affect the overall efficiency and profitability of a venture.
- **Operational Inefficiencies:** Multiple package types necessitate different materials for packing, shipping, and transport. Splitting already valuable time and monetary resources between distinctly different product lines can sometimes add to the inefficiency of a venture and contribute to a lack of focus in marketing.

No matter which specific products the owners choose, the distillery should offer at least some variety within that line in order to capture the widest demographic range of customers, while still balancing production costs to limit overhead. While there are numerous approaches to considering the products the distillery intends to offer, owners should carefully consider the demands and needs of their target market when formulating the venture's product mix.

Based on the current U.S. distilled spirits market, these categories provide an example of a way to divide and analyze the current liquor market.

- **Classic Spirit Product**: These spirits have the widest target market and often serve as a distillery's main product line. The goal is to attract regular customers, and then transition them to trying Premium products produced by the distillery.
- Pr**emium Spirits:** The products involved in this strategy are aged to impart a higher-end, nuanced flavor profile for sale at higher-end tastings at the tasting room, as well as through wholesale and distribution channels. This product line will consist of the aged alcohol products produced by the distillery.
- **Flavored Spirits:** The flavored spirits are to give more options for those customers who enjoy both the Classic and Premium line of products. These products will consist of the respective Classic or Premium product with the addition of other processes or flavorings to provide variety.
- **Other Items:** Besides spirits, the distillery should plan to offer souvenir items (such as hats and T-shirts). The plans should be to expand non-spirits sales in the future by expanding souvenir/gift sales and offering educational training activities regarding small-scale distilling.

Product Variations

Within the overall U.S. spirits market, sales fragment into several product categories. This fragmentation, due to the extreme variety of products available to consumers, can limit the potential for a small producer.



Some product variations are vaguely defined. For example, from 1919 to 1932, when the U.S. did not allow commercial production and sale of alcohol, the term "moonshine" was used to refer to illicitly distilled liquor that was usually made from corn and sugar. The resultant clear liquor was bottled in mason jars immediately rather than matured in oak barrels, giving it the nickname "white lightning".

Today it is possible to buy "legal moonshine", like Catdaddy, Georgia Moon, Mountain Moonshine, and Southern Moon Corn Liquor, but since there are no specified minimum aging periods for corn whiskey in the U.S., the term "moonshine whiskey" has simply become closely associated with a corn whiskey product that is sold fresh and new.

The following definitions excerpted from the American Bartending School's liquor dictionary[22] provide an idea of the number of popular spirit product variations and reinforces the fact that there is significant competition within product segments.

Table 5: Sample Distilled Products, Descriptions, and Variations

Product	Description	Variations	Notes
Whiskey	Aged in wood and fermented from grain mash.	Canadian, Irish, Scotch, bourbon, corn, sour mash, Tennessee, blended, straight, bottled in bond, rye.	Most whiskies in the U.S. are 86 or 80 proof. Scotch whiskey is sold in the U.S. but must be produced in Scotland.
Brandy	Aged in oak barrels for 3-8 years. Distilled from fermented grape or other fruit mash or fresh wine.	Fruit brandies, cognac	All cognac is brandy, but not all brandy is cognac. Brandy can only be called cognac if it is produced with grapes grown in specific parts of France.
Gin	Can be compounded (mix of neutral spirits and juniper berries) or distilled from grain.	Dry, extra dry, London dry, English dry	The flavor or gin may vary for each distiller. The leading brands of gin sold in the U.S. are distilled.
Rum	Produced from fermented sugarcane juice, sugarcane syrup, sugarcane molasses, or other sugarcane by-products.	Light-bodied (white and gold rum), heavy bodied (dark rum)	Most popular light rums are produced in Puerto Rico and the Virgin Islands. Dark rums are produced in Jamaica, Trinidad, Bermuda, Demerara, Martinique, and New England.
Tequila	Produced from distilled fermented juice (sap) of the mescal plant (species of the agave plant).	White, gold, rested, aged, extra aged, ultra aged.	The mescal plant is the only source for tequila.
Vodka	Distilled from fermented grain mash. Not aged.	Vodkas produced from potatoes or other non-traditional inputs, flavored vodka.	Vodka is distilled at a high proof, usually 190 or above. Most common grains used to produce vodka are corn, rye, and wheat.

[22] (2014). "American Bartending Schools Liquor Dictionary." American Bartender's School. www.barschool.com/drink-recipes/liquor-dictionary/



Taste

Several well-known entities provide reviews and evaluations of distilled spirits in the U.S. Using a variety of methods, tasters and reviewers provide standardized reviews of products in competition-style formats that often result in some form of score or award based on aroma, taste, and other categories.

Well-known organizations include the Beverage Testing Institute, New York International Spirits Competition, the San Francisco World Spirits Competition, and the World-Spirits Award among others.

Similar to fine wines, tasters utilize various terms to describe high end and premium spirits, and published tasting notes are often used to distinguish higher quality products. The accompanying text box contains the Beverage Testing Institute's tasting notes and scoring for Jim Beam Single Barrel Kentucky Straight Bourbon Whiskey.[23]

Jim Beam Single Barrel Kentucky Straight Bourbon Whiskey

Rich amber color. Rich, spicy aromas of creme brulee and fruit cake dough with a supple, dry-yet-fruity medium-to-full body and a long and lively chocolate mint, toffee, pepper, and Asian spices accented finish. A wonderfully robust bourbon for sipping and flavor packed cocktails.

International Review of Spirits Award: Gold Medal

RATING: *92 points (Exceptional)*
ALCOHOL BY VOLUME: *47.5%*
CATEGORY: *Bourbon Whiskey, Whisky*
TASTING LOCATION: *In Our Chicago Tasting Room*
TASTING DATE: *Feb-27-2014*
SPIRITS ID: *205823*

The distilled spirits market is diverse enough to allow for a wide range of product characteristics, flavors, and qualities; however, those developing recipes for commercial production should consider the tastes of their target markets in creating a primary product. Engaging in preliminary tastings, or attending events such as local and regional competitions can help a distiller refine and craft a product that will be accepted and enjoyed by consumers.

Taste and overall product quality is affected by both the process used as well as the overall recipe. Distillers utilizing high end premium inputs will find that there is a corresponding increase in costs; sourcing premium ingredients with specific characteristics will likely be more difficult than if the distillery were to use more commercially available ingredients. Potential distillers can find numerous websites that provide basic recipes for beginning distillers; while more experienced distillers may choose to craft their own unique recipe. Regardless of the approach, the quality of inputs should be carefully considered, and brought in line with the desired product's overall flavor profile.

[23] Accessed 12-8-14 at www.tastings.com.

Bottles and Labeling

There are no standard types or sizes for liquor bottles for the industry as a whole. Unlike wine, which is often packaged in standard-sized 750ml bottles, spirits and hard liquors are notable for their variety. The packaging of liquor products is typically considered a key part of the product's marketing, and liquor packaging exhibits wide variation characterized by novelty and creativity.



Although there are no standards on the bottling for liquor products, the TTB does regulate the labels used to identify the product. All alcohol producers must apply for a Certification of Label Approval (COLA) and follow specific labeling and advertising regulations from the TTB. For more information about labeling regulations, visit the TTB website at www.ttb.gov.

Storage and Aging



Most aging of liquor products is accomplished through storage in oak barrels. Variations include charred or uncharred, as well as varieties of oak such as American, European, or French.

Different char levels are utilized to achieve a variety of effects in the aged spirits. The figure[24] presents the various char or toasting levels offered by the Independent Stave Company of Kentucky. The various levels include:

1. Heavy Toast
2. Heavy Toast/Light Char
3. No. 1 Char/Medium Char
4. No. 2 Char/Medium Plus Char
5. No. 3 Char/Heavy Char
6. No. 4 Char
7. No. 5 Craft Distiller's Char

Charring and storage of distilled liquor products in barrels that have been toasted or charred affects the flavor of the product in several ways. The char not only helps to absorb certain undesirable flavors (such as sulfur) produced during the distillation process, but also adds subtle flavors that can be described as vanilla or caramel. It is believed that the variations in char level also affect the degree to which the liquor is able to permeate and interact with the wood of the barrel, with heavier chars breaking the surface to a greater degree, allowing deeper penetration during aging.

Certain types of liquor may legally require the use of certain types of barrels. For example, whiskey and bourbon require the use of new American oak charred barrels. The old barrels can subsequently be used for the production of other spirits or for various storage applications.

[24] Difford, Simon. (2012). "Inner Geek: Cask Charring & Toasting." Difford's Guide for Discerning Drinkers. www.diffordsguide.com.



In a continual effort to improve flavors, shorten the aging process, and improve profitability, distillers are experimenting with ways to manage a barrel's interaction with its contents. Barrel size, configuration, movement, pressurization, temperature, and humidity are all important factors in aging efficacy. Some distilleries believe that increasing the ratio of wood surface to liquid will accelerate oxidation and aging. They are using smaller barrels (as small as five-gallon barrels) or are increasing barrel interior surface area by adding perforations in honeycomb and other patterns. Other distilleries are experimenting with heat- and humidity-controlled warehousing, musical or ultrasonic vibration, and barrel pressurization.

Some distilleries are even warehousing barrels in different locales, for exposure to regional differences in climate. Other methods used to impart similar flavors to distilled spirits involve suspending strips or sticks of charred wood, which may range from oak to various charred fruitwoods such as apple or cherry, in the aging liquor product. The combination and end results vary according to various distillers proprietary formulas, and often serve as a point of distinction from other similar types of alcohol.

Compliance

The distillery will need to comply with all quality regulations from state and federal government. From product definition, processing operations, ingredients, and labeling to delivery. The artisan operation requires handling small tanks and the owners will have to comply with specific regulations. In particular, CFR Title 27 Chapter I, Subchapter A, Part 19, Subpart G: Construction, Equipment, and Security Requirements: Tank requirements:

19.182 Tanks-General Requirements

The proprietor of a distilled spirits plant must ensure that all tanks on the premises used to hold spirits, denatured spirits, or wines are:

- *a) Used for the purpose listed on the application and plant registration;*
- *b) Equipped with accurate means for measuring their contents. If the means for measurement is not a permanent fixture on the tank, the proprietor must equip the tank with a fixed device for measuring the contents. However, tanks having a capacity of less than 101 gallons are not required to have permanent gauge devices;*
- *c) Accurately calibrated if used for any of the gauges described in this part. Further, if tanks or their gauging devices are moved in any manner subsequent to original calibration, the tanks shall not be used until recalibrated;*
- *d) Accessible through walkways, landings, and stairs that permit access to all parts of the tank;*
- *e) Equipped or situated so that they may be locked or secured; and*
- *f) Constructed to prevent access to the spirits or wines through vents, flame arresters or other or other safety devices.*

In addition to regulations governing standard compliance, a distillery will also need to ensure that the products it produces and labels meet established legal requirements. The Code of Federal Regulations contains numerous "standards of identity," and individuals owning and operating the distillery must ensure that their product labeling complies with the defined standards.
For example, bourbon has legally defined characteristics, so a distillery will need to meet these product characteristics in production. The Code of Federal Regulations §5.22 "Standards of Identity" provides the following characteristics for bourbon: (1)(i) "Bourbon whisky", "rye whisky", "wheat whisky", "malt whisky", or "rye malt whisky" is whisky produced at not

exceeding 160° proof from a fermented mash of not less than 51 percent corn, rye, wheat, malted barley, or malted rye grain, respectively, and stored at not more than 125° proof in charred new oak containers; and also includes mixtures of such whiskies of the same type.

If a distillery is producing a non-traditional product, such as flavored vodka or blended spirits, the TTB must approve the product's recipe before it can be labeled and sold.

Waste

Finding a market and an outlet for the waste generated by the distilling process is an important part of the operation. Distilleries often sell the waste products to local farmers for animal feed or other purposes.

Wastewater (minimal amounts), which will include water from cleaning the stills and mash tuns, can be disposed of in the town sewers. To support the still's condenser, the distillery can elect to use a closed water cooling system. Unused portions of the heads and tails (from the distilling process) can sometimes be mixed with water until it becomes a non-flammable dilution, and then used in the closed cooling system.

Quality Control

Another significant concern for the distillery will be ensuring consistent quality and taste in the product. This can be achieved through efficient quality control procedures and testing. This type of monitoring can involves every stage of production, from the water quality to quantity and quality of the inputs. While the distillery may not have the ability to establish a comprehensive lab facility on site in the beginning, it is crucial that they implement an organized process for quality testing.

Testing



Another significant concern for the distillery would be ensuring consistent quality and taste in the product. This can be achieved through efficient quality control procedures and testing. This type of monitoring can involves every stage of production, from the water quality to quantity and quality of the inputs. While the distillery may not have the ability to establish a comprehensive lab facility on site in the beginning, it is crucial that they implement an organized process for quality testing.

According to Brewing and Distilling Analytical Services' article on quality control testing, two of the most important values to measure in a spirit are Apparent proof and True proof measurements. Apparent proof is the measurement of the various dissolved solids in the spirit. True proof is influenced by the actual alcohol content, and excludes the solids content. Both of these factors are measured by use of density meters, pycnometers, or hydrometers.



Some other examples of critical components to be controlled are:

- **Water:** iron content should be closely monitored, as a miniscule amount can sour the spirit. This can be measured by testing source water with pH strips. Excess of other minerals may result in a hazy or cloudy appearance, which can be measured by a nephelometer.
- **Citric Acid and Sugar:** some types of pure vodka may contain small amounts of citric acid and sugar. These should be monitored to maintain taste quality. Citric acid can be measured by titration, but sugar testing may have to be outsourced.[25]

Other aspects of quality control may include mash and sugar monitoring and testing, density monitoring, and ensuring consistent proof levels prior to aging or bottling. Even small-scale distilleries can benefit from maintaining written procedures and protocols that can be modified as the business "scales up" and additional employees are added. This can help ensure product consistency over time, and avoid major issues with product quality that can hurt a company's image, reputation, or sales.

Quality Assurance of Supply

The quality of inputs will be one of the key determinants of the quality of the spirits produced by the distillery. Owners must find a source of high quality ingredients to ensure consistent taste and quality. Depending on the product lines offered by the distillery, the owners may need to find growers that can supply multiple commodities, such as corn and potatoes. The volume of production necessary will determine if the distillery will need to source products from multiple producers. The type of commodity used may have different quality characteristics associated with it. Any suppliers for the distillery will need to meet the business' guidelines.

"in order for the business to grow and thrive, the producers must be prepared to supply what customers demand year round by sourcing enough inputs to fuel production and meet demand"

Seasonality is an important issue for every distillery. Continuity of supply is vital because customers expect a consistent supply and for orders to be filled as they are placed. Inputs used in spirit production have a seasonal cycle of production, and yet need to produce spirits all year long. In order for the business to grow and thrive, the producers must be prepared to supply what customers demand year round by sourcing enough inputs to fuel production and meet demand.

When producing an aged product, availability will need to be balanced with the time necessary for production and aging. While some premium products may be made available on a limited time basis to customers, the business itself will need to maintain basic levels of sales to provide sufficient cash flow to remain in business.

Water Sources

Plenty of clean water supply will be needed to maintain the cleanliness of the facility's operations. This water will be used as a cleaning medium, to heat and cool products, and as an ingredient in the products. All personnel will receive training and be responsible for the correct use of water.

[25] Spedding, Gary. (2010) Basic Quality Control Testing in the Craft Distillery. Alcbevtesting.com www.alcbevtesting.com/wp-content/uploads/2009/05/Basic-Quality-Control-Testing-in-the-Craft-Distillery.pdf



Should the distillery choose to use an on-site water source, such as a spring or well, it will need to establish additional controls and treatment, which may include filtering, cleaning compounds and other processes to ensure compliance with regulations regarding the use of the water source. In this context, waste disposal must also be managed according to local and state regulations.

The Virginia Department of Agriculture and Consumer Services (VDACS) requires that agri-food businesses using water in the food and beverage processing operation have to be **drinking water** quality, regardless of its source (pond, spring, etc.). This means that the water has to be potable. Water must be treated with chemical agents or subjected to ultraviolet treatment to destroy any potentially dangerous pathogen microorganism before it is filtered. Water has to be safe in microbiological, chemical, and physical terms. VDACS will test the water to make sure it meets safety standards as part of the licensing process.

Apart from the water's drinkability, iron content will have to be monitored, as it can affect the taste and quality of distilled beverages. If water is to be stored, it must be kept in closed containers/tanks. Any bottles and containers used in the food processing operation must be sterilized with water that meets VDACS' safety standards to avoid cross contamination. Failure to use water that meets these standards can result in penalties for the business or its owners.

Food Safety and Sanitation[26]

In any operation where the product is intended for human consumption, considerations should be made in regards to food safety and sanitation. Given the characteristics of a distillery operation (high alcohol concentration), many common pathogens are not a problem as the presence of the alcohol is often enough to discourage the proliferation of contaminants.

Depending on the equipment that is used, producers may need to consider specific cleaning protocols for manual operations, or how best to address the sanitation needs of a more automated system. Frequently, automated systems operate with via a CIP (clean in place) sanitation system. Other methods of cleaning involve pressure washing, steam cleaning, utilizing the "heads" and "tails" of the distillation process to clean and rinse equipment, as well as decisions regarding filtration and chilling of the end-product, especially when the process involves aging.

Raw materials used as inputs should remain sanitary throughout the production process. The distillery should use tabulated practices to monitor and control the batch operation, and the necessary laboratory equipment for control, such as hydrometers, thermometers, etc., should be used and the results recorded in a quality control log.

Cleaning should take place in two steps: cleaning and sanitizing. During cleaning, soil deposits are removed and sanitizing destroys microbes that are left in the clean surface. For production equipment cleaning, fermentation vessels can be cleaned by filling with hot water (at least 171°), detergent, and steam using a CIP or similar system. After the appropriate cycle time, the tank should be emptied, rinsed with water, and steamed to sterilize the components before new mash is pumped into the vessel.

[26] Gardner, Denise. "Distillation & Whiskey Production: Notes from the Kentucky Bourbon Trail." Penn State University.



Personal hygiene and product handling must also be taken into consideration in this project. Supervisors will need to ensure that any employees involved with processing follow a set of quality guidelines. Bottling procedures must be clear and all necessary quality precautions should be followed.

A good sanitation program will help ensure the distillery's compliance with regulations, help prevent contamination, improve the quality and shelf life of the end-products, reduce energy, maintenance, and insurance costs, and increase general quality and confidence of the business.

Sales and Marketing Considerations

While there has been a recent increase in the availability and popularity of craft and artisan distilled spirits, careful consideration of future trends is especially important during the planning stages of a distillery. Because this type of business requires a focus on branding and marketing as much as on the production of the product itself, several factors should be considered:

Price Sensitivity

Marketing systems that generate differentiated products that are in demand must be selected. To enter into a quality high end market, products will need to meet standards expected by the customer. This can take place through both production and processing. The distillery can utilize systems that address potential in both these areas with a focus on quality and sustainability.

Branded products:

Branded products are the 'gold standard' of products. Consumer confidence and trust are implicit in the brand name. Generally, brand loyalty goes well beyond the ingredients listed on the product label and is a large part of the intangible value of the brand. Branded product companies go to great lengths to protect and cultivate their consumer loyalty.

"the higher the quality of the product, the more differentiated from competition and the less sensitive the pricing will be"

It is not only important to focus on the distillery's target market, but also to identify a means of selling product in a volume market as well. All of the distillery's products do not necessarily have to be of high-dollar-market quality. The distillery may choose to have separate strategies for the various lines of spirit products it produces.

In general, the higher the quality of the product, the more differentiated from competition and the less sensitive the pricing will be. Avoiding competition with high volume distilleries allows higher margins on sales.

The following table presents several standard marketing factors that may affect the ability of the venture to affect its price in the market. The more unique or differentiated the product, the greater the ability to charge a higher price.



Table 6: Factors Influencing Price Sensitivity

1). Unique Value Effect	Buyers are not as price-sensitive when the product possesses some type of unique or special feature not available in other products.
2). Substitute Awareness Effect	If there are no apparent substitutes, the buyer is less price-sensitive.
3). Difficult Comparison Effect	When the products are harder to compare, buyers are less price-sensitive.
4). Total Expenditure Effect	As the price of products increases in relation to the buyers' income, price-sensitivity also increases.
5). End Benefit Effect	If the buyers can identify that the benefit is greater than the price, there is less price-sensitivity.
6). Shared Cost Effect	When part of the cost is shared by another party, buyers are less price-sensitive.
7). Sunk Investment Effect	If the product is used in conjunction with assets purchased previously, the price-sensitivity is lower.
8). Price-Quality Effect	If the product is viewed as a top-quality leader, price-sensitivity is lower.
9). Inventory Effect	If the buyer has no storage capacity, they will be less price-sensitive.[27]

To stand out in the market place, local products must create brand recognition and loyalty among consumers. The challenge, then, is to create a marketing "story" and brand identification that resonates with targeted consumers. Two important features include:

1. **Locally produced food/beverage:** The American consumer has compassion for producers, especially local ones. The locally produced connection is a valuable marketing tool. Most consumers support small and medium-sized producers who add to their rural communities.

2. **Appealing to the palate of the of the connoisseur:** Small spirits operations in the U.S. are responding to the new taste of the consumer who demands un-aged spirits and specialty spirits such as flavored corn whiskey and fruit brandies. Finding and working on a taste that is trendy and appealing has to be in accord with the rest of what is in the bottle, because it is all part of the branding process. If a spirit's label becomes recognized for quality and taste, sales will increase.

Selling through Virginia's ABC

Any sale of alcoholic beverages in the state must take place through Virginia's ABC system. A distillery can choose to sell their products solely through ABC liquor stores, or they can elect to sell their products onsite as well, in which case the owners must complete the requirements for establishing an on-site ABC retail store. Many factors should be taken into account when selling through Virginia ABC, such as:

- To sell through the Virginia ABC, the distiller must first obtain a federal license from the TTB (see the Business Regulation section for more information on obtaining a federal

[27] Adapted from "The Strategy and Tactic of Pricing." – Thomas T. Nagle, Prentice Hall, 1987



license). After applying for a federal license, the distiller can then apply for a state licenses through the Virginia ABC. The distillery can apply for a state license with a pending federal license, so the processes may overlap.

- Before the product can be sold through the ABC, it must be presented to the ABC board where the group decides if the product would fit well in their stores. If it is accepted, the board will set a release date for when the product can be sold in their stores. Release dates typically occur on the first day of January, April, July, or October. If a distillery has an on-site store, they can begin selling their product through this outlet as soon as it is approved. In order to remain an approved product, the business must produce at least $10,000 per year in profit if the product is a Virginia-produced item. For other products, the minimum is $20,000.

- When selling through an on-site store, the distiller receives the money from the customer for the full price of the product. The distiller then sends the whole amount to the ABC. After 30 days, the state sends back the distillery's percentage of the sale. When selling through an off-site liquor store, the distillery receives its percentage of the money 30 days after the sale takes place.

- Sales to restaurants, bars, etc. also take place through the ABC. The producer transports the product to a centralized warehouse and after the restaurants place an order for their product, the ABC distributes it.

On vs. Off Premise Sales

On-premise sales are sales of alcoholic products that are intended to be consumed "on-site." This includes establishments such as restaurants and any other entity selling alcoholic beverages that will be consumed at that same location.

In contrast, ***off-premise*** sales are sales of alcoholic products that are not intended to be consumed on-site, and include establishments such as ABC stores and other locations selling beer and wine.

Out of State Sales

Should the distillery choose to sell its products out of state, additional certificates or licensing may be required. When selling to a state where the alcoholic beverage industry is not controlled by the state, the distillery may only need to acquire a nonresident certificate for the state before selling to a wholesaler. Before attempting to sell to any surrounding or outside states, owners should contact the alcohol control board for each state in which the distillery will be conducting wholesaling operations.

Commercial strategy

The distillery should have a carefully crafted commercial strategy. Often, the tasting room provides the main source for initial sales, but as the business continues to expand, the distillery will likely expand sales through Virginia ABC stores and distribution. Expansion into other areas is possible because spirit lovers enjoy experiencing products from different areas. In the future, the distillery may attempt to move product through other states.

The range of spirits products offered by the prototypical distillery should cover the high end premium category as well as the entry-level customer. As un-aged spirits are popular with moonshine spirits lovers, these will be part of the distillery's initial offering. The marketing theme crafted by the distillery will be utilized in all aspects of the business, from the brand identity, to the style of spirits, to the decor of the on-site tasting room and retail space.



As is the case with most other distilleries, non-spirit goods should also available for sale. Not only are non-spirit goods frequently expected by visitors, they also provide the distillery with an additional source of income. Depending on the marketing focus of the venture, and the owners' success in connecting and resonating with customers, non-alcohol items can prove to be a successful addition to the distillery's sales mix. The owners will need to evaluate a range of products for sale in the tasting room and at any on-site events such as tours.

Distribution Channels

Regardless of the distribution channel chosen, it is essential that agreements and arrangements be made that will facilitate the efficient movement of the product through all phases of the sales process. The distillery should consider the following sales distribution channels: Tasting Room and On-site Store, Virginia ABC Stores, and In/Out-of-State Brokers.

Conducting direct sales through the on-site ABC store would provide the distillery with a better understanding of the consumers' tastes. Visitors to the onsite ABC store are also more likely to buy non-spirit goods at the same time, increasing per visit income. It is important to note that a distributor, including the Virginia ABC wholesale system, has limited time to spend on each individual product, which forces the distributor to focus efforts on those spirits that give them the highest returns.



While the distillery may focus initially on Virginia sales only, the distillery may also consider accessing sales in other states through arrangements with brokers. Contracting with brokers can assist with the brokerage and sales of the distillery's products in other states, and work within a region to help the distillery's products gain wider distribution.

Broker services may also offer the ability to source the distillery's products into bars and other liquor sales venues, so considering the range of services provided by an individual broker is an important aspect of choosing an arrangement. Additional services that brokers may offer include increasing sales through the ABC warehouse system, assisting with setting up pricing calendars and promotional discounting, couponing, rebates, or consumer contests and promotions, working to construct merchandising standards, performing surveys and audits, to ensure follow through on program specifics



Marketing Strategy

It can take a long time for a business to build an image for the company, and quality of the product and service are essential factors to success. Owners should actively seek ways to market products directly to consumers, avoiding intermediaries and increasing returns. As production and popularity increase, the distillery could expand sales into other states. The unusual characteristics of this project can help create a unique selling proposition for the distillery.

Like many businesses, the distillery would have the opportunity to capitalize on the local food and drink movement. The distillery is ideally suited to capitalize on the growing interest in local and regional cuisine – and, of course, beverages to enjoy with it. Since tasting rooms typically do not serve or sell food, they may choose to organize tastings with restaurants that feature local foods or participate in food festivals.

> *"the distillery is ideally suited to capitalize on the growing interest in local and regional cuisine – and, of course, beverages to enjoy with it"*

Typically, the tasting rooms at the distillery, together with ABC store distribution, constitute the main points of sale for spirits for the distillery; therefore, much effort will be focused there. The objective of the prototypical distillery is to be a producer of high quality artisan spirits. Products are focused on the current taste of the consumer seeking new spirits, fresher, un-aged, and produced in small quantities in a craft or artisan style. The distillery will offer a range of artisan spirits from with their own unique regional character. In this context, the distillery should plan to focus efforts on selling its spirits at its own tasting room, coupled with other ABC stores.

This business-marketing model focuses on opportunities for growth achieved through marketing strategies that target the emerging high end consumer market segments. The target audience for the distillery is based on differentiation from the spirits industry in general. That is, a local product, un-aged, with multiple flavor varieties, and also offering the potential of a day-trip destination by promoting tours and on-site visits by customers, tastings, and other related events.

The Product: As previously discussed, the product lines for the prototypical distillery will include whisky, both aged (bourbon) and un-aged, as well as vodka. The product packaging will include 750ml glass bottles, each with a uniquely designed label that displays the legally required information as well as the distillery's logo. The distillery will also attempt to use quality inputs in terms of corks, screw cap bottles and labels.

As an example of the ways that individual products, such as whiskey, can be presented, sub-divided, and the product variations that are possible, an Epicurious.com article from 2014, titled "Bourbon Legends: A guide to America's best whisky[28]," discusses the numerous varieties and terminology that can be associated just with whiskey. Designations discussed in the article include "High Rye," "High Corn," "Wheaters," "Small Batch," "Single Barrel," "Bottled in Bond," or "Cask Strength" among others.

The quantity of spirits offered and the varieties will give customers choices, from spirits experts to beginners. Even though the distillery is going to be new, products will be produced from an "old style" of production that gives the best quality for small batches using quality recipes.

[28] Accessed 12-8-2014 at www.epicurious.com/articlesguides/drinking/spirits/bourbon?page=all



The Place: From a marketing point of view, being located in a more rural area can allow the distillery to forge a more solid connection 'to the farm,' a feature that may be useful depending on the distillery's marketing approach. Operations located in an urban area can also have benefits, and allow the distillery to create an image of sophistication and urbanity.

The physical characteristics of a business's location can combine with marketing to produce an atmosphere that can be used to great effect in selling the distillery's products and the story behind them. Distilled liquor products are often tied to a sense of place, as exemplified in the recent popular interest in moonshine products. Family recipes born out of tales of outlaw liquor and bootlegging abound, and are closely tied to specific regions of the country known for moonshine and illegal liquor production rooted in the days of prohibition.

The location chosen for the distillery's facilities can also affect several aspects of its operations and costs. Being located in an urban setting can offer access to a much higher population density and a steady customer flow for the tasting room and retail sales portion of the business. It can also decrease the travel and transportation costs of delivering product to other ABC distribution locations and warehouses. However, urban locations can often represent much higher leasing and infrastructure costs, and zoning and other restrictions can often be more difficult to navigate.

Being located in a rural area mitigates some issues raised by the urban location, but lacks the immediate customer access of the urban location. While restrictions and infrastructure costs may be lower, the cost of transportation is likely to increase, particularly if the distillery is not located near a significant highway or other thoroughfare that allows access to population centers.

Pricing Strategy: The owners' initial strategy is to penetrate the market with prices for spirits that exceed customer expectations. Providing this type of product and pricing will make the public want to repeat the experience and recommend the distillery's products to others.

There are several pricing points to consider, and different products may be priced distinctly, depending on the quality and additional attributes, such as flavoring. The table below represents quarterly prices from the VABC for different product categories. These prices are effective in Virginia ABC stores between October and December 2014.[29] This table is intended to give an example of the pricing ranges for different product categories; the highest price may represent a premium priced product while the lowest price can represent a value, or classic, product.

Table 7: Sample Product Pricing

Product	Size	Price	
		Highest	Lowest
Domestic Vodka	750ml	$35.05	$6.90
Flavored Vodka	750ml	$37.75	$7.95
Whiskey	750ml	$44.90	$11.95
Flavored Whiskey	750ml	$34.95	$8.25
Domestic Grape Brandy	750ml	$14.40	$11.40
Flavored Brandy	750ml	$13.40	$9.90
Domestic Gin	750ml	$41.95	$6.30
Flavored Gin	750ml	$25.45	$12.90

[29] Virginia DABC (2014). "Price List." Virignia.gov. http://www.abc.virginia.gov/Pricelist/price.html



Promotional Plan: Promotion is a necessary part of marketing the distillery. Though it can be expensive, funds should be carefully spent to get the "biggest bang for the buck". Marketing activities should be implemented with a strong and focused approach to back up the sales plan. The distillery should consider investing the necessary funds to succeed, particularly considering that it would be a new business trying to enter an established market.

American consumers are becoming more discerning as to how and where their food and beverages come from, and what cultural and environmental practices were used to make them. This project fits perfectly into this new consumer demand, and one of the most important tools for marketing such a venture is the "word of mouth" factor. The distillery should place an emphasis on providing a positive first impression for customers, so that every visitor will tell his or her friends about the micro-distillery.

To stand out in the marketplace, local products must create brand recognition and loyalty among consumers. A website, advertising and tasting program will work together to promote the distillery's brand and image. Because the prototypical distillery is intended to be an artisan style micro-distillery, it should consider undertaking some non-traditional marketing strategies to introduce its spirits to the customer and attract more visitors to the premises. The distillery can also utilize traditional marketing materials, such as souvenirs, free samples, brochures, and traditional advertising.

Additional ideas for promotional and marketing activities include:



- Information on the products and distillery through the webpage
- Internet marketing and promotion activities
- Brochures and other collateral material
- Professional photography of the facility and products
- Pop up banners and other signage for tastings
- Trade activities such as:
  - Participation in spirits competitions
  - Annual Virginia spirits tasting
  - Advertising in a major national spirits publication focused on the premium spirits
  - Incentives to distributor/s
- Consumer activities:
  - Press trips for general and travel media, and spirits press specialists.
  - Media outreach to food and liquor magazines
  - Tastings with experts and liquor clubs
  - Participation in festivals
  - Tastings with associations, charitable events, car expositions or local clubs
  - Advertising campaign in main restaurants and bars
  - Publication in travel magazines

Trade Organizations

The distillery can also become a member of the American Distilling Institute and the Distilled Spirits Council of the United States. The distillery can seek to promote its spirits within all relevant organizations.

Public Relations and Print Materials

One component of the distillery's promotional activities is in print and online media. This could include listing on the Virginia Department of Agriculture and Consumer Services' website on their Virginia Grown web page. The entry on the page can show their contact information, location, and product listing. This website is a great promotional tool for the distillery because it is free and from a respectable source.

The distillery can also utilize other print material within and outside of the distillery to further promote products and activities and increase sales. These print materials could include tasting sheets for the tasting room that list their products and allow the customers to track which spirits they enjoyed most.

Signage

Signage along the interstate and smaller roads leading up to the distillery could be part of the promotional plan. Advertising that includes state road signs along the interstate and major highways can allow the distillery to capture traveling customers. Signage at the distillery's location can further emphasize and support the overall marketing image.

Online Presence

Having an online presence is one of the most essential elements of managing a brand. An online presence includes an engaging website with photographs and regular updates, and use of social media sites. People expect to be able to find businesses online so that they may learn more about the business and its products. In addition to connecting with consumers, a strong online presence for the company will help generate additional media coverage.



Web Site

The distillery's website could contain information for any customer wishing to visit. To keep costs low, the site can be simple, but should also be professional, attractive, and contain appealing photographs. Part of engaging customers will be to add a few interactive elements and maintain up-to-date information.



Social media

In the modern age, the importance of social media cannot be overstated. More and more, a strong social media presence is required to gain credibility as a stable business.

Though the initial focus may be on traditional sales channels, the distillery will eventually expand the business and having these marketing tools already in place can provide a solid platform to capture future retail sales markets.

Because social media is an ever-evolving marketing tool, popular sites come and go with regularity. The distillery's owners will need to research and decide what site (or sites) may be most beneficial to their long-term marketing strategy. The following are just a few examples of sites that have been used successfully in marketing activities.



Facebook
Social media sites offer an ideal opportunity to connect with people and build relationships with customers for very low cost. Through Facebook, people can "like" a business, and by doing so, will receive any updates they post. In addition, the business can include a link to a dedicated website to encourage traffic. The distillery can use Facebook as a way to communicate with customers as well as educate them about the distillery and industry.

Twitter
Twitter is another social media site, similar to Facebook that allows a business to engage customers by posting short updates with links to pictures or other sites. People can receive updates and posts by following the business's page, which allows the user to see a constant feed of updates as the business posts them. Followers can also post about the distillery and have their comments visible to other Twitter users by including the business's username with a hashtag (#) in their post.

Frequently, consumers of all types begin their search for a product or service online. Social media sites like Twitter and Facebook are examples of social media sites that are currently responsible for a large portion of internet and web traffic, and utilizing popular sites can make it easier to present a brand in each of the places people typically visit on a regular basis.

Using a "pin it" button on the distillery's website will allow the featured gallery of pictures to have an even greater reach by being "pinnable" on the image social media site Pinterest. Allowing people who know about the distillery to "like" the company's Facebook page will be a source of guerrilla marketing as well as a way to connect with customers and the community.

Artisan and craft oriented businesses are also finding marketing success in producing short "how-to" or discussion videos that cover various aspects of distilling, quality control, ore various topics related to the distillery's products or philosophy and then posting them to YouTube.

Regardless of the method chosen, owners who utilize such low-cost marketing approaches often find they are better able to connect with their target markets and control the presentation of their business and product philosophy to a greater degree than was previously possible. Social media, regardless of its present iteration, will likely remain a powerful tool for the small business owner.

Brand Registration and Trademark

The brand name for the distillery should be trademarked in order to protect the business. Federal registration of a trademark is not mandatory; however, the time and effort that has been placed into the establishment of a brand and the story that is connected to it cannot be well protected without it.

Federal registration serves notice to the public of the registrant's claim of ownership of the mark, legal presumption of ownership nationwide, and exclusive right to use the mark on or in connection with the goods/services listed in the registration. Although these activities may incur a cost, the name and design chosen by the owner of a distillery should be trademarked and registered at the federal and state level.



Record-Keeping and Organizational Documents

Record-keeping can be a time-consuming but necessary task, especially for businesses in the alcohol industry. Various federal and state level entities require periodic reports for both tax and regulatory compliance purposes. Some documents are required by law to be maintained indefinitely, and establishing a record-keeping protocol during the start-up of a business can save time and money later in the business's development.

Maintaining well-organized files on basic business organizational documents, such as articles of incorporation and business bylaws can often save frustration when faced with various applications or reporting deadlines. Guides for record-keeping related to major business documentation can be found at several online sources, including the IRS website at www.irs.gov, which also provides basic information for small business owners.

Business Documents

Thinking through the preceding sections and standardizing a strategy and approach to each of the major factors of operations, production, sales, and marketing can be a valuable exercise and reveal additional opportunities or concerns for a business owner. The information and insights gleaned throughout the process can serve as a solid foundation for the construction of many major business documents, including a business plan, marketing plan, feasibility study, and other pertinent documents.

- **Business Plan**

A written business plan document serves as an essential management tool. It should include information about the implementation of the business idea, including guidelines to measure profitability and provide action-oriented steps to take both during and after project implementation. Major sections of the business plan often include Background Information, a Description of Products and/or Services, Governance and Organizational Matters, Marketing Strategy, and a Financial Plan with *pro formas*.

- **Marketing Plan**

A marketing plan is often a more flexible document than a business plan, in that content more diverse and driven by the unique aspects and approach of a particular business. The information it contains is highly customizable to suit various entities and marketing strategies, but often includes information such as intended target customers and markets, competitive analysis and comparisons, goals and desired market positions, strategies for differentiation, and promotional activities and budgets.

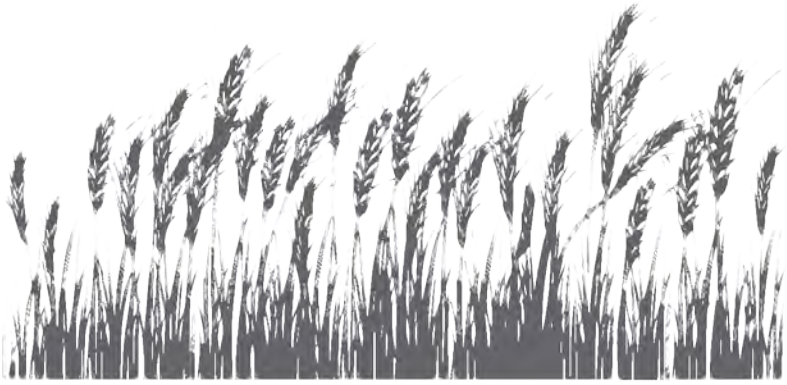
- **Feasibility Study**

A feasibility study is a detailed, objective analysis of a business idea or proposed project to determine its potential impact or outcome. It provides a visual aid for a new venture by putting an idea on paper so that potential problems can be more easily identified and solved before the implementation, saving investors' time and money in the future. Feasibility studies reveal the positives as well as the negatives of an idea, allowing you to determine what will work, what can be fixed, and what resources will be needed in order to bring an idea to life. Lenders and investors requiring feasibility studies generally expect them to be created by an independent, third-party consultant or entity to avoid conflicts of interest and unbiased content.

- **Other Documents**

Throughout the course of start-up and subsequent growth, a business such as the distillery examined in this study may find it necessary to produce a variety of other business documents, from grant and loan applications to content for new stories or industry reports. Much of the written content contained in a business or marketing plan can also be used to needs in these areas, but certain documents may require the development of additional information.

There are numerous examples of business document formats and outlines available through credible online sources. The Virginia FAIRS website includes access to a "Virtual Business Center" with numerous tools to help in constructing a business plan. The U.S. Small Business Association (www.sba.gov) also offers information to help in writing a well-designed business plan and marketing plan documents, as well as advice and training materials on a variety of other business topics.





INDUSTRY EXAMPLES

The prototypical distillery examined in this study will sell primarily at the tasting room and through ABC stores in Virginia, with plans eventually to expand the spirits to other states. Consequently, it is important to monitor the activities of other distillery's activities (prices, spirits produced, labels, suppliers, distributors, promotions, etc.) to keep up with competition in the marketplace. In addition to the local suppliers, regional, national, and international examples of spirits are present in the same marketplace, making it a challenge for a small-batch spirit to compete. Of course, quality is the key for success, ultimately being defined by the consumer.

Observing industry leaders also provides opportunities for a new distillery business to find approaches to marketing and production that may be used to further success. While the large number of producers may represent direct competition for a new distillery, it also provides opportunities to learn lessons and gain insight into the market.

Virginia ABC stores carry products from micro distilleries as well as items from larger major distilleries in the U.S. and abroad. Given the similarities in the spirits making process, it is the technology used and the innovation and uniqueness of the product that will help the owners of the project succeed.

"while the large number of producers may represent direct competition for a new distillery, it also provides opportunities to learn lessons and gain insight into the market

The market for spirits remains more competitive in some categories than in others, but overall, every distiller strives for uniqueness. The legal environment in which some distilleries operate makes it easier to penetrate local markets, though under controlled conditions. The micro-distillery option is different from the generic spirits market, which is influenced by large firms who enjoy economies of scale.

Large companies can provide more "technical" spirits to restaurant and spirit shop points of sale at relatively low prices and with big promotional campaigns. However, consumers interested in higher quality artisan spirits, and consequently lower volumes of production, provide a niche market for the distillery's spirits.

From analysis of other distilleries, it can be concluded that high quality inputs, equipment, and processing conditions are of vital importance – even details such as the quality and type of glassware in the tasting room and the presentation via the webpage are critical to the success of the distillery.

Virginia liquor is relatively new to the artisan market, and the owners of the distillery will need to work to capture the interest of local, regional, and national spirits drinkers. The following examples show how the various distilleries work on positioning. As a new brand in the spirits market, the distillery will face the difficult challenge of finding an image.

The distillery will need to work to market the spirits as well as showcase its customer service. The examples presented in this section show how other distilleries carry out their marketing at this level.

Virginia: State Examples

According to the American Distilling Institute, craft distilleries located in Virginia include Virginia Sweetwater Distillery (Appalachian Mountain Spirits), Belmont Farms, Catoctin Creek Distilling Company, Copper Fox Distillery, and newcomer Murlarkey Distilled Spirits. Other distilleries operating in the area include those listed below. Even though some of these artisan distillers may not compete directly with the distillery's products, they are micro-distilleries targeting a niche market with similar characteristics and are consequently studied in this project.

A list of distilleries registered with Virginia as of October 2014 can be found in the Appendix.

Virginia Sweetwater Distillery (Appalachian Mountain Spirits, LLC)

Located in Marion, VA, Virginia Sweetwater Distillery makes Virginia Sweetwater Moonshine and War Horn Whiskey at Scott Schumaker's "off the grid" family farm. The company's website states that the Moonshine product is made in small batches by hand, and uses locally grown corn for inputs. War Horn whiskey is aged with honey and oak, and is named in honor of Scott's brother, LTC William Schumaker, who passed away after a career in the military. The website also indicates that the company is working on an aged single-malt whiskey in the future, which is currently aging. The owners also operate the Mercantile & Stillhouse Store in downtown Marion, where they sell Virginia Sweetwater Distillery products, including non-alcoholic items and locally produced crafts.



Belmont Farms of Virginia Inc.



Located in Culpeper, VA, this distillery builds on history and traditions by using specific expressions and language to connect their products with tradition and history. Their webpage includes articles and tasting notes, as well as promotional videos. The overall quality of the site is good.

For more than 15 years, they have grown corn and made Virginia Lightning Corn Whiskey (50 percent ABV). The mash is cooked to an old family recipe and is then distilled in a 2,000 gallon copper still that dates back to the 1930s. Finally, it passes through a "doubler" to increase the strength and remove impurities.

The distillery also produces Kopper Kettle Virginia Whiskey, Kopper Kettle Vodka, and Climax moonshine. They have carefully chosen the bottles and labels to reflect a high quality product. The marketing is aimed at people who socialize and party in bars. Some of the distillery's products are sold in Virginia as well other states such as New York, Pennsylvania, North Carolina, Alabama, and Washington D.C. Virginia Lightning, their most popular beverage, retails at $24.99 (750 mL) 100 proof.

Mount Vernon Estate



It is well-known that George Washington was a distiller and built a distillery on the Mount Vernon estate in 1798. With five stills producing approximately 11,000 gallons of whiskey per year, it was one of America's largest and most profitable distilleries at the time.

Restoration and reproduction of the original distillery began in 2000, and the distillery opened to the public in September 2006 . The stills produce 135 proof spirit using a recipe developed by James Anderson, Washington's Scottish-born farm manager who was responsible for the construction and operation of the original distillery. The mash bill is made of 60 percent rye, 35 percent corn, and 5 percent malted barley.

In 2003, a number of distillers combined to produce a batch of whiskey in a replica 18th-century still using Washington's rye mash bill. This was matured at Mount Vernon and is now on sale in commemorative bottlings, along with miniatures of "new" Mount Vernon spirit.

It is the only operating 18th century style distillery in North America. It functions as a national distilling museum, and is the gateway to the American Whiskey Trail, which encompasses historic distilling related sites in New York, Pennsylvania, Virginia, Kentucky, and Tennessee.

Copper Fox



This distillery is located at the foot of the Blue Ridge Mountains in Sperryville, VA. Head Distiller Rick Wasmund is the only in the U.S. who malts his own barley by hand-firing the malt house with wood cut from his property. Rick visited Scotland in 2000 to learn about distilling, with the objective of establishing his own distillery in Virginia. He purchased an existing distillery and launched Copper Fox Whiskey in the spring of 2003. He works his barley in a Scottish manner, and has developed a unique chip and barrel aging process consisting of suspending bags of charred chunks of apple, cherry, and oak wood in the spirit as it ages in the barrel. Copper Fox moved to its present location and newly built site in 2005, and in 2006 launched its first single malt spirit. The company produces Vir Gin, Copper Fox Rye Whisky, and Wasmund's Single Malt Whisky.

Catoctin Creek Distilling Company



Catoctin Creek Distilling Company is located in Purcellville, VA. It was founded in 2009, the products are made from USDA certified organic inputs, and the product line includes Roundstone Rye, Roundstone Rye 92 Proof, Roundstone Rye Cask Proof, Mosby's Spirit, Watershed Gin, 1757 Virginia Brandy, Pearousia, and Short Hill Mountain Peach Brandy.

The webpage is complete (videos, pictures, news, awards, investor information, press kits, among other entries). They offer merchandise for sale including glasses, coasters, barware, and apparel. The owners also offer seminars and workshops. They offer their used oak barrels (30 gallon capacity) for

sale. Products are sold in Massachusetts, Connecticut, New York, Pennsylvania, Maryland, Virginia, District of Columbia, Tennessee Kentucky, Georgia, and Wyoming.

Parched Group LLC.



Parched Group is a Richmond-based distillery. They are the producer of the well-known Cirrus Vodka, made from potatoes in small pot still batches. Their webpage is simple and clean looking. The distillery began developing the creamy, slightly sweet, ultra-smooth spirit in 2004. Before it was on the market, Cirrus began shaking up the industry by winning silver and gold medals at the prestigious San Francisco World Spirits Competition, and the Beverage Testing Institute's competition in Chicago.

Nearby State Examples

Competition from North Carolina and other surrounding states is also considered in the present study. The following is an analysis of notable distilleries in nearby states that were selected by the consultants.

Piedmont Distillers Inc.

Piedmont Distillers was established in 2005, and produces Catdaddy Spiced Moonshine, as well as Midnight Moon Original and varieties of flavored moonshine. Catdaddy is 80 proof, triple-distilled from corn, and is a sweet and spicy whiskey, with notes of vanilla and cinnamon.

The website is well designed and professional, with information about each major product line as well as recipes for cocktails, and information about purchasing additional items. Midnight Moon product trades heavily on the legend of Junior Johnson, a moonshiner with a long family heritage.



Ole Smoky Distillery, LLC

Located in Gatlinburg, Tennessee, Ole Smoky Distillery produces a wide variety of moonshine products of varying proofs (100,80,40) in 20 distinct varieties, including Original, White Lightnin', Apple Pie, Watermelon, Sweet Tea, and numerous other regular and limited flavors. The distillery also intends to open an outpost at The Island in Pigeon Forge as an expansion of operations. The new location will be known as Ole Smoky Barn, and will have 6,000 square feet of public space with an adjacent still and tasting area.

Southern Artisan Spirits

Southern Artisan Spirits is located in the foothills of the Blue Ridge Mountains in a city known as Kings Mountain. The distillery is a family business run by twin brothers Alex and Charlie Mauney. They use organic ingredients to produce a gin with tradition and modern technology. They mix a blend of 11 different botanicals to create Cardinal American Dry Gin with a unique floral flavor.



Southern Artisan Spirits is "dedicated to the revitalization of the lost are of craft distillation." No other distillery in the United States uses the same methods employed by Southern Artisan Spirits.

National Examples

An analysis of these few examples gives an idea of the competitiveness in the spirits market, which at the same time is very fragmented into various types of distilled alcohol products (whiskeys, gins, brandies and other spirits, brands, etc.).

While this fragmentation is apparent at the consumer/sales level, at the corporate/business level, many individual companies are actually subsidiaries of larger conglomerate beverage companies that simply target various market segments through the promotion of differentiated products. For example, as of 2014, Diageo owns 14 of the top 100 premium distilled spirits brands, including Bushmills, Crown Royal, and Smirnoff, among others.

Following is a description of some national examples selected by the consultants.

Buffalo Trace Distillery



Located in Frankfort, Kentucky, the distillery was established in 1857 and is known for its sweet flavored bourbon as a result of the high levels of corn used in the mash bill. The annual capacity of the distillery is 12 million gallons. Their products have won multiple awards, including their signature bourbon, Buffalo Trace, which won a Double Gold Medal at the 2014 New York Work Wine & Spirits Competition. The rest of their line consists of distinctive products, including Van Winkle, a very rare and limited edition bourbon, and White Dog, a clear and un-aged whiskey. Although this distillery's main focus has been on bourbon, they also offer a vodka line.

New Holland Artisan Spirits (New Holland Brewing Co.)

New Holland Brewing Company started as a brewery creating craft beer. As an extension of their thriving business, they began distilling spirits under the brand New Holland Artisan Spirits. Their philosophy is to dedicate themselves to discovering artful nuances while delivering unique and interesting spirits in their most tasteful form.

Located in Holland, Michigan, this distillery offers a range of spirits, including a line of whiskey. One unique product in their assortment is a whiskey infused with hops. Other products include gin, liqueur, rum, and vodka. Their balanced portfolio of spirits is a friend to any bartender.

Anchor Distilling Company

Under the umbrella company Anchor Brewers & Distillers, Anchor Distilling Company is part of a group of companies including Anchor Brewing Company, Berry Bros. & Rudd, and Preiss Imports. Anchor Distilling is based in San Francisco and its artisanal portfolio holds over 300 unique products.



Their most well known product is Old Potrero Single Malt 18th Century style Whiskey, distilled in a small copper pot still at the distillery. Its name comes from San Francisco's Potrero Hill.



Jack Daniel's
This distillery produces 20 million gallons of alcohol per year. This major brand exports ten million cases of whiskey per year to 150 destinations. Their mash bill is 80 percent corn, 12 percent rye, and eight percent barley malt. Hundreds of thousands of visitors visit the distillery each year, but they can only buy souvenirs since it is in a "dry" county and visitors cannot buy the alcohol.

Jack Daniel's has a large assortment of products, many of which are limited and special release editions. Their main product line consists of Gentleman Jack, Tennessee Honey, Jack Daniel's Old No. 7, and Single Barrel. Their newest product, Tennessee Fire, is a whiskey infused with red-hot cinnamon liqueur.

Jim Beam



Jim Beam is the best-selling bourbon brand in the world. Fortune Brands from Chicago, Illinois, operates two Jim Beam distilleries at Clermont and Boston. These two plants have a production capacity of nine million gallons annually.

The Jim Beam house style is the consequence of high proportions of rye and corn in the mash bill. The rest is composed of malted barley. The firm uses white and black labels and produces other specialist whiskies such as Baker's Kentucky, Booker's Kentucky, Basil Hayden's, Knob Creek, Old Crow, Old Brand-Dad, and Old Taylor.

International Examples

Johnnie Walker (Scotland)



The Johnnie Walker brand offers a variety of whiskies: Johnnie Walker Red, Black, Gold, Blue and Green labels. The firm occasionally offers limited runs as well. Sales of all Johnnie Walker products amount to 12 million cases annually. In 1908, the whiskies were first named Johnnie Walker. In 1925, Johnnie Walker joined Distillers Company and by 1945, Johnnie Walker Red Label was the world's best selling scotch whiskey. Under Diageo, the brand continues to grow. The company employs heavy advertising and is well recognized in the areas of golf, Formula One racing, etc. It is the world's largest producer of Scotch whiskey and claims that at any point in time it has more than seven million casks of whiskey in maturation.

The Glenlivet (Scotland)



This is the second biggest selling single malt in the world, and is very popular in the U.S. market. Pernod Ricard is the new French owner. Officially, George Smith founded The Glenlivet in 1824 when his distillery became the first in its area to receive a license. In 1921, the Bill Smith Grant bought the company and successfully ran it for over 50 years, until it was acquired by Seagram's in 1978. The firm produces 5.9 million proof liters[30] per year and sells about 6 million bottles as single malt. The remainder is used in Pernod Ricard's blended whisky brands. The distillery is open to visitors. The firm participates in international competitions, including the San Francisco World Spirits Competition. In 2009, the firm won several gold medals and the Distillery of the Year award.

[30] A proof liter is a measure of one liter at 100 proof alcohol (or 50% alcohol by volume).



DISTILLERY FINANCIAL STUDY & SCENARIO ANALYSIS

The financial model is intended to capture the scope and daily operations of a prototypical distillery. The data was modeled in Excel spreadsheets and the results are presented on an annual basis in the first year and quarterly thereafter.

Like any successful enterprise, the distillery will need to continue to adjust its procedures as production and sales increase, as it encounters opportunities or obstacles in the marketplace, and as it revises its short and long-term goals.

The following information forms the assumptions used for the economic model of a prototypical distillery, based on information selected from industry research, discussion and interviews with business owners and others in the industry, and the knowledge of the consultants.

The model covers three years of operations, including a brief start-up period, and assumptions for the model are presented in narrative form in the order of business operations to aid in understanding the logic behind the numbers that were chosen as the basis of the model.

Major divisions include inputs, production/conversion, sales, and results. Also included are brief discussions of the underlying thought process and rationale for choices that were made in constructing the model, as well as the resulting effects of those choices on the distillery finances.

In reality, there are a number of distilleries in existence whose operations differ from the assumptions used for this model and may be more or less efficient in key areas, such as size of operations, product cost, sales distribution or other area. However, this report attempts to focus on the major areas of concern that most often affect viability.



Results

Profits and business operations are measured based upon operational profits, or earnings before interest, taxes, depreciation, and amortization (EBITDA). Unlike net income, EBITDA does not take certain non-cash expenses such as depreciation or interest into account. The accounting methods used to expense these items may vary depending on the needs of the business. Because there is no one standard method for accounting for these items, it may be more reasonable in certain cases to assess business operations based upon the EBITDA figure.

In the first year of operations, the distillery is working to enter the market and generate interest in its new products while developing operating efficiencies with the new workforce. These factors lead to the distillery suffering its greatest operational losses of around ($63,000) in this year. With the inclusion of equipment depreciation and interest expense, net losses will increase to ($83,000). Detailed monthly and quarterly financial tables are provided in the appendix.

Operating losses decline slightly in the second year to ($43,000), or (14%) of revenue. At this point, bourbon production has increased, the distillery is expanding its marketing campaign, and hiring a part time sales and marketing manager to help with the roll out of the new bourbon product line in the third year. The increases in these cost categories may contribute to the losses, but are necessary in business planning and growth in the future.

By the third year, the venture will begin earning an operating profit of approximately $32,000, after a portion of revenue has been reinvested in future product growth through the increase in bourbon production levels. As a percentage of sales, the distillery is retaining around 6% of the total sales generated over the annual period. A breakeven level will be reached on a net income basis in this year, with the financial model reporting around $7,700 in net income, or 1.4% of sales dollars remaining after all costs have been accounted for.

Inputs

Corn, the main input for bourbon and whiskey, and potatoes, the main input for vodka, are both items that can be purchased in large quantities and easily stored throughout the year to be used as needed. Additional production inputs include yeast, enzymes, rye, and malted barley, which can either be sourced throughout the year or stored for later use. While it is often thought that the cost of these inputs will be a major factor in profitability, the cost of purchasing these items never grows beyond (6%) of sales in any year of the model.

The packaging cost for the products is $1.92 per unit, which includes bottles, caps, and labels. This variable cost category represents around (12%) of sales in the first year and increasing to (15%) of revenue, or around ($80,000) in the third year when bourbon is first being bottled and sold, and is one of the larger variable costs that the distillery will incur.

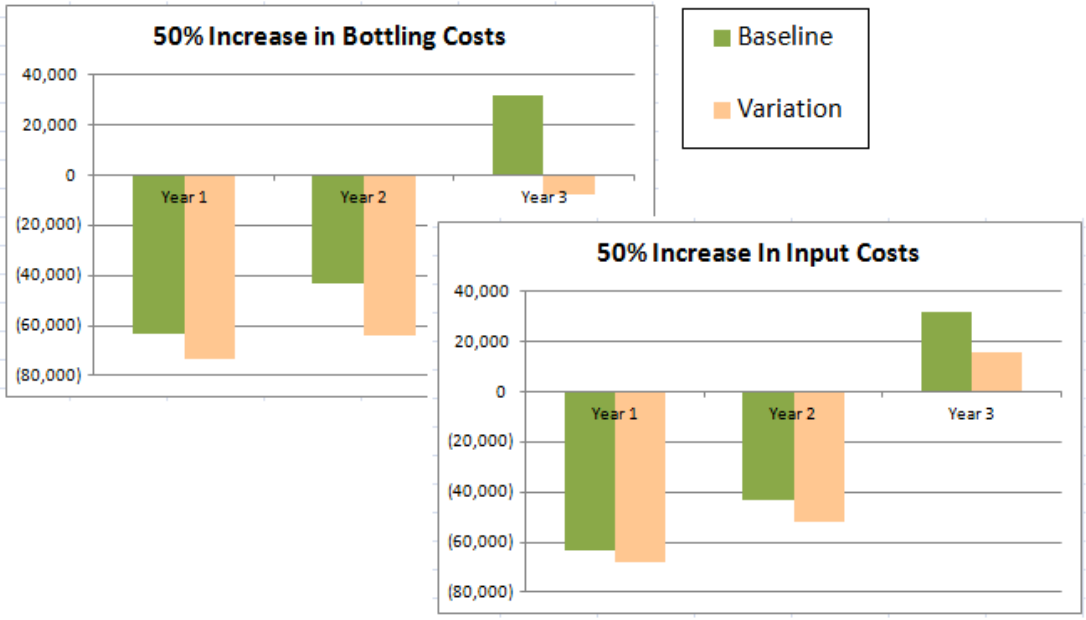
For maximum efficiency, the distillery will utilize the same type of bottle for each of product, varying the product labels to provide differentiation between product lines. Using the same bottle type for all three product lines will provide some cost advantages for the distillery.

The bottles will be purchased in lots throughout the year so the distillery can take advantage of quantity discounts. Using the same bottle types for all products will also increase efficiency when bottling and applying labels. Bottling equipment will require less adjustment, and labelers will be able to move from one product to another simply by changing the label being applied.

Scenario: The Effects of Variations in Bottling and Input Prices

Each bottle of liquor produced by the distillery will require production inputs such as corn, potatoes, enzymes and yeast. For every 750 ml of finished product, the distillery will also have to purchase a glass bottle, label, and cap to package the product for sale. Some may assume that, of the two cost categories, production inputs have the greatest effect on overall profitability, but reviewing the following scenario results reveals that bottling costs have more of an influence on operating profits.

If bottling costs were to increase by 50% above baseline prices, the distillery would no longer reach operational profitability in the third year. Additionally, in the first three years' total losses on EBITDA would be increased by ($70,000) above the baseline. The same percentage increase applied to input costs would result in additional operating losses of ($30,000), but the distillery would continue to break even in the third year and generate an operational profit over the annual period.



If bottling prices were to increase by only 25%, the business would generate an operating profit in the third year, but the increase in pricing would result in a (62%) decrease in profits as compared to the baseline. If input costs were increased by 25%, the reduction in profits would be only (26%) below baseline. These results fall in line with the previous findings that bottling, not input costs, have the greatest effect on profitability.



In addition to the costs of end-product packaging, oak aging barrels will be required to contain bourbon during storage and aging. Because these barrels are not reusable, the distillery must consistently purchase them throughout the model. Even with this continual purchase, barrel cost will never utilize more than (1%) of annual sales. When bourbon production is at its highest in the third year, the total annual expense is approximately ($5,500).

Another input related cost is the purchase of the promotional and souvenir-type items for sale in the distillery's on-site ABC store and tasting room. These products are purchased wholesale and then sold with a significant markup, and are sourced from companies that provide logo services on a wide range of promotional items, such as bottle openers, t-shirts, shot glasses, etc.

One concept often overlooked when considering the finances of a new business is the concept of carrying costs. Costs related to inputs, including packaging, are another expense that adds to the cost of doing business. Inventory carrying cost is the cost a business incurs over a certain period to hold and store its inventory.

Vodka and corn whiskey will have a holding period of one to two months before the product is sold and any revenue is collected. Bourbon will not be bottled until it is removed from the barrel at the end of aging, which reduces some of the upfront investment in production for this item.

Production/Processing

Production activities begin three months prior to the start of business operations. At this point the facility will be leased, which will allow time for the business to be retrofitted as needed and new equipment to be installed. It will also provide a period for the owners to bring in a management team and train employees as needed to oversee the installation process.

The distillery will lease the facility that will house the tasting room and production area at a cost of around ($1,500) per month. The approach of leasing the facility was chosen to provide flexibility for the new business. Should the operation prove unsuccessful, the owners will be able to exit a lease easier than they would be able to sell a large commercial property. Leasing also relieves the burden of major maintenance and provides the owners with the option to change locations, should other opportunities present themselves, or should growth in sales necessitate seeking larger production facilities.

Facility expenses that will still be incurred by the owners include items such as utility costs, pest control, and any other process specific costs that the owners of the property would not reasonably accommodate. Between ($4,000) and ($9,000) annually will be spent on these costs. The increase is due to a 3% rate of inflation as well as a growth in electricity requirements in conjunction with production.

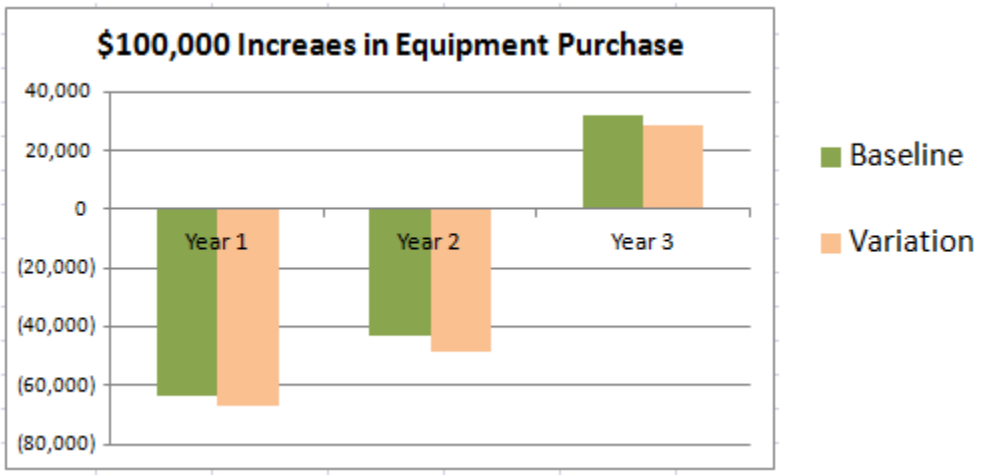
Also categorized as a fixed cost, around ($188,000) will be spent on the purchase of production equipment during startup, which will require the use of a loan. While the business will be required to provide a down payment on this loan, the monthly interest payment that is reported on the expense and revenue statement is not one of the main factors affecting profitability, as only around (1%) of total sales dollars are used to cover this expense.

Scenario: The Effects of an Increase in Equipment Costs

Equipment is one of the most expensive items any new production facility will need to purchase. In the prototypical distillery, nearly ($200,000) will need to be spent on production equipment before sales can even take place. While the price of the equipment may be a concern to owners, the actual affects of such a large purchase is not a major factor when determining the profitability of the venture.

In the financial model, the loan is divided into two pieces: the interest charge and the principal charge. Based on accounting rules, the only cash expense applied to expense and revenue is the interest charge. As previously discussed, the interest paid utilizes an average of (1%) of total sales in each of the three years of the model. The principal payment is categorized as a non-cash expense and deducted from the statement of cash flow. This figure factors into the calculation of the total amount of owner equity required to maintain positive cash flows and cover operating expenses.

The following chart shows the results of purchasing an additional ($100,000) of equipment at the start of the financial model. This brings the total price of equipment to just under ($300,000). With the inclusion of this equipment, the distillery will only incur total additional operating losses of around ($12,000) for the three year period. In regards to cash flow, the distillery will only require an additional ($30,000) in owner equity to maintain baseline cash flow levels over the three year period.



Other costs associated with this equipment include propane required for activities such as heating the still and cooking the mash. Also, around ($2,500) in funds will be set aside each year for maintenance costs as well as the costs of items such as tools, dies, and fixtures that may be purchased over the course of the year.

In addition to the cases produced during the start-up period, the distillery will produce approximately 1,000 more cases during this first year, with each case containing twelve 750 ml bottles. In the second year, as awareness of the distillery increases and new customers begin purchasing the distillery's products, overall production will double to 2,000 cases, or 24,000 bottles. By the third year, case production will reach approximately 3,500 cases. In order to account for the fact that not all of the product that is made will be sold, 5% of the total product will be lost due to inventory shrink, tastings provided for promotional purchases, or used by staff and owners.



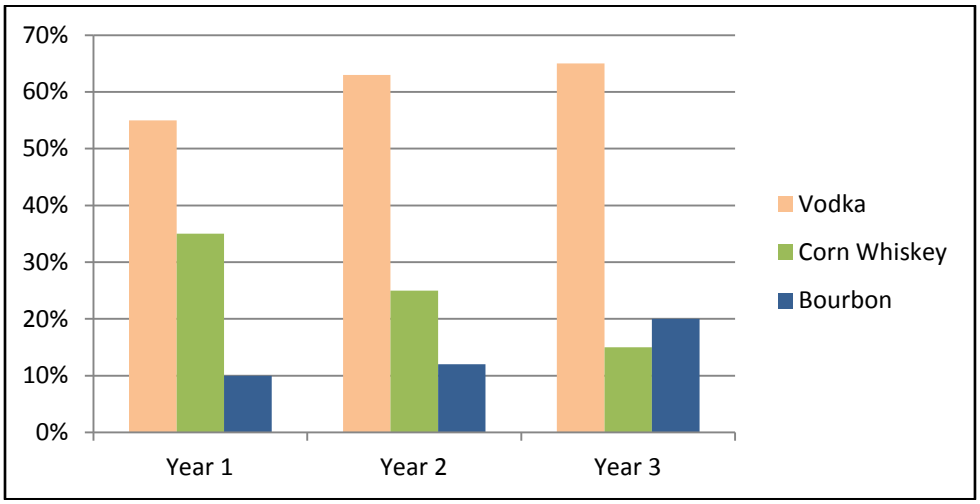
While aging of the bourbon product takes place during the first two years of operation, vodka and corn whiskey are the only products available for sale. Production will be more heavily weighted towards vodka over the first three years of the model due to its higher price point compared to corn whiskey. As bourbon production grows over time and the finished product becomes available for sale, corn whiskey will continue to decline as a percentage of total production. Because the production capacity of the distillery is limited, it must offset the percentage growth in its highest price item by reducing the percentages of the lowest priced item.

Over time, bourbon production will grow to allow for increased inventory, but this growth will also result in increased carrying costs for the distillery. As with any aged product, costs are incurred as the product is produced, but the aging period prevents the distillery from offsetting these production costs with sales of the product. While costs are incurred up front, sales from these efforts cannot occur until the aging period is complete. By the end of the third year, the distillery carries around $93,000 in inventory with a large portion of this consisting of bourbon.

By the third year, owners will finally be able to capitalize on their bourbon inventory. The additional revenue from bourbon sales will also allow them to increase investment in bourbon production, since additional revenue will be available to help cover production costs. As a result, the amount of production allotted to bourbon increases from 12% in the second year, or approximately 240 cases, to 20% or around 700 in the third as the distillery increases its focus on producing its highest profit product.

The increase in bourbon investment in the third year represents the distillery's focus on growing the bourbon line in the years beyond the scope of the model. Production efforts in year three will provide the inventory that will be sold in the fifth year of business operations. Business growth will allow for the capital needed to take this investment approach.

Figure 9: Annual Production Levels



Nearer to the opening of the business, production employees will begin running small amounts of product through the equipment to allow the venture to have product available for sale on the first day of operations. Over the course of the three year period, there will be two types of production employees: those who assist with the distillation process and those responsible for bottling activities. Further details on additional employees related to sales are provided in proceeding sections.

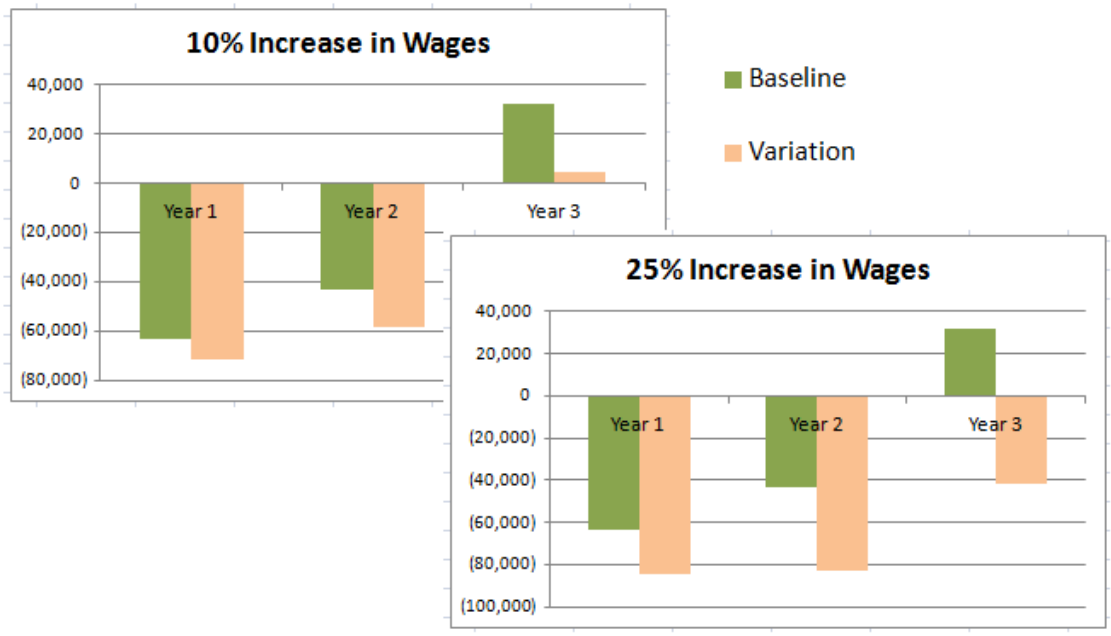
Variable labor, by definition, increases over the three year period corresponding with the growth in sales and production and is the largest variable cost that will be incurred by the distillery. This is another area in which the distillery will have a lag between the time the cost is incurred and when the item's sale takes place. The distillery production process will require employees to oversee the mash cooking, distillation, and bottling and labeling activities. While the man hour requirements for these activities lead to this being the highest variable cost, employing experienced personnel will increase the efficiency of the operation and help ensure that quality product is being produced.

In addition to variable hourly labor, the distillery will also employ salaried labor. A master distiller will be recruited during the startup period and will be paid a salary that increases during each year in conjunction with increased responsibilities. By the third year, the master distiller's salary will have grown from $35,000 in the first year to $45,000. Additional costs have been included to cover various fringe benefits and overhead expenses related to the employment of salaried labor.

Scenario: The Effects of Variations in Employee Wages

In addition to production labor, the distillery will also require several other labor positions including a sales manager, a tasting room employee, and a bookkeeper. These employees will vary between part and full time depending on their responsibilities, sales levels, and growth strategy of the business. The wages of salaried employees also determine the amount of fringe and overhead expenses that the distillery will incur. This is calculated as 30% of salaried wages. More information on employee positions is provided in following sections as well as in the appendix of this document.

The following charts show the effects of wage increases on the distillery's operating profit. With a 10% increase in wages, the distillery would essentially reach a breakeven level of operating profits in the third year, with just over $4,500 being reported for the year. Operating losses in the previous two years would increase by ($8,500) and ($15,500) in years one and two respectively. A 25% increase in wages further increases operating losses. While the baseline model reports total losses for the three year period of ($74,000), this increase in wages results in total operating losses of approximately ($210,000).



While increases in wages have a negative effect on operating profits, as expected, decreases in wages would result in higher operating profits for the year. With a 10% decrease in wages, losses would be reduced by $8,500 in the first year. By the end of the third year, the financial model reports an EBITDA figure of $57,000, which is $25,000 above baseline earnings.

With a 25% decrease in employee wages, the distillery would approach breakeven at the end of the second year, with annual losses of ($6,000) being reported. By the third year, operational profits increase by approximately $60,000 above the baseline to reach $90,000 for the annual period.



In the third year of the financial model, the distillery will incur a significant cost for bottling the bourbon that has completed its aging cycle. This will represent a large increase in bottling costs over the first and second years' operations, but is simply a result of producing and selling the aged bourbon product. In subsequent years, this cost will become a regular part of the distillery's bottling operations since yearly production of bourbon will make a consistent supply of product that is ready for sale throughout the year after this initial batch has been aged.

The distillery will incur lab costs, calculated on a per bottle basis, as a necessary quality control activity that ensures that the product being sold meets the requirements of the various regulatory agencies and satisfies customer preferences. By ensuring that the product being produced is consistent in flavor, the distillery will build a reputation within the market that will result in attracting new customers.

The spirit excise tax is accounted for at the time of production and is therefore another cost that the distillery incurs before sales actually take place. This is a rather large expense, at (15%) of sales in the first year, or ($26,000) of annual costs. The cost grows in conjunction with production, reaching ($90,000) by the third year, but remaining around (16%) of total sales. The nature of producing an aged product, combined with the approach that the distillery has taken of increasing production of bourbon in the third year, leads to the need for a substantial investment of owner equity to maintain positive cash flows and cover operating expenses over the three years of the model.

During the first year of operations, the distillery is suffering losses, and therefore will be relying on equity to offset these losses and cover operating expenses. The largest operating expense is inventory (carrying cost), which totals ($70,000) in the first year. This cost is calculated as the cost of inputs and packaging used in production during this year. Without an infusion of cash, the distillery would have negative cash at the end of the period of ($268,000).

The distillery incurs net losses throughout the first quarter of the third year, furthering its reliance on owner equity during the initial years of business operations. While the model only encompasses three years, the distillery will continue to grow in production and profit levels until the venture is able to generate positive cash flows. It is not surprising that there would be a reliance on equity during these initial years, as the two year aging period is a substantial amount of time for a new business to have to wait to recoup production costs.

By the third year, the inventory expense reported on the statement of cash flows totals ($93,000) and the distillery will continue to require cash infusions. A total of $575,000 of owner equity will be needed to generate positive cash flows and cover operating expenses. With this inclusion, the amount of cash on hand ranges from $470,000 to $95,000 over the three year period.



Sales

The three products offered by the distillery are vodka, corn whiskey, and bourbon. Vodka and corn whiskey, as the two lines of product that do not require an aging period, will be ready for sale as soon as they are produced. A slight inventory holding period of one to two months has been included between the time that the products are produced and when they are sold to account for the fact that product sales will often lag behind production. The sales price per bottle that the distillery receives for vodka and corn whiskey is $16.00 and $11.25 respectively.

Vodka will be the largest source of revenue in the three years of the financial model, bringing in 60% of total sales dollars, or just under $110,000 in the first year. By the third year, vodka sales grow by around 300% to just under $435,000 for the year. Corn whiskey generates around 30% of total revenues in the first year. This figure is reduced to 12%, or $74,000 of sales dollars, when bourbon sales begin in the third year.

The bourbon line has been included in the model to represent a higher priced product. The distillery will retain $20.00 from the sale of each bottle of bourbon, but the two year aging period required for this product means that sales would not take place until the third year of the study.

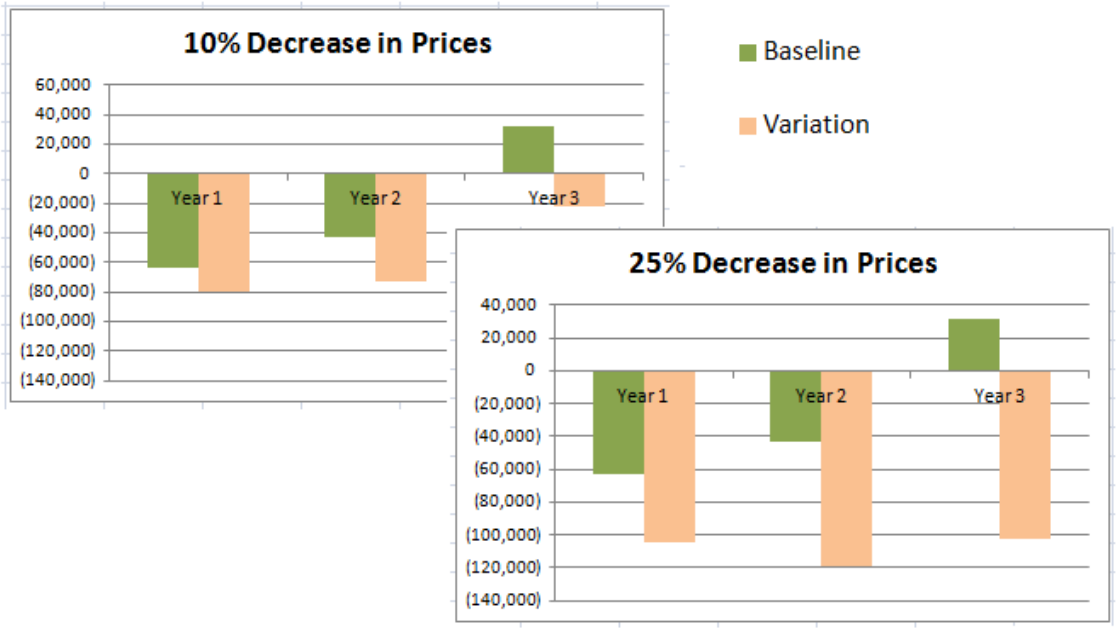


Scenario: The Effects of Variations in Pricing

The product price points included in the model fall in line with pricing of similar Virginia products, but in a real world situation, product prices may increase or decrease depending on a variety of factors. The following scenario provides insight on how changes to pricing would affect the overall profitability of the venture.

If prices were to decrease by (10%), the distillery would suffer losses in each of the first three years of operations. When bourbon sales are introduced in the third year, operating losses do decline, with the model reporting annual losses of around ($22,000), compared to previous year losses of ($73,000), but the venture never breaks even as in the baseline model results.

With a (25%) reduction in prices, operating losses would be substantially decreased. In the baseline scenario, even with a (10%) decrease in pricing, there is a reduction in losses from the first through the third year. With the (25%) decrease, the distillery would not generate the revenues needed to offset increases in certain cost categories including labor, marketing, and the across the board 3% increase in expenses due to inflation. Therefore, operating losses increase from ($105,000) in the first year to around ($120,000) by the second year.

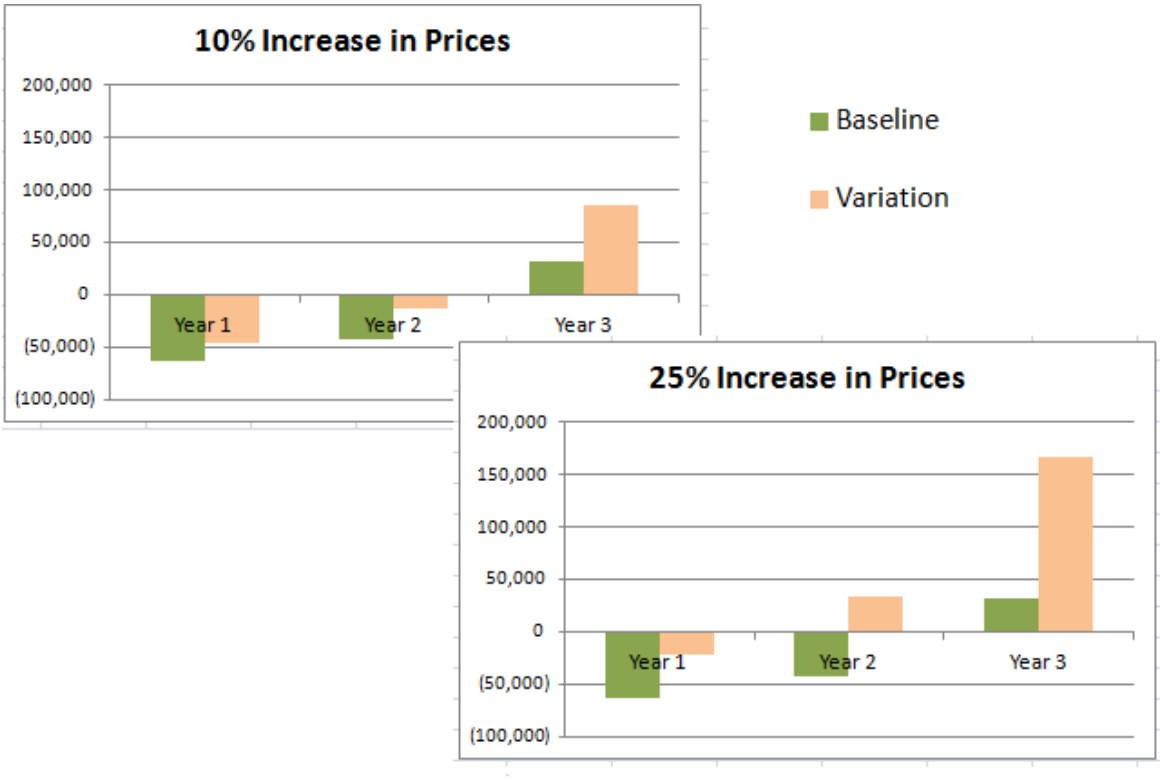


Scenario: The Effects of Variations in Pricing, Cont.

If the distillery was able to implement higher prices, the venture would increase in profitability. Investing these funds back into the company could allow the business to grow at a more rapid pace.

Charts below highlight the effects of a 10% and 25% increase in prices. A 10% increase in prices would reduce operating losses over the three year period by $100,000. With this price increase, the distillery would reduce losses at the end of the second year by approximately ($30,000) with operating losses of only ($13,600), compared to ($43,000) in the baseline model. Operating profits in the third year would be more than double what was reported in the base line model.

With a 25% increase in pricing, operating profits of just under ($33,000) would be generated in the second year. By the third year, with the added revenue from bourbon sales, EBITDA would reach $166,000 for the annual period. The reality of such price increases and decreases occurring in the real world market is unknown, but these scenarios provide a basis for understanding the effects that changes in prices could have on business profits.



When sales begin, the distillery will experience a lag in the recoupment of sales dollars, and thus a production cost carrying period, due to several factors. The two year aging period for bourbon contributes to the longest carrying period and the largest amount of costs that the business must incur before sales dollars are collected.

The distillery will also have a 50-day accounts receivable period in which the venture is waiting on payment from the VABC for goods sold. This payment period is represented in the financial model with the use of an interest charge that the venture will incur because of having to use credit to finance production costs until the revenues are collected. The remaining factor causing a lag in sales collection is the time between the production and sales of vodka and corn whiskey. While these products do not require an aging period, they will still experience an inventory holding period of a month or two to represent the time between when a batch of product is produced, and when it is actually sold.

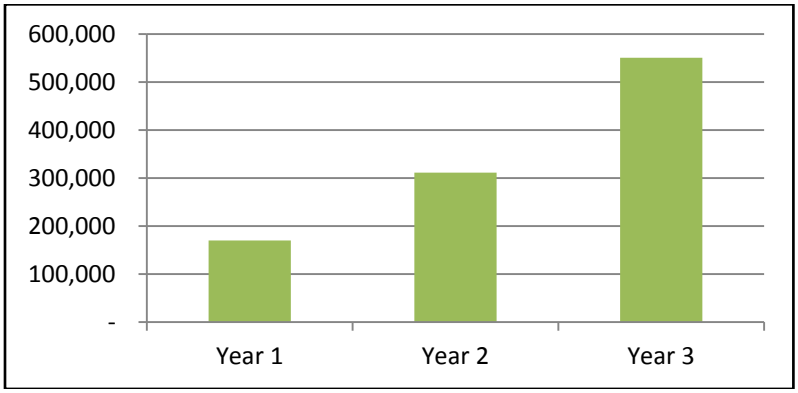
The non-aged products are important in the first three years of production, because they provide profits to sustain the operation while overall production is increased and while the owners build an inventory of bourbon. As the business grows beyond the three-year period covered by the model, the bourbon line will continue to increase in production and sales volume, and is anticipated to become the highest income generator for the distillery. The sale of bourbon in the third year will produce around $20,000 of revenue for the business.

Besides the liquor products sold by the distillery, the remaining two income generators for the model are tastings and merchandise sales. Tastings are priced at $2.00 per half ounce, and around 3% of sales dollars, or $6,000, will be earned from tastings alone. Merchandise sales are the smallest profit generator for the business, bringing in around $1,200 a year in sales dollars.

While they are the smallest revenue generators, both tastings and merchandise sales are important to the distillery. Tastings allow the distillery to drive customer traffic to the facility, and providing souvenir items for sale allows the distillery to capitalize on these visits through sales of high-markup items. While small, these two streams of revenue contribute to increasing cash flow for the distillery.

Total annual sales levels for the distillery are presented in the following figure, and additional details of the monthly and quarterly earnings have been provided in the expense and revenue statements in the appendix section of this document.

Figure 10: Sales Levels per Year



Sales related personnel for the distillery include a sales manager, who will join the distillery in the second year of operations. The salary for this individual begins at $20,000, and grows to $25,000 by the third year. This individual will promote the business and aid in growing the customer base while also focusing on marking efforts to inform the public of the new bourbon line that will be rolled out in the third year of operations. This individual's activities will help to ensure effective sales outlets for the distillery's products as well as focus attention on the new bourbon product when it is available for sale.

The remaining employee pool is made up of tasting room labor, which will be part of the staff for all three years of the model, and a bookkeeper who will be hired in the third year when sales reach their highest point. One employee will be dedicated to overseeing tasting room activities, and will work year round with total hours increasing during peak sales periods. The distillery will pay between ($10,500) and ($16,000) per year in wages to this employee. In the third year of operations, the bookkeeper will be hired part time, and will earn around ($8,500) over the year.

The business will not employ a dedicated driver to deliver products to the VABC warehouse, but will instead contract with a third party freight carrier to conduct shipments as needed. This provides the business the flexibility of moving product when necessary, while not incurring the expense of a dedicated driver, the purchase of a truck, or any additional maintenance costs.





RECOMMENDATIONS

Next Steps

This report is intended for the use of potential owners and their advisors in considering and planning for a successful distillery business. Covering the myriad details that may affect each unique project is beyond the scope of this study. Following are recommended activities for consideration by the potential owners.

I. **Complete a business plan.**

It should include:

- ***a strategic plan***
  This should include a three to five year plan of the business's goals and steps to accomplish them.
- ***identification of markets and customers***
  - targeting of the identified market
  - identification of a volume market

  A comprehensive strategy should be developed to determine a list of potential customers who are interested in purchasing the business's products. These customers should be identified as to their need and possible pricing points for the products.
- ***operating plans and policies***
  These would include details such as payments, transportation costs, deductions for quality concerns, work schedules, number of employees, hours of operation, production quality management, accounts receivable policies, interaction between owners, management and employees, and other items.
- ***job descriptions***
  The processing facility will likely require additional space and administrative personnel. A job description should be developed for each intended position or role, which also includes how he or she would be evaluated and rewarded for performance.
- ***plan for hiring expert management***
  The owners have the responsibility for the long-term management of the venture. However, for day-to-day operations, a manager will likely be needed. This person should know how to run the facility, as well as how to coordinate the flow of product to the processing facility and finished product to buyers, as well as how to supervise other employees.

II. Seek relationships with industry contacts and potential buyers.

Care should be taken to build relationships with industry contacts that can help inform the owners during the planning process, and can help in building a pool of potential customers. Determining the needs of potential buyers can help the owners build a business that differentiates itself from competition.

III. Comply with local, state, and federal regulations.

The consultants strongly recommend that the potential owners of the project contact local, state, and federal personnel early in the planning process, both to maintain awareness about potential rules and regulations that may affect the feasibility of their idea, but also to maintain ongoing compliance. Conducting significant activity before identifying the primary obstacles can prevent a business from succeeding.



APPENDICES

APPENDIX A: U.S. CORN YIELD AND PRODUCTION, 2008, 2009, AND 2010

	Yield (bushel)			Production (1,000 bushels)		
	2008	**2009**	**2010**	**2008**	**2009**	**2010**
AL	104	108	116	24,440	27,000	29,000
AZ	165	175	210	2,475	3,500	4,620
AR	155	148	150	66,650	60,680	57,000
CA	195	180	195	33,150	28,800	35,100
CO	137	153	151	138,370	151,470	182,710
CT1						
DE	125	145	115	19,000	23,635	19,895
FL	105	100	105	3,675	3,700	2,625
GA	140	140	145	43,400	51,800	35,525
ID	170	180	180	13,600	14,400	19,800
IL	179	174	157	2,130,100	2,053,200	1,946,800
IN	160	171	157	873,600	933,660	898,040
IA	171	182	165	2,188,800	2,420,600	2,153,250
KS	134	155	125	486,420	598,300	581,250
KY	136	165	124	152,320	189,750	152,520
LA	144	132	140	73,440	80,520	70,000
ME1						
MD	121	145	106	48,400	61,625	45,580
MA1						
MI	138	148	150	295,320	309,320	315,000
MN	164	174	177	1,180,800	1,244,100	1,292,100
MS	140	126	136	98,000	87,570	91,120
MO	144	153	123	381,600	446,760	369,000
MT	136	152	135	4,760	3,952	4,590
NE	163	178	166	1,393,650	1,575,300	1,469,100
NV1						
NH1						
NJ	116	143	114	8,584	10,010	8,094
NM	180	185	180	9,900	9,250	11,880
NY	144	134	150	92,160	79,730	88,500
NC	78	117	91	64,740	93,600	76,440
ND	124	115	132	285,200	200,100	248,160
OH	135	174	163	421,200	546,360	533,010
OK	115	105	130	36,800	33,600	44,200
OR	200	215	200	6,600	6,880	7,600
PA	133	143	128	117,040	131,560	116,480
RI1						
SC	65	111	910	20,475	35,520	30,485
SD	133	151	135	585,200	706,680	569,700



TN	118	148	117	74,340	87,320	74,880
TX	125	130	145	253,750	254,800	301,600
UT	157	155	172	3,611	2,635	3,956
VT						
VA	108	131	67	36,720	43,230	20,770
WA	205	215	205	18,450	22,575	25,625
WV	130	126	90	3,380	3,780	2,610
WI	137	153	162	394,560	448,290	502,200
WY	134	140	121	6,968	6,300	6,050
U.S.	154	165	153	12,091,648	13,091,862	12,446,865

1. Not estimated

Source: USDA NASS, January 2011



APPENDIX B: DISTILLED SPIRITS PRICING CATEGORIES

Canadians, Blends, Bourbons	Supplier revenue (9 liter)	Major brands
Value	<$65	Black Velvet, Lord Calvert, Early Times
Premium	$65 to $120	Jim Beam White, Seagram's VO Canadian Club, Seagram's 7
High end premium	$120 to $165	Jack Daniels, Makers Mark, Jim Beam Black
Super premium	$165+	Crown Royal, Woodford Reserve

Scotch	Supplier revenue (9 liter)	Major brands
Value	<$120	VAT 69, Passport
Premium	$120 to $160	Dewar's White Label, Johnnie Walker Red
High end premium	$160 to $250	Johnnie Walker Black, Chivas Regal, Dewar's 12, The Glenlivet 12
Super premium	$250+	Macallan 10, Chivas 18, Johnnie Walker Blue

Irish	Supplier revenue (9 liter)	Major brands
Value		
Premium		
High end premium	<$200	John Jameson, Bushmills
Super premium	>$200	Jameson 12, Black Bush

Vodka	Supplier revenue (9 liter)	Major brands
Value	<$60	Tvarski, Popov, Kamchatka
Premium	$60 to $110	Smirnoff, Svedka, Sobieski
High end premium	$110 to $170	Absolut, Pearl, Finlandia
Super premium	170+	Grey Goose, Belvedere, Effen

Rum	Supplier revenue (9 liter)	Major brands
Value	<$70	Admiral Nelson, Castillo, Ronrico
Premium	$70 to $130	Bacardi Superior, Capt. Morgan Original, Malibu
High end premium	$130 to $170	Mount Gay Eclipse, Bacardi 8, Cruzan Single Barrel, Tommy Bahama
Super premium	$170+	10 Cane, Mount Gay XO, Ron Zacapa XO, Pyrat XO



Tequila	Supplier revenue (9 liter)	Major brands
Value	>$90	Juarez, Pepe Lopez, Matador
Premium	$90 to $140	Jose Cuervo Especial, Souza Blanco, Margaritaville
High end premium	$140 to $200	Antiguo Blanco, El Jimador, Cazadores Blanco, Souza 100 anos
Super premium	$200 +	Patrón, Herradora, Don Julio, Sauza Tres Generaciones

Gin	Supplier revenue (9 liter)	Major brands
Value	<$75	Gilby's, Gordon's Seagram's
Premium	$75 to $120	Beefeater, Bombay, Original
High end premium	$120 to $170	Tanqueray, Bombay Sapphire
Super premium	$170+	Plymouth, Tanqueray 10

Brandy & Cognac	Supplier revenue (9 liter)	Major brands
Value	<$75	Paul Masson Grande Amber, Leroux Brandy, Dekyper Brandy
Premium	$75 to $120	Paul Masson VSOP, St. Remy, Presidente
High end premium	$120 to $240	Hennessey VS, Martell VS, Courvoisier VS
Super premium	$240+	Remy Martin VSOP, Hennessey VSOP, most XO

Cordials	Supplier revenue (9 liter)	Major brands
Value	<$70	Dekuyper, Arrow, Hiram Walker
Premium	$70 to $170	Jagermeister, Baileys, Kahlua, Southern Comfort
High end premium	$170 to $250	Grand Marnier, Cointreau, Drambuie, Chambord
Super premium	$250+	Grand Marnier Centenaire

Cocktails	Supplier revenue (9 liter)	Major brands
Value	All except Premium	Arrow, Club, Fridays
Premium	If associate with a brand	Kahlua RTDs, Jack Daniels Country Coolers, Cuervo Margaritas

Source: DISCUS, January 24, 2011



APPENDIX C: STAFF DESCRIPTIONS

Master Distiller Manager

- Full time position

The Master Distiller will direct the distillation of all spirits offered by the distillery. This person should to be able to take on multiple tasks and projects simultaneously and see them through to completion. He/she must have the ability to work independently, delegate tasks as needed, be discrete, and possess an excellent work ethic and attention to detail. As with any small business, priorities change, so flexibility and a sense of humor are appreciated.

Duties and responsibilities:

- Oversee efficiency of facility processes: mash operations, distillation operations, cellar/facility maintenance, bottling, laboratory procedure, budgetary accountability, and ordering/inventory of spirit making supplies
- Effectively communicate and coordinate with wide variety of contacts
- Supervise/train distilling staff and delegate tasks as needed
- When necessary, must be able to lift up to 50 lb units

Qualifications and experience:

- B.S. or equivalent in a science/technological area
- Training is spirits making
- 2+ years of spirits making experience
- Superior organizational, time management, and prioritization skills
- Strong computer skills (MS Office)
- Competitive salary and benefits commensurate with experience and qualifications

Business Manager

- Full time position

The Business Manager will be responsible for planning, directing, and coordinating distillery business operations. He/she will also be responsible for developing policies and managing the daily operations of the business, and planning for the most efficient use of inputs and human resources. This person will be responsible for accuracy of financial reporting for the business. He/she will be part of an energetic and progressive team with a passion for quality, environment, commitment to customer service, and a high level of professionalism and integrity.

Duties and responsibilities:

- Develops the business plan according to the Board of Directors' objectives
- Develops customer relations including, but not limited to sales leads, research, cold calling, qualifying leads, developing leads, and customer service
- Maintains and develops client relations for new customers, assuring that all existing customers are consistently monitored to ensure their satisfaction, and develop need-based marketing relations
- Develop sales documentation including, but not limited to spreadsheets, correspondence, sales proposals, presentations, and internal paperwork for new customer proposals and presentations



- Develops and implements a detailed sales plan with objectives and strategies to increase revenue and acquire new accounts
- Develops an effective sales relationship with the distillery's distributors, understanding their needs and collaborating as true business partners
- Seeks/creates opportunities to expand business with initial clients; identifies further business needs and develops and presents solutions
- Attends conventions, conferences, and trade shows as needed; prepares post-event reports and analysis.
- Accurately maintains employee files

Qualifications:

- Bachelor´s degree (B.A.) or equivalent; M.B.A. preferred
- Must have an ambitious "hunter" attitude to generate new business and leads
- Five years of sales experience in specialty products in the spirits/liquor/food industry desired; spirits industry related experience especially desired
- Well-developed negotiation, project, and account management skills
- Demonstrates good judgment with the ability to make timely and sound decisions
- Strong organizational, problem-solving, and analytical skills
- Excellent written and verbal communication skills
- Demonstrated ability to make successful presentations to individuals and/or groups at all levels of an organization
- Ability to work both independently and as a team member
- Ability to accurately calculate figures and amounts such as discounts, interest, commissions, and percentages
- Proven ability to handle multiple projects and meet deadlines
- Proficient on Microsoft Word, Excel, PowerPoint, and Outlook

Retail & Store Operations Manager

- Full time position

The Retail & Store Operations Manager will provide leadership of the retail store in the Virginia market. He/she will work collaboratively with the Business Manager and functional teams at the distillery to develop and implement retail store operating strategies and principles. This person will be accountable for executing an operating plan that is consistent with the strategy and principles of the distillery. He/she will monitor and analyze retail store operations against goals. He/she is responsible for store P&L: driving revenue growth; market growth and market share; and for effectively managing expenses and profitability.

Duties and responsibilities:

- Organization and functioning of the tasting room activities
- Works collaboratively with all functional teams to develop and implement strategies and practices in the store under the direction of the owner
- Provides leadership and training/coaching for the store staff
    - Establishes performance goals for all retail/tasting room employees, and monitors performance on a continual basis
    - Select, develop and evaluate team members and be accountable for their success



    - He/she manages, coaches and motivates teams, ensuring that the distillery has a strong customer service culture in the store
- Develops and implements consistent operating processes that are aligned with the overall retail strategy
- Accountable for meeting or exceeding sales, margin, and profitability goals
- Works collaboratively with the Business Manager
- Develops and implements a merchandising and product strategy for the store
- Organizes and updates inventory to maximize returns on inventory investment
- Provides an annual operation/sales plan and provides quarterly updates, revisions and modifications to the plan
- Proposes and manages all expense budgets to meet or exceed plan objectives
- Obtains competitive intelligence by gathering and analyzing information from peers and published sources about market trends and industry developments, and the capabilities, vulnerabilities, and intentions of business competitors that allow for advanced identification of risks, and opportunities to the business

Qualifications:

- 4 year degree or equivalent
- Proven ability to manage all aspects of a retail operation
- Experience leading, coaching and developing a retail staff
- Demonstrates good Financial Acumen
- Budget management experience
- General knowledge of all distillery products and systems
- Ability to develop clear action plans and drive processes with numerous interdependencies
- Successful track record of working with retail store staff to create an excellent customer experience culture
- Excellent written and verbal communication skills
- Strong problem solving skills, analytical capabilities, and collaboration skills
- Must show attention to detail, a commitment to quality, and be results driven while maintaining a customer focus

Environment/Waste Manager

- Full time position

The Environment/Waste Manager will ensure that the distillery complies with relevant legislation in terms of environmental and waste disposal. He/she will report to the owner.

Duties and responsibilities:

- Ensures the company complies with relevant legislation, by submitting data and evidence notes
- Directly liaisons with client, subcontractors and regulators regarding waste disposal
- Conducts periodic environmental audits of the facility
- Supports the company by identifying new business opportunities within the waste management sector



Qualifications and experience:

- A degree (or equivalent) in Environmental Management or similar
- Experience within environmental auditing (ISO 9001/14001) and environment legislation or similar; in the spirits industry preferred
- Previous experience within the waste management industry
- Excellent written and verbal communication skills

Tasting Room Associates

- Part time, and/or seasonal positions

Under the direction of the Retail and Store Operations Manager, the Tasting Room Associate is responsible for efficiently promoting the sale of spirits and non-spirits products through excellent customer service and spirits pouring. He/she provides assistance with set-up and breakdown for the distillery events as needed.

Duties and responsibilities:

Tasting room:

- Greet all visitors to the distillery and pour spirits for tasting
- When indicated by the Retail and Store Operations Manager, is able to describe spirits, distillation techniques, and distillery history; answers visitor's questions
- Effectively suggest and sell spirits to customers
- Accurately handle routine purchasing transactions, which include operating the cash register and accounting of daily sales; process returns, discounts, etc.
- Assist customers with carrying their purchases to their vehicles when necessary
- Provide general tourist information and conduct guided tours as needed
- Conduct guided tours as needed
- Assist with hospitality special events as needed
- Represent the distillery at outside functions as needed
- Acquire and maintain thorough knowledge of distillery and its spirits

Receiving and stocking:

- Wash and polish Tasting Room glassware
- Assist with display and pricing of retail items and spirits as needed
- Perform other duties as assigned by the Retail and Store Operations Manager

Qualifications and experience:

- High school diploma or equivalent desired; prior retail experience preferred
- Ability to provide excellent customer service and experience working with the public
- Ability to effectively communicate with diverse client group
- Knowledge of spirits and spirits production desired
- Commitment to excellence and high standards
- Strong organizational, problem-solving, and analytical skills
- Flexibility and ability to manage constantly changing priorities with enthusiasm
- Knowledge of commonly used practices and procedures used in merchandising
- Must be able to work weekends and holidays as necessary
- Fluent in English. Additional language skills is a plus



- Must be at least 21 years old
- Basic computer skills

Physical requirements:

- Able to stand and walk for long periods of time
- Must be able to lift up to 50 pounds
- Must be able to effectively stock spirits and non-spirits merchandise, set-up and break down structures, tables, etc., and be able to utilize dolly cart and other equipment to assist in moving heavy objects

Receptionist

- Full time

The Receptionist will be responsible for a majority of communication involving the distillery, from managing phone operations and email communication to keeping accurate reception documentation. He/she will report directly to the owner.

Duties and Responsibilities:

- Handle switchboard operations – answer, direct, problem solve, pickup/forward messages
- Receptions of guests – notify host, register guests, and provide directions. Centralized point for item pick up (e.g., flower deliveries, etc.). Redirect delivery trucks with production supplies
- General support as assigned by the owner: assist with clerical tasks (e.g., prepare letters, assist with mailings, compile materials, etc.)
- E-mail communications – may prepare and send standardized communications
- Reception documentation – maintains and updates reception resource tools (e.g., phone lists, emergency numbers, etc.). Maintain logs for keys, guest/vendor badges, LCD projector, etc.

Qualifications and experience:

- Completed at least some college coursework
- Proven, well-developed and effective interpersonal skills
- Excellent verbal and written communications skills
- Excellent organizational skills with great attention to detail, and accuracy with numbers
- Ability to handle information in confidential and sensitive manner
- Physically able to lift a 40 lb case of spirits to provide backup for courier
- Posses a valid Virginia driver's license to provide backup for courier
- Receptionist and clerical experience training a plus; familiarity with MS Office basic (Word, Excel) preferred
- Ability to manage multiple/competing tasks and to exercise independent judgment while seeking supervision where appropriate
- Ability to maintain positive work atmosphere by behaving and communicating in a professional manner that gets along with media, customers, co-workers and management



APPENDIX D: REGISTERED VIRGINIA DISTILLERIES; 2014

License #	Trade Name	Licensed Name	City/County
47240	George Washington's Distillery	The Mount Vernon Ladies Association Of The Union	Mt. Vernon
29234	A Smith Bowman Distillery	Sazerac Co Inc	Fredericksburg
47630	Belmont Farms	Belmont Farms Of Virginia Inc	Culpeper
6356	Laird & Company	Laird & Co	North Garden
41026	Copper Fox Distillery	Copper Fox Distillery Enterprises LLC	Sperryville
53631	George Washington's Mount Vernon	The Mount Vernon Ladies Association Of The Union	Mt. Vernon
28116	Anheuser Busch	Anheuser Busch LLC	Williamsburg
45579	Chesapeake Bay Distillery LLC	Chesapeake Bay Distillery LLC	Virginia Beach
65035	The Great Dismal Distillery	The Great Dismal Distillery Inc	Norfolk
69299	Virgilina Distilling Company	Legacy Artisan Distillers Inc	Virgilina
82230	River Hill Wine & Spirits LLC	River Hill Wine & Spirits LLC	Luray
83969	Dilawri Barrels LLC	Dilawri Barrels LLC	Maurertown
83913	James River Distillery, LLC	James River Distillery, LLC	Richmond
82850	Garofalo Artisan Liqueurs	Garofalo Artisan Liqueurs Inc	Winchester
80424	Virginia Distillery Co	Virginia Distillery Co LLC	Lovingston
63640	Reservoir Distillery LLC	Reservoir Distillery LLC	Richmond
79972	Vinum LLC Farm Distillery Division	Vinum LLC	Charlottesville
84659	Silverback Distillery	Silverback Spirits LLC	Afton
80738	Virginia Sweetwater Distillery	Appalachian Mountain Spirits LLC	Marion
84320	Appalachian Mountain Spirits	Appalachian Mountain Spirits LLC	Marion
83065	Old House Vineyards LLC	Old House Vineyards LLC	Culpeper
81964	Davis Valley Distillery	Davis Valley Winery And Vineyard Inc	Rural Retreat
62636	Moonshine Fuels	Shayfer Andrew Mosness	Boones Mill
85472	Boar Creek Whiskey	E Wright & C Wallace Distilleries LLC	Hillsville
81797	Catoctin Creek	Catoctin Creek Distilling Company LLC	Purcellville
81054	Woods Mill Distillery	Woods Mill Distillery LLC	Faber
84639	Mount Defiance Cidery & Distillery	Mount Defiance Cidery & Distillery, LLC	Middleburg
84048	Ragged Mountain Farm	Ragged Mountain Farm LLC	Charlottesville

APPENDIX E: REGULATIONS

A) DISTILLED SPIRITS LABELLING REGULATIONS

DISTILLED SPIRITS LABELING REGULATIONS
in the Code of Federal Regulations (CFR)

Read more about the following consumer protection regulations online at **www.ttb.gov**:

Brand Name 27 CFR 5.34

Name and Address 27 CFR 5.36

Alcohol Content 27 CFR 5.37

Caloric and Carbohydrate Representations
27 CFR 5.42 and TTB Ruling 2004-1

Health Warning Statement
27 CFR Part 16

Country of Origin 27 CFR 5.36(e)

Class and Type 27 CFR 5.35

Presence of Neutral Spirits and Coloring, Flavoring and Blending Materials 27 CFR 5.39

Net Contents 27 CFR 5.38/5.47a

Prohibited Practices 27 CFR 5.42

Statements of Age and Percentage
27 CFR 5.40

Voluntary Disclosure of Major Food Allergens 27 CFR 5.32a

How TTB Protects the Public

American adults who enjoy an occasional alcohol beverage of their choice do so without fear that the product they are consuming might not be labeled properly. Why don't they need to worry? Because a small Government agency takes pride in assuring that the alcohol beverages sold in the United States are properly described on the container.

TTB takes tremendous pride in its strategic mission to "Protect the Public," which is designed to assure the integrity of alcohol beverages in the marketplace, verify and substantiate industry member compliance with laws and regulations, and to provide information to the public as a means of preventing consumer deception.

TTB reviews more than 100,000 alcohol labels, as well as advertisements, each year to verify that they provide adequate information to the consumer concerning the identity and quality of each alcohol beverage and to make certain that they do not mislead consumers.

TTB investigators conduct product integrity field investigations to check that industry members are following all Federal labeling and production standards for alcohol beverages. These investigations often include a comprehensive chemical analysis conducted at one of our two state-of-the-art laboratories.

This informational pamphlet is designed to educate the American public about how to read an alcohol beverage label. If you want to learn more, visit our web Web site at www.ttb.gov.

DEPARTMENT OF THE TREASURY

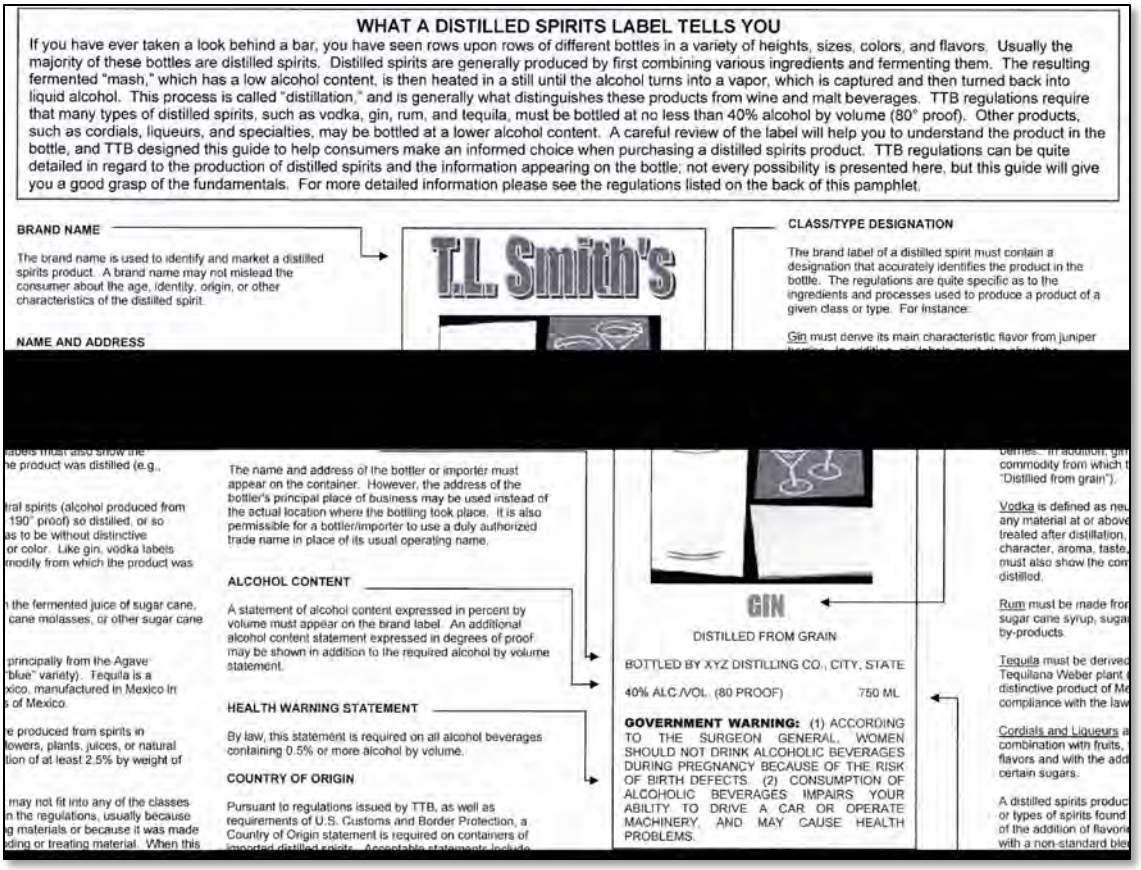
ALCOHOL AND TOBACCO TAX AND TRADE BUREAU

WHAT YOU SHOULD KNOW ABOUT

DISTILLED SPIRITS LABELS



TTB
A proud past....A focused future



WHAT A DISTILLED SPIRITS LABEL TELLS YOU

If you have ever taken a look behind a bar, you have seen rows upon rows of different bottles in a variety of heights, sizes, colors, and flavors. Usually the majority of these bottles are distilled spirits. Distilled spirits are generally produced by first combining various ingredients and fermenting them. The resulting fermented "mash," which has a low alcohol content, is then heated in a still until the alcohol turns into a vapor, which is captured and then turned back into liquid alcohol. This process is called "distillation," and is generally what distinguishes these products from wine and malt beverages. TTB regulations require that many types of distilled spirits, such as vodka, gin, rum, and tequila, must be bottled at no less than 40% alcohol by volume (80° proof). Other products, such as cordials, liqueurs, and specialties, may be bottled at a lower alcohol content. A careful review of the label will help you to understand the product in the bottle, and TTB designed this guide to help consumers make an informed choice when purchasing a distilled spirits product. TTB regulations can be quite detailed in regard to the production of distilled spirits and the information appearing on the bottle; not every possibility is presented here, but this guide will give you a good grasp of the fundamentals. For more detailed information please see the regulations listed on the back of this pamphlet.

BRAND NAME

The brand name is used to identify and market a distilled spirits product. A brand name may not mislead the consumer about the age, identity, origin, or other characteristics of the distilled spirit.

T.L. Smith's

CLASS/TYPE DESIGNATION

The brand label of a distilled spirit must contain a designation that accurately identifies the product in the bottle. The regulations are quite specific as to the ingredients and processes used to produce a product of a given class or type. For instance:

Gin must derive its main characteristic flavor from juniper

NAME AND ADDRESS

The name and address of the bottler or importer must appear on the container. However, the address of the bottler's principal place of business may be used instead of the actual location where the bottling took place. It is also permissible for a bottler/importer to use a duly authorized trade name in place of its usual operating name.

ALCOHOL CONTENT

A statement of alcohol content expressed in percent by volume must appear on the brand label. An additional alcohol content statement expressed in degrees of proof may be shown in addition to the required alcohol by volume statement.

HEALTH WARNING STATEMENT

By law, this statement is required on all alcohol beverages containing 0.5% or more alcohol by volume.

COUNTRY OF ORIGIN

Pursuant to regulations issued by TTB, as well as requirements of U.S. Customs and Border Protection, a Country of Origin statement is required on containers of

GIN

DISTILLED FROM GRAIN

BOTTLED BY XYZ DISTILLING CO., CITY, STATE

40% ALC./VOL. (80 PROOF) 750 ML

GOVERNMENT WARNING: (1) ACCORDING TO THE SURGEON GENERAL, WOMEN SHOULD NOT DRINK ALCOHOLIC BEVERAGES DURING PREGNANCY BECAUSE OF THE RISK OF BIRTH DEFECTS. (2) CONSUMPTION OF ALCOHOLIC BEVERAGES IMPAIRS YOUR ABILITY TO DRIVE A CAR OR OPERATE MACHINERY, AND MAY CAUSE HEALTH PROBLEMS.

B) STATUTORY AUTHORITY. RECORDS REQUIRED OF DISTILLERS; PROCEDURES FOR DISTILLING

3VAC5-60-50. Records required of distillers, fruit distillers, winery licensees and farm winery licensees; procedures for distilling for another; farm wineries.

A person holding a distiller's, fruit distiller's, winery or a farm winery license shall comply with the following procedures:

1. Records. Complete and accurate records shall be kept at the licensee's place of business for a period of two years, which records shall be available during reasonable hours for inspection by any member of the board or its special agents. Such records shall include the following information:

a. The amount in liters and alcoholic content of each type of alcoholic beverage manufactured during each calendar month;

b. The amount of alcoholic beverages on hand at the end of each calendar month;

c. Withdrawals of alcoholic beverages for sale to the board or licensees;

d. Withdrawals of alcoholic beverages for shipment outside of the Commonwealth showing:



(1) Name and address of consignee;

(2) Date of shipment; and

(3) Alcoholic content, brand name, type of beverage, size of container and quantity of shipment.

e. Purchases of cider or wine including:

(1) Date of purchase;

(2) Name and address of vendor;

(3) Amount of purchase in liters; and

(4) Amount of consideration paid.

f. A distiller or fruit distiller employed to distill any alcoholic beverage shall include in his records the name and address of his employer for such purpose, the amount of grain, fruit products or other substances delivered by such employer, the type, amount in liters and alcoholic content of alcoholic beverage distilled there from, the place where stored, and the date of the transaction.

2. Distillation for another. A distiller or fruit distiller manufacturing spirits for another person shall:

a. At all times during distillation keep segregated and identifiable the grain, fruit, fruit products or other substances furnished by the owner thereof;

b. Keep the alcoholic beverages distilled for such person segregated in containers bearing the date of distillation, the name of the owner, the amount in liters, and the type and alcoholic content of each container; and

c. Release the alcoholic beverages so distilled to the custody of the owner, or otherwise, only upon a written permit issued by the board.

Statutory Authority

§§ 4.1-103, 4.1-111, 4.1-200, 4.1-201, 4.1-204 and 4.1-219 of the Code of Virginia.

Historical Notes

Derived from VR125-01-6 § 5, eff. December 12, 1985; amended, Virginia Register Volume 3, Issue 1, eff. November 12, 1986; Volume 4, Issue 6, January 21, 1988; Volume 5, Issue 2, eff. November 24, 1988; Volume 7, Issue 4, eff. December 19, 1990; Volume 8, Issue 6, eff. January 15, 1992; Volume 10, Issue 11, eff. March 23, 1994.

Source: http://leg1.state.va.us/cgi-bin/legp504.exe?000+reg+3VAC5-60-50



APPENDIX F: PRODUCTION AND SALES

Vodka Production and Sales Year 1														
	Startup	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Vodka														
Bottles Produced	1,500	550	550	550	550	550	550	550	550	550	550	550	550	6,600
Product Loss	(75)	(28)	(28)	(28)	(28)	(28)	(28)	(28)	(28)	(28)	(28)	(28)	(28)	(330)
Begin. Inventory	0	1,425	1,524	1,624	1,261	1,322	1,229	1,213	1,043	680	587	571	439	12,918
Amount Available for Sales	1,425	1,948	2,047	2,146	1,784	1,844	1,751	1,735	1,565	1,203	1,110	1,093	962	19,188
Bottles Sold														
Sales direct at own ABC store	0	115	154	577	154	269	231	346	539	346	231	346	539	3,848
Sales indirect via VA ABC stores	0	308	269	308	308	346	308	346	346	269	308	308	423	3,848
Total Sales	0	423	423	885	462	616	539	693	885	616	539	654	962	7,695
Ending Vodka Inventory (Bot)	1,425	1,524	1,624	1,261	1,322	1,229	1,213	1,043	680	587	571	439	0	11,493
Total Vodka Input Costs														
Input Costs	($1,090)	($400)	($400)	($400)	($400)	($400)	($400)	($400)	($400)	($400)	($400)	($400)	($400)	($4,798)
Bottling Expense	($2,880)	($1,056)	($1,056)	($1,056)	($1,056)	($1,056)	($1,056)	($1,056)	($1,056)	($1,056)	($1,056)	($1,056)	($1,056)	($12,672)
Lab Costs	($600)	($220)	($220)	($220)	($220)	($220)	($220)	($220)	($220)	($220)	($220)	($220)	($220)	($2,640)
Total Input Costs	($4,570)	($1,676)	($1,676)	($1,676)	($1,676)	($1,676)	($1,676)	($1,676)	($1,676)	($1,676)	($1,676)	($1,676)	($1,676)	($20,110)
End Inv. Vodka Input Costs														
Input Costs	($1,036)	($1,108)	($1,180)	($917)	($961)	($893)	($882)	($758)	($494)	($427)	($415)	($319)	$0	($8,354)
Bottling Expense	($2,736)	($2,927)	($3,117)	($2,421)	($2,538)	($2,359)	($2,328)	($2,002)	($1,306)	($1,127)	($1,096)	($844)	$0	($22,066)
Lab Costs	($570)	($610)	($649)	($504)	($529)	($492)	($485)	($417)	($272)	($235)	($228)	($176)	$0	($4,597)
End Vodka Inventory Costs	($4,342)	($4,644)	($4,947)	($3,843)	($4,028)	($3,744)	($3,695)	($3,177)	($2,073)	($1,789)	($1,740)	($1,339)	$0	($35,017)
Gal Produced	300	110	110	110	110	110	110	110	110	110	110	110	110	1,320
# of Mash Runs	0.96	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	4.23
Hours in Cooker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hours in Still	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	45.50



Whiskey Production and Sales Year 1														
	Startup	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Whiskey														
Bottles Produced	1,500	350	350	350	350	350	350	350	350	350	350	350	350	4,200
Product Loss	(75)	(18)	(18)	(18)	(18)	(18)	(18)	(18)	(18)	(18)	(18)	(18)	(18)	(210)
Begin. Inventory	0	1,425	1,460	1,494	1,204	1,212	1,111	1,064	910	619	519	472	344	11,835
Amount Available for Sales	1,425	1,758	1,792	1,827	1,537	1,544	1,444	1,397	1,242	952	851	805	677	15,825
Bottles Sold														
Sales direct at own ABC store	0	81	108	406	108	190	162	244	379	244	162	244	379	2,708
Sales indirect via VA ABC stores	0	217	190	217	217	244	217	244	244	190	217	217	298	2,708
Total Sales	0	298	298	623	325	433	379	487	623	433	379	460	677	5,415
Ending Whiskey Inventory	1,500	1,460	1,494	1,204	1,212	1,111	1,064	910	619	519	472	344	0	10,410
Total Whiskey Input Costs														
Input Costs	($1,125)	($262)	($262)	($262)	($262)	($262)	($262)	($262)	($262)	($262)	($262)	($262)	($262)	($3,149)
Bottling Expense	($2,880)	($672)	($672)	($672)	($672)	($672)	($672)	($672)	($672)	($672)	($672)	($672)	($672)	($8,064)
Lab Costs	($600)	($140)	($140)	($140)	($140)	($140)	($140)	($140)	($140)	($140)	($140)	($140)	($140)	($1,680)
Total Input Costs	($4,605)	($1,074)	($1,074)	($1,074)	($1,074)	($1,074)	($1,074)	($1,074)	($1,074)	($1,074)	($1,074)	($1,074)	($1,074)	($12,893)
Ending Inv. Whiskey Input Costs														
Input Costs	($1,125)	($1,094)	($1,120)	($903)	($909)	($833)	($798)	($682)	($464)	($389)	($354)	($258)	$0	($7,805)
Bottling Expense	($2,880)	($2,803)	($2,869)	($2,312)	($2,327)	($2,133)	($2,044)	($1,746)	($1,189)	($996)	($907)	($661)	$0	($19,986)
Lab Costs	($600)	($140)	($140)	($140)	($140)	($140)	($140)	($140)	($140)	($140)	($140)	($140)	($140)	($1,680)
Total Input Costs	($4,605)	($4,037)	($4,130)	($3,355)	($3,375)	($3,106)	($2,982)	($2,568)	($1,794)	($1,525)	($1,401)	($1,059)	($140)	($29,471)
Gal Produced	300	70	70	70	70	70	70	70	70	70	70	70	70	840
# of Mash Runs	4.29	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00
Hours in Cooker	22.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	54.00
Hours in Still	17.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	42.00



Bourbon Production and Sales Year 1														
	Startup	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Bourbon														
Bottles Produced	0	100	100	100	100	100	100	100	100	100	100	100	100	1,200
Bottles Ready for Sale	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Begin. Inventory	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amount Available for Sales	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bourbon Bottles Sold														
Sales direct at own ABC store	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sales indirect via VA ABC stores	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Sales	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ending Bourbon Inventory Ready for Sale	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ending Total Bourbon Inventory	0	100	100	100	100	100	100	100	100	100	100	100	100	1,200
Total Bourbon Input Costs														
Input Costs	$0	($86)	($86)	($86)	($86)	($86)	($86)	($86)	($86)	($86)	($86)	($86)	($86)	($1,037)
Barrel Cost	$0	($66)	($66)	($66)	($66)	($66)	($66)	($66)	($66)	($66)	($66)	($66)	($66)	($790)
Bottling Expense	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Lab Costs	$0	($40)	($40)	($40)	($40)	($40)	($40)	($40)	($40)	($40)	($40)	($40)	($40)	($480)
Total Input Costs	$0	($192)	($192)	($192)	($192)	($192)	($192)	($192)	($192)	($192)	($192)	($192)	($192)	($2,307)
Ending Inv. Bourbon Input Costs														
Input Costs	$0	($86)	($86)	($86)	($86)	($86)	($86)	($86)	($86)	($86)	($86)	($86)	($86)	($1,037)
Barrel Cost	$0	($66)	($66)	($66)	($66)	($66)	($66)	($66)	($66)	($66)	($66)	($66)	($66)	($790)
Bottling Expense	$0	($192)	($192)	($192)	($192)	($192)	($192)	($192)	($192)	($192)	($192)	($192)	($192)	($2,304)
Lab Costs	$0	($40)	($40)	($40)	($40)	($40)	($40)	($40)	($40)	($40)	($40)	($40)	($40)	($480)
Total Input Costs	$0	($384)	($384)	($384)	($384)	($384)	($384)	($384)	($384)	($384)	($384)	($384)	($384)	($4,131)
Gal Produced	0	20	20	20	20	20	20	20	20	20	20	20	20	240
# of Mash Runs	0.00	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	3.43
Hours in Cooker	0.00	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	45.00
Hours in Still	0.00	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	42.00



Vodka Production and Sales Year 2													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Vodka													
Bottles Produced	1,260	1,260	1,260	1,260	1,260	1,260	1,260	1,260	1,260	1,260	1,260	1,260	15,120
Product Loss	(63)	(63)	(63)	(63)	(63)	(63)	(63)	(63)	(63)	(63)	(63)	(63)	(756)
Begin. Inventory	0	336	402	588	528	108	122	281	233	(380)	51	437	2,705
Amount Available for Sale	1,197	1,533	1,599	1,785	1,725	1,305	1,319	1,478	1,430	817	1,248	1,634	17,069
Bottles Sold													
Sales direct at own ABC store	287	503	431	646	1,005	646	431	646	1,005	215	287	1,077	7,182
Sales indirect via VA ABC stores	574	628	580	611	611	537	607	599	805	550	525	556	7,182
Total Sales	861	1,131	1,011	1,257	1,617	1,184	1,038	1,245	1,810	765	812	1,634	14,364
Ending Vodka Inventory	336	402	588	528	108	122	281	233	(380)	51	437	0	2,705
Total Vodka Input Costs													
Input Cost	($916)	($916)	($916)	($916)	($916)	($916)	($916)	($916)	($916)	($916)	($916)	($916)	($10,991)
Bottling Expense	($2,419)	($2,419)	($2,419)	($2,419)	($2,419)	($2,419)	($2,419)	($2,419)	($2,419)	($2,419)	($2,419)	($2,419)	($29,030)
Lab Costs	($504)	($504)	($504)	($504)	($504)	($504)	($504)	($504)	($504)	($504)	($504)	($504)	($6,048)
Total Input Costs	($3,839)	($3,839)	($3,839)	($3,839)	($3,839)	($3,839)	($3,839)	($3,839)	($3,839)	($3,839)	($3,839)	($3,839)	($46,069)
Ending Inv. Vodka Input Costs													
Input Costs	($244)	($292)	($427)	($384)	($79)	($88)	($204)	($169)	$277	($37)	($317)	$0	($1,967)
Bottling Expense	($644)	($772)	($1,129)	($1,014)	($208)	($234)	($540)	($447)	$730	($99)	($838)	$0	($5,194)
Lab Costs	($134)	($161)	($235)	($211)	($43)	($49)	($112)	($93)	$152	($21)	($175)	$0	($1,082)
Ending Vodka Inventory Cost	($1,023)	($1,225)	($1,792)	($1,609)	($330)	($371)	($856)	($709)	$1,159	($157)	($1,330)	$0	($8,243)
Gal Produced	252	252	252	252	252	252	252	252	252	252	252	252	3,024
# of Mash Runs	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	9.69
Cooker Hours	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Still Hours	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	42.00



Whiskey Production and Sales Year 2													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Whiskey													
Bottles Produced	500	500	500	500	500	500	500	500	500	500	500	500	6,000
Product Loss	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(300)
Begin. Inventory	0	133	160	233	210	43	48	112	92	(151)	20	173	1,074
Amount Available for Sales	475	608	635	708	685	518	523	587	567	324	495	648	6,774
Bottles Sold													
Sales direct at own ABC store	114	200	171	257	399	257	171	257	399	86	114	428	2,850
Sales indirect via VA ABC stores	228	249	230	242	243	213	241	238	319	218	208	221	2,850
Total Sales	342	449	401	499	642	470	412	494	718	304	322	648	5,700
Ending Whiskey Inventory	133	160	233	210	43	48	112	92	(151)	20	173	0	1,074
Total Whiskey Input Costs													
Input Cost	($375)	($375)	($375)	($375)	($375)	($375)	($375)	($375)	($375)	($375)	($375)	($375)	($4,499)
Bottling Expense	($960)	($960)	($960)	($960)	($960)	($960)	($960)	($960)	($960)	($960)	($960)	($960)	($11,520)
Lab Costs	($200)	($200)	($200)	($200)	($200)	($200)	($200)	($200)	($200)	($200)	($200)	($200)	($2,400)
Total Input Costs	($1,535)	($1,535)	($1,535)	($1,535)	($1,535)	($1,535)	($1,535)	($1,535)	($1,535)	($1,535)	($1,535)	($1,535)	($18,419)
Ending Inv. Whiskey Input Costs													
Input Costs	($100)	($120)	($175)	($157)	($32)	($36)	($84)	($69)	$113	($15)	($130)	$0	($805)
Bottling Expense	($256)	($306)	($448)	($402)	($83)	($93)	($214)	($177)	$290	($39)	($333)	$0	($2,061)
Lab Costs	($53)	($64)	($93)	($84)	($17)	($19)	($45)	($37)	$60	($8)	($69)	$0	($429)
Total Input Costs	($409)	($490)	($716)	($643)	($132)	($148)	($342)	($284)	$463	($63)	($532)	$0	($3,296)
Gal Produced	100	100	100	100	100	100	100	100	100	100	100	100	1,200
# of Mash Runs	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	17.14
Cooker Time	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	108.00
Still Time	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	84.00



Bourbon Production and Sales Year 2													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Bourbon													
Bottles Produced	240	240	240	240	240	240	240	240	240	240	240	240	2,880
Bottles Ready for Sales	0	0	0	0	0	0	0	0	0	0	0	0	0
Begin. Inventory	0	0	0	0	0	0	0	0	0	0	0	0	0
Bourbon Bottles Sold													
Sales direct at own ABC store	0	0	0	0	0	0	0	0	0	0	0	0	0
Sales indirect via VA ABC stores	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Sales	0	0	0	0	0	0	0	0	0	0	0	0	0
Ending Bourbon Inventory Ready for Sale	0	0	0	0	0	0	0	0	0	0	0	0	0
Ending Total Bourbon Inventory	240	240	240	240	240	240	240	240	240	240	240	240	2,880
Total Bourbon Input Costs													
Input Cost	($180)	($180)	($180)	($180)	($180)	($180)	($180)	($180)	($180)	($180)	($180)	($180)	($2,159)
Barrel Cost	($148)	($148)	($148)	($148)	($148)	($148)	($148)	($148)	($148)	($148)	($148)	($148)	($1,777)
Bottling Expense	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Lab Costs	($96)	($96)	($96)	($96)	($96)	($96)	($96)	($96)	($96)	($96)	($96)	($96)	($1,152)
Total Input Costs	($424)	($424)	($424)	($424)	($424)	($424)	($424)	($424)	($424)	($424)	($424)	($424)	($5,088)
Ending Inv. Bourbon Input Costs													
Input Costs	($207)	($207)	($207)	($207)	($207)	($207)	($207)	($207)	($207)	($207)	($207)	($207)	($2,489)
Barrel Cost	($148)	($148)	($148)	($148)	($148)	($148)	($148)	($148)	($148)	($148)	($148)	($148)	($1,777)
Bottling Expense	($461)	($461)	($461)	($461)	($461)	($461)	($461)	($461)	($461)	($461)	($461)	($461)	($5,530)
Lab Costs	($96)	($96)	($96)	($96)	($96)	($96)	($96)	($96)	($96)	($96)	($96)	($96)	($1,152)
Total Input Costs	**($912)**	**($912)**	**($912)**	**($912)**	**($912)**	**($912)**	**($912)**	**($912)**	**($912)**	**($912)**	**($912)**	**($912)**	**($10,948)**
Gal Produced	48	48	48	48	48	48	48	48	48	48	48	48	576
# of Mash Runs	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	8.23
Cooker Time	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	45.00
Still Time	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	42.00



Vodka Production and Sales Year 3													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Vodka													
Bottles Produced	2,275	2,275	2,275	2,275	2,275	2,275	2,275	2,275	2,275	2,275	2,275	2,275	27,300
Product Loss	(114)	(114)	(114)	(114)	(114)	(114)	(114)	(114)	(114)	(114)	(114)	(114)	(1,365)
Begin. Inventory	0	606	726	1,062	953	196	220	508	420	(687)	93	788	4,885
Amount Available for Sale	2,161	2,767	2,887	3,223	3,115	2,357	2,381	2,669	2,582	1,474	2,254	2,949	30,820
Bottles Sold													
Sales direct at own ABC store	519	908	778	1,167	1,815	1,167	778	1,167	1,815	389	519	1,945	12,968
Sales indirect via VA ABC stores	1,036	1,134	1,048	1,102	1,104	970	1,095	1,081	1,453	992	947	1,004	12,968
Total Sales	1,555	2,041	1,826	2,269	2,919	2,137	1,874	2,248	3,268	1,381	1,466	2,949	25,935
Ending Vodka Inventory	606	726	1,062	953	196	220	508	420	(687)	93	788	0	4,885
Total Vodka Input Costs													
Input Costs	($1,654)	($1,654)	($1,654)	($1,654)	($1,654)	($1,654)	($1,654)	($1,654)	($1,654)	($1,654)	($1,654)	($1,654)	($19,845)
Bottling Expense	($4,368)	($4,368)	($4,368)	($4,368)	($4,368)	($4,368)	($4,368)	($4,368)	($4,368)	($4,368)	($4,368)	($4,368)	($52,416)
Lab Costs	($910)	($910)	($910)	($910)	($910)	($910)	($910)	($910)	($910)	($910)	($910)	($910)	($10,920)
Total Input Costs	($6,932)	($6,932)	($6,932)	($6,932)	($6,932)	($6,932)	($6,932)	($6,932)	($6,932)	($6,932)	($6,932)	($6,932)	($83,181)
Ending Inv. Vodka Input Costs													
Input Costs	($441)	($528)	($772)	($693)	($142)	($160)	($369)	($306)	$499	($68)	($573)	$0	($3,551)
Bottling Expense	($1,164)	($1,394)	($2,038)	($1,831)	($376)	($422)	($974)	($807)	$1,319	($178)	($1,513)	$0	($9,378)
Lab Costs	($242)	($290)	($425)	($381)	($78)	($88)	($203)	($168)	$275	($37)	($315)	$0	($1,954)
Ending Vodka Inventory Cost	($1,847)	($2,212)	($3,235)	($2,905)	($596)	($670)	($1,546)	($1,281)	$2,093	($283)	($2,402)	$0	($14,883)
Gal Produced	455	455	455	455	455	455	455	455	455	455	455	455	5,460
# of Mash Runs	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	17.50
Cooker Time	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Still Time	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	84.00



Whiskey Production and Sales Year 3													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Whiskey													
Bottles Produced	525	525	525	525	525	525	525	525	525	525	525	525	6,300
Product Loss	(26)	(26)	(26)	(26)	(26)	(26)	(26)	(26)	(26)	(26)	(26)	(26)	(315)
Begin. Inventory	0	140	168	245	220	45	51	117	97	(159)	21	182	1,127
Amount Available for Sales	499	639	666	744	719	544	549	616	596	340	520	681	7,112
Bottles Sold													
Sales direct at own ABC store	120	209	180	269	419	269	180	269	419	90	120	449	2,993
Sales indirect via VA ABC stores	239	262	242	254	255	224	253	250	335	229	219	232	2,993
Total Sales	359	471	421	524	674	493	432	519	754	319	338	681	5,985
Ending Whiskey Inventory	140	168	245	220	45	51	117	97	(159)	21	182	0	1,127
Total Whiskey Input Costs													
Input Costs	($394)	($394)	($394)	($394)	($394)	($394)	($394)	($394)	($394)	($394)	($394)	($394)	($4,723)
Bottling Expense	($1,008)	($1,008)	($1,008)	($1,008)	($1,008)	($1,008)	($1,008)	($1,008)	($1,008)	($1,008)	($1,008)	($1,008)	($12,096)
Lab Costs	($210)	($210)	($210)	($210)	($210)	($210)	($210)	($210)	($210)	($210)	($210)	($210)	($2,520)
Total Input Costs	($1,612)	($1,612)	($1,612)	($1,612)	($1,612)	($1,612)	($1,612)	($1,612)	($1,612)	($1,612)	($1,612)	($1,612)	($19,339)
Ending Inv. Whiskey Input Costs													
Input Costs	($105)	($126)	($184)	($165)	($34)	($38)	($88)	($73)	$119	($16)	($136)	$0	($845)
Bottling Expense	($269)	($322)	($470)	($422)	($87)	($97)	($225)	($186)	$304	($41)	($349)	$0	($2,164)
Lab Costs	($56)	($67)	($98)	($88)	($18)	($20)	($47)	($39)	$63	($9)	($73)	$0	($451)
Total Input Costs	($429)	($514)	($752)	($675)	($139)	($156)	($360)	($298)	$487	($66)	($558)	$0	($3,460)
Gal Produced	105	105	105	105	105	105	105	105	105	105	105	105	1,260
# of Mash Runs	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	18.00
Cooker Time	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	108.00
Still Time	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	84.00



Bourbon Production and Sales Year 3													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Bourbon													
Bottles Produced	700	700	700	700	700	700	700	700	700	700	700	700	8,400
Bottles Ready for Sale	100	100	100	100	100	100	100	100	100	100	100	100	1,200
Begin. Inventory	0	1,146	1,131	1,136	1,121	1,098	1,125	1,135	1,121	1,086	1,152	1,149	12,399
Bourbon Bottles Sold													
Sales direct at own ABC store	18	29	27	41	63	41	27	41	63	14	18	68	451
Sales indirect via VA ABC stores	36	40	37	39	39	34	38	38	51	35	33	35	453
Total Sales	54	69	64	79	102	75	65	79	114	48	51	103	904
Ending Bourbon Inventory Ready for Sale	1,146	1,131	1,136	1,121	1,098	1,125	1,135	1,121	1,086	1,152	1,149	1,097	13,496
Ending Total Bourbon Inventory	1,846	1,831	1,836	1,821	1,798	1,825	1,835	1,821	1,786	1,852	1,849	1,797	21,896
Total Bourbon Input Costs													
Input Costs	($525)	($525)	($525)	($525)	($525)	($525)	($525)	($525)	($525)	($525)	($525)	($525)	($6,298)
Barrel Cost	($428)	($428)	($428)	($428)	($428)	($428)	($428)	($428)	($428)	($428)	($428)	($428)	($5,132)
Bottling Expense	($104)	($132)	($122)	($152)	($196)	($143)	($126)	($151)	($219)	($93)	($98)	($198)	($1,735)
Lab Costs	($280)	($280)	($280)	($280)	($280)	($280)	($280)	($280)	($280)	($280)	($280)	($280)	($3,360)
Total Input Costs	($1,337)	($1,365)	($1,355)	($1,385)	($1,428)	($1,376)	($1,358)	($1,383)	($1,452)	($1,325)	($1,331)	($1,430)	($16,526)
Ending Inv. Bourbon Input Costs													
Input Costs	($1,595)	($1,583)	($1,587)	($1,574)	($1,554)	($1,578)	($1,586)	($1,574)	($1,544)	($1,601)	($1,598)	($1,553)	($18,926)
Barrel Cost	($428)	($428)	($428)	($428)	($428)	($428)	($428)	($428)	($428)	($428)	($428)	($428)	($5,132)
Bottling Expense	($3,544)	($3,516)	($3,526)	($3,496)	($3,452)	($3,505)	($3,522)	($3,497)	($3,429)	($3,555)	($3,550)	($3,450)	($42,041)
Lab Costs	($738)	($732)	($734)	($728)	($719)	($730)	($734)	($729)	($714)	($741)	($740)	($719)	($8,758)
Total Input Costs	($6,305)	($6,259)	($6,275)	($6,225)	($6,153)	($6,240)	($6,270)	($6,228)	($6,114)	($6,324)	($6,315)	($6,150)	($74,858)
Gal Produced	140	140	140	140	140	140	140	140	140	140	140	140	1,680
# of Mash Runs	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	24.00
Cooker Time	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	90.00
Still Time	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	84.00



APPENDIX G: LABOR

Labor Year 1													
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Tasting Room Associate	# Emp.	1	1	1	1	1	1	1	1	1	1	1	1
Rate/Hr.	HRS/Emp	63	63	63	84	105	105	126	126	126	126	126	126
$8.50	Monthly Cost	$536	$536	$536	$714	$893	$893	$1,071	$1,071	$1,071	$1,071	$1,071	$1,071
	Total Cost Tasting Room Associates:				$10,532								
General Labor - Production	# Emp.	2	2	2	2	2	2	2	2	2	2	2	2
Rate/Hr.	HRS/Emp	105	105	105	105	105	105	105	105	105	105	105	105
$8.75	Monthly Cost	$1,838	$1,838	$1,838	$1,838	$1,838	$1,838	$1,838	$1,838	$1,838	$1,838	$1,838	$1,838
	Total Cost Production:				$22,050								
General Labor - Bottling	# Emp.	0	0	0	0	0	1	1	1	1	1	1	1
Rate/Hr.	HRS/Emp	0	0	0	0	0	84	84	84	126	126	126	126
$8.25	Monthly Cost	$0	$0	$0	$0	$0	$693	$693	$693	$1,040	$1,040	$1,040	$1,040
	Total Cost Bottling:				$6,237								
Total Variable Labor Expense:		$2,373	$2,373	$2,373	$2,552	$2,730	$3,423	$3,602	$3,602	$3,948	$3,948	$3,948	$3,948
Book Keeper	# Emp.	0	0	0	0	0	0	0	0	0	0	0	0
Rate/Hr.	HRS/Emp	0	0	0	0	0	0	0	0	0	0	0	0
$0.00	Monthly Cost	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Total Cost Book Keeper:				$0								
Total Hourly Administrative Expense:		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0



Labor Year 2						Labor Year 3					
		Y2 Q1	Y2 Q2	Y2 Q3	Y2 Q4			Y3 Q1	Y3 Q2	Y3 Q3	Y3 Q4
Tasting Room Associate	# Emp.	1	1	1	1	Tasting Room Associate	# Emp.	1	1	1	1
Rate/Hr.	HRS/Emp	189	252	315	315	Rate/Hr.	HRS/Emp	378	441	441	504
$8.75	Quarterly Cost	$1,654	$2,205	$2,756	$2,756	$9.00	Quarterly Cost	$3,402	$3,969	$3,969	$4,536
	Total Cost Tasting Room:	$9,371					Total Cost Tasting Room	$15,876			
General Labor - Production	# Emp.	3	3	3	3	General Labor - Production	# Emp.	3	3	3	3
Rate/Hr.	HRS/Emp	252	252	252	252	Rate/Hr.	HRS/Emp	315	315	315	315
$9.00	Quarterly Cost	$6,804	$6,804	$6,804	$6,804	$9.25	Quarterly Cost	$8,741	$8,741	$8,741	$8,741
	Total Cost Production:	$27,216					Total Cost Production	$34,965			
General Labor - Bottling	# Emp.	1	1	1	1	General Labor - Bottling	# Emp.	1	1	1	1
Rate/Hr.	HRS/Emp	252	315	378	315	Rate/Hr.	HRS/Emp	315	378	441	378
$8.50	Quarterly Cost	$2,142	$2,678	$3,213	$2,678	$8.75	Quarterly Cost	$2,756	$3,308	$3,859	$3,308
	Total Cost Bottling:	$10,710					Total Cost Bottling:	$13,230			
Total Variable Labor Expense:		$10,600	$11,687	$12,773	$12,238	Total Variable Labor Expense:		$14,900	$16,018	$16,569	$16,585
Book Keeper	# Emp.	0	0	0	0	Book Keeper	# Emp.	1	1	1	1
Rate/Hr.	HRS/Emp	0	0	0	0	Rate/Hr.	HRS/Emp	151	151	151	151
$0.00	Quarterly Cost	$0	$0	$0	$0	$14.25	Quarterly Cost	$2,155	$2,155	$2,155	$2,155
	Total Cost Book Keeper:	$0					Total Cost Book Keeper:	$8,618			
Total Hourly Administrative Expense:		$0	$0	$0	$0	Total Hourly Administrative Expense:		$2,155	$2,155	$2,155	$2,155



APPENDIX H: EXPENSE AND REVENUE

Year 1 Revenue and Expenses

Prototypical Distillery	Start-up	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	First Year Annual Total
Vodka (Bottles)														
Sales direct at own ABC store		115	154	577	154	269	231	346	539	346	231	346	539	3,848
Sales indirect via VA ABC stores		308	269	308	308	346	308	346	346	269	308	308	423	3,848
Whiskey (Bottles)														
Sales direct at own ABC store		81	108	406	108	190	162	244	379	244	162	244	379	2,708
Sales indirect via VA ABC stores		217	190	217	217	244	217	244	244	190	217	217	298	2,708
Bourbon (Bottles)														
Sales direct at own ABC store		0	0	0	0	0	0	0	0	0	0	0	0	0
Sales indirect via VA ABC stores		0	0	0	0	0	0	0	0	0	0	0	0	0
Total Bottles		423	423	885	462	616	539	693	885	616	539	654	962	7,695
Prototypical Distillery	$	$	$	$	$	$	$	$	$	$	$	$	$	$
Income														
Vodka														
Sales direct at own ABC store	0	342	1,847	2,462	9,234	2,462	4,309	3,694	5,540	8,618	5,540	3,694	5,540	53,284
Sales indirect via VA ABC stores	0	912	4,925	4,309	4,925	4,925	5,540	4,925	5,540	5,540	4,309	4,925	4,925	55,700
Whiskey														
Sales direct at own ABC store	0	240	914	1,218	4,569	1,218	2,132	1,828	2,741	4,264	2,741	1,828	2,741	26,436
Sales indirect via VA ABC stores	0	641	2,437	2,132	2,437	2,437	2,741	2,437	2,741	2,741	2,132	2,437	2,437	27,750
Bourbon														
Sales direct at own ABC store	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sales indirect via VA ABC stores	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tastings	0	0	378	473	536	473	441	536	567	473	536	662	756	5,828
Merchandise Sales	0	0	100	100	100	100	100	100	100	100	100	100	100	1,100
Total Sales All Types	$0	$2,136	$10,600	$10,695	$21,800	$11,615	$15,264	$13,518	$17,230	$21,737	$15,359	$13,644	$16,499	$170,097



Year 1 Revenue and Expenses Cont.

Prototypical Distillery	Start-up	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	First Year Annual Total
Variable Costs	$	$	$	$	$	$	$	$	$	$	$	$	$	$
Whiskey Input Costs (Corn, Yeast, etc.)	(1,125)	(349)	(349)	(349)	(349)	(349)	(349)	(349)	(349)	(349)	(349)	(349)	(349)	(4,186)
Vodka Input Costs (Potatoes, Yeast, etc.)	(1,090)	(400)	(400)	(400)	(400)	(400)	(400)	(400)	(400)	(400)	(400)	(400)	(400)	(4,798)
Bottling Expense	(5,760)	(1,728)	(1,728)	(1,728)	(1,728)	(1,728)	(1,728)	(1,728)	(1,728)	(1,728)	(1,728)	(1,728)	(1,728)	(20,736)
Merchandise Costs	0	0	(33)	(33)	(33)	(33)	(33)	(33)	(33)	(33)	(33)	(33)	(33)	(367)
Barrel Expense	0	(66)	(66)	(66)	(66)	(66)	(66)	(66)	(66)	(66)	(66)	(66)	(66)	(790)
Lab Costs	(1,200)	(400)	(400)	(400)	(400)	(400)	(400)	(400)	(400)	(400)	(400)	(400)	(400)	(4,800)
Variable Labor Contingency	-4746	(2,373)	(2,373)	(2,373)	(2,552)	(2,730)	(3,423)	(3,602)	(3,602)	(3,948)	(3,948)	(3,948)	(3,948)	(38,819)
Spirits Excise Taxes	(6,420)	(2,140)	(2,140)	(2,140)	(2,140)	(2,140)	(2,140)	(2,140)	(2,140)	(2,140)	(2,140)	(2,140)	(2,140)	(25,680)
Total Variable Operations	(20,341)	(7,455)	(7,489)	(7,489)	(7,667)	(7,846)	(8,539)	(8,717)	(8,717)	(9,064)	(9,064)	(9,064)	(9,064)	(100,175)
Total Variable Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Variable Costs	(20,341)	(7,455)	(7,489)	(7,489)	(7,667)	(7,846)	(8,539)	(8,717)	(8,717)	(9,064)	(9,064)	(9,064)	(9,064)	(100,175)
Variable Margin	(20,341)	(5,320)	3,111	3,206	14,133	3,769	6,725	4,801	8,513	12,673	6,295	4,580	7,436	69,922
Fixed Costs														
Processing Machinery (incl mat. hdlg)														
Equipment Lease & Loan Payments	0	(604)	(604)	(604)	(604)	(604)	(604)	(604)	(604)	(604)	(604)	(604)	(604)	(7,245)
Tools, Dies, Fixtures	(100)	(50)	(50)	(50)	(50)	(50)	(50)	(50)	(50)	(50)	(50)	(50)	(50)	(600)
Maintenance/Repairs	(300)	(150)	(150)	(150)	(150)	(150)	(150)	(150)	(150)	(150)	(150)	(150)	(150)	(1,800)
Total Equipment Costs	(400)	(804)	(804)	(804)	(804)	(804)	(804)	(804)	(804)	(804)	(804)	(804)	(804)	(9,645)



Year 1 Revenue and Expenses Cont.

Prototypical Distillery	Start-up	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	First Year Annual Total
Facilities Improvement Interest Payments	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Facility Lease Payments	(4,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(18,000)
Propane Expense	(3,000)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(6,000)
Utility Fees	(292)	(327)	(327)	(327)	(327)	(327)	(327)	(327)	(327)	(327)	(327)	(327)	(327)	(3,920)
Pest Control	(20)	(20)	(20)	(20)	(20)	(20)	(20)	(20)	(20)	(20)	(20)	(20)	(20)	(240)
Computer service	(75)	(75)	(75)	(75)	(75)	(75)	(75)	(75)	(75)	(75)	(75)	(75)	(75)	(900)
Property Taxes/Assessments	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Facility Costs	(7,887)	(2,422)	(2,422)	(2,422)	(2,422)	(2,422)	(2,422)	(2,422)	(2,422)	(2,422)	(2,422)	(2,422)	(2,422)	(29,060)
Fixed Sales and Marketing														
Promotional Expense	(10,000)	(2,083)	(2,083)	(2,083)	(2,083)	(2,083)	(2,083)	(2,083)	(2,083)	(2,083)	(2,083)	(2,083)	(2,083)	(25,000)
Total Selling and Marketing	(10,000)	(2,083)	(2,083)	(2,083)	(2,083)	(2,083)	(2,083)	(2,083)	(2,083)	(2,083)	(2,083)	(2,083)	(2,083)	(25,000)
General/Administrative														
Distillery licenses and bonding	(2,600)	(250)	(250)	(250)	(250)	(250)	(250)	(250)	(250)	(250)	(250)	(250)	(250)	(3,000)
Salaries (Mgmt./Admin. Support)	(972)	(2,917)	(2,917)	(2,917)	(2,917)	(2,917)	(2,917)	(2,917)	(2,917)	(2,917)	(2,917)	(2,917)	(2,917)	(35,000)
Fringe and Overhead (0.3)	(292)	(875)	(875)	(875)	(875)	(875)	(875)	(875)	(875)	(875)	(875)	(875)	(875)	(10,500)
Business Insurance	(2,500)	(417)	(417)	(417)	(417)	(417)	(417)	(417)	(417)	(417)	(417)	(417)	(417)	(5,000)
Legal & Accounting	(2,000)	(583)	(583)	(583)	(583)	(583)	(583)	(583)	(583)	(583)	(583)	(583)	(583)	(7,000)
Telecommunications	(1,200)	(300)	(300)	(300)	(300)	(300)	(300)	(300)	(300)	(300)	(300)	(300)	(300)	(3,600)
Office Supplies and Miscellaneous	(300)	(167)	(167)	(167)	(167)	(167)	(167)	(167)	(167)	(167)	(167)	(167)	(167)	(2,000)
Total General/Administrative Costs	(9,864)	(5,508)	(5,508)	(5,508)	(5,508)	(5,508)	(5,508)	(5,508)	(5,508)	(5,508)	(5,508)	(5,508)	(5,508)	(66,100)
Unforeseen/Contingency														
Unforeseen Expenses (0.02)	0	(43)	(212)	(214)	(436)	(232)	(305)	(270)	(345)	(435)	(307)	(273)	(330)	(3,402)
Bad Debt (0) of Sales	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Fixed Costs	(28,151)	(10,860)	(11,029)	(11,031)	(11,253)	(11,049)	(11,122)	(11,088)	(11,162)	(11,252)	(11,124)	(11,090)	(11,147)	(133,208)



Year 1 Revenue and Expenses Cont.

Prototypical Distillery	Start-up	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	First Year Annual Total
Prototypical Distillery EBITDA	(48,492)	(16,180)	(7,918)	(7,825)	2,880	(7,280)	(4,397)	(6,287)	(2,649)	1,421	(4,830)	(6,510)	(3,712)	(63,285)
Depreciation														
Equipment Depreciation	(1,490)	(1,490)	(1,490)	(1,490)	(1,490)	(1,490)	(1,490)	(1,490)	(1,490)	(1,490)	(1,490)	(1,490)	(1,490)	(17,878)
Building Depreciation	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Receivables Interest (50 days @ 8.5%)	0	(25)	(123)	(125)	(254)	(135)	(178)	(157)	(201)	(253)	(179)	(159)	(192)	(1,981)
Net Prototypical Distillery Income	(49,982)	(17,694)	(9,531)	(9,440)	1,136	(8,905)	(6,065)	(7,934)	(4,339)	(322)	(6,498)	(8,158)	(5,394)	(83,144)



Years 2 and 3 Revenue and Expenses

Prototypical Distillery	Y2 Q1	Y2 Q2	Y2 Q3	Y2 Q4	Y3 Q1	Y3 Q2	Y3 Q3	Y3 Q4	Annual Total Year 2	Annual Total Year 3
Vodka (Bottles)										
Sales direct at own ABC store	1,221	2,298	2,083	1,580	2,204	4,150	3,761	2,853	7,182	12,968
Sales indirect via VA ABC stores	1,782	1,759	2,010	1,631	3,218	3,176	3,630	2,944	7,182	12,968
Whiskey (Bottles)										
Sales direct at own ABC store	485	912	827	627	509	958	868	658	2,850	2,993
Sales indirect via VA ABC stores	707	698	798	647	743	733	838	679	2,850	2,993
Bourbon (Bottles)										
Sales direct at own ABC store	0	0	0	0	75	145	131	100	0	451
Sales indirect via VA ABC stores	0	0	0	0	112	111	127	103	0	453
Total Bottles	4,195	5,667	5,717	4,485	6,860	9,272	9,354	7,337	20,064	32,824
Prototypical Distillery	$	$	$	$	$	$	$	$	$	$
Income										
Vodka										
Sales direct at own ABC store	22,322	34,991	28,958	25,338	44,166	66,337	54,899	48,037	111,608	213,438
Sales indirect via VA ABC stores	27,302	30,274	29,280	31,568	48,092	57,394	55,510	59,847	118,423	220,842
Whiskey										
Sales direct at own ABC store	8,181	9,763	8,080	7,070	9,385	10,764	8,908	7,794	33,093	36,851
Sales indirect via VA ABC stores	9,152	8,447	8,170	8,808	8,949	9,313	9,007	9,711	34,576	36,979
Bourbon										
Sales direct at own ABC store	0	0	0	0	1,645	3,197	2,897	2,198	0	9,937
Sales indirect via VA ABC stores	0	0	0	0	2,479	2,447	2,797	2,268	0	9,991
Tastings	2,583	2,898	3,150	3,906	4,305	4,830	5,250	6,510	12,537	20,895
Merchandise Sales	300	300	300	300	300	300	300	300	1,200	1,200
Total Sales All Types	69,839	86,672	77,937	76,989	119,320	154,581	139,569	136,665	311,438	550,135



Years 2 and 3 Revenue and Expenses Cont.

Prototypical Distillery	Y2 Q1	Y2 Q2	Y2 Q3	Y2 Q4	Y3 Q1	Y3 Q2	Y3 Q3	Y3 Q4	Annual Total Year 2	Annual Total Year 3
Variable Costs										
Whiskey Input Costs (Corn, Yeast, etc.)	(1,681)	(1,681)	(1,681)	(1,681)	(2,923)	(2,923)	(2,923)	(2,923)	(6,723)	(11,693)
Vodka Input Costs (Potatoes, Yeast, etc.)	(2,830)	(2,830)	(2,830)	(2,830)	(5,263)	(5,263)	(5,263)	(5,263)	(11,321)	(21,054)
Bottling Expense	(10,442)	(10,442)	(10,442)	(10,442)	(26,759)	(17,632)	(17,636)	(17,523)	(41,767)	(79,550)
Merchandise Costs	(103)	(103)	(103)	(103)	(106)	(106)	(106)	(106)	(412)	(424)
Barrel Expense	(457)	(457)	(457)	(457)	(1,361)	(1,361)	(1,361)	(1,361)	(1,830)	(5,445)
Lab Costs	(2,472)	(2,472)	(2,472)	(2,472)	(4,456)	(4,456)	(4,456)	(4,456)	(9,888)	(17,823)
Variable Labor Contingency	(10,600)	(11,687)	(12,773)	(12,238)	(19,209)	(20,327)	(20,878)	(20,894)	(47,297)	(81,308)
Spirits Excise Taxes	(12,840)	(12,840)	(12,840)	(12,840)	(22,470)	(22,470)	(22,470)	(22,470)	(51,360)	(89,880)
Total Variable Operations	(41,425)	(42,512)	(43,598)	(43,063)	(82,548)	(74,538)	(75,094)	(74,996)	(170,598)	(307,176)
Total Variable Marketing	0	0	0	0	0	0	0	0	0	0
Total Variable Costs	(41,425)	(42,512)	(43,598)	(43,063)	(82,548)	(74,538)	(75,094)	(74,996)	(170,598)	(307,176)
Variable Margin	28,414	44,161	34,339	33,926	36,773	80,043	64,475	61,669	140,840	242,958
Fixed Costs										
Processing Machinery (inc mat. hdlg)										
Equipment Lease & Loan Payments	(5,012)	(1,671)	(1,671)	(1,671)	(1,522)	(1,522)	(1,522)	(1,522)	(10,024)	(6,089)
Tools, Dies, Fixtures	(155)	(155)	(155)	(155)	(159)	(159)	(159)	(159)	(618)	(637)
Maintenance/Repairs	(464)	(464)	(464)	(464)	(477)	(477)	(477)	(477)	(1,854)	(1,910)
Total Equipment Costs	(5,630)	(2,289)	(2,289)	(2,289)	(2,159)	(2,159)	(2,159)	(2,159)	(12,496)	(8,635)



Years 2 and 3 Revenue and Expenses Cont.

Prototypical Distillery	Y2 Q1	Y2 Q2	Y2 Q3	Y2 Q4	Y3 Q1	Y3 Q2	Y3 Q3	Y3 Q4	Annual Total Year 2	Annual Total Year 3
Facility Lease Payment	(4,635)	(4,635)	(4,635)	(4,635)	(4,774)	(4,774)	(4,774)	(4,774)	(18,540)	(19,096)
Propane Expense	(1,545)	(1,545)	(1,545)	(1,545)	(1,591)	(1,591)	(1,591)	(1,591)	(6,180)	(6,365)
Utility Fees	(1,545)	(1,545)	(1,545)	(1,545)	(2,122)	(2,122)	(2,122)	(2,122)	(6,180)	(8,487)
Pest Control	(62)	(62)	(62)	(62)	(66)	(66)	(66)	(66)	(247)	(262)
Computer service	(232)	(232)	(232)	(232)	(246)	(246)	(246)	(246)	(927)	(983)
Total Facility Costs	(8,019)	(8,019)	(8,019)	(8,019)	(8,799)	(8,799)	(8,799)	(8,799)	(32,074)	(35,195)
Fixed Sales and Marketing										
Promotional Expense	(7,725)	(7,725)	(7,725)	(7,725)	(9,283)	(9,283)	(9,283)	(9,283)	(30,900)	(37,132)
Total Selling and Marketing	(7,725)	(7,725)	(7,725)	(7,725)	(9,283)	(9,283)	(9,283)	(9,283)	(30,900)	(37,132)
General/Administrative										
Distillery licenses and bonding	(923)	(923)	(923)	(923)	(946)	(946)	(946)	(946)	(3,690)	(3,783)
Salaries (Mgmt./Admin. Support)	(15,450)	(15,450)	(15,450)	(15,450)	(18,566)	(18,566)	(18,566)	(18,566)	(61,800)	(74,263)
Fringe and Overhead (0.3)	(4,635)	(4,635)	(4,635)	(4,635)	(5,570)	(5,570)	(5,570)	(5,570)	(18,540)	(22,279)
Business Insurance	(1,288)	(1,288)	(1,288)	(1,288)	(1,326)	(1,326)	(1,326)	(1,326)	(5,150)	(5,305)
Legal & Accounting	(1,803)	(1,803)	(1,803)	(1,803)	(1,857)	(1,857)	(1,857)	(1,857)	(7,210)	(7,426)
Telecommunications	(927)	(927)	(927)	(927)	(955)	(955)	(955)	(955)	(3,708)	(3,819)
Office Supplies and Miscellaneous	(515)	(515)	(515)	(515)	(530)	(530)	(530)	(530)	(2,060)	(2,122)
Total General/Administrative Costs	(25,540)	(25,540)	(25,540)	(25,540)	(29,749)	(29,749)	(29,749)	(29,749)	(102,158)	(118,996)
Unforeseen/Contingency										
Unforeseen Expenses (0.02)	(1,397)	(1,733)	(1,559)	(1,540)	(2,386)	(3,092)	(2,791)	(2,733)	(6,229)	(11,003)
Bad Debt (0) of Sales	0	0	0	0	0	0	0	0	0	0
Total Fixed Costs	(48,310)	(45,305)	(45,130)	(45,111)	(52,376)	(53,081)	(52,781)	(52,723)	(183,857)	(210,960)



Years 2 and 3 Revenue and Expenses Cont.

Prototypical Distillery	Y2 Q1	Y2 Q2	Y2 Q3	Y2 Q4	Y3 Q1	Y3 Q2	Y3 Q3	Y3 Q4	Annual Total Year 2	Annual Total Year 3
Prototypical Distillery EBITDA	(19,896)	(1,144)	(10,791)	(11,185)	(15,603)	26,962	11,694	8,946	(43,017)	31,998
Tax Credits (may not be applicable)	0	0	0	0	0	0	0	0	0	0
Depreciation										
Equipment Depreciation	(4,470)	(4,470)	(4,470)	(4,470)	(4,470)	(4,470)	(4,470)	(4,470)	(17,878)	(17,878)
Building Depreciation	0	0	0	0	0	0	0	0	0	0
Receivables Interest (50 days @ 8.5%)	(813)	(1,009)	(907)	(896)	(1,389)	(1,800)	(1,625)	(1,591)	(3,626)	(6,406)
Net Prototypical Distillery Income	(25,179)	(6,623)	(16,168)	(16,551)	(21,462)	20,692	5,599	2,885	(64,521)	7,714



Revenue and Expense Summary

Prototypical Distillery	Year 1 Monthly Avg.	Year 1 Annual Total	Percent of Revenue	Revenue/ (Cost) per Bottle	Years 2 & 3 Quarterly Averages	Year 2 Annual Total	Percent of Revenue	Revenue/ (Cost) per Bottle	Year 3 Annual Total	Percent of Revenue	Revenue/ (Cost) per Bottle
Vodka (Bottles)											
Sales direct at own ABC store	321	3,848			2,519	7,182			12,968		
Sales indirect via VA ABC stores	321	3,848			2,519	7,182			12,968		
Whiskey (Bottles)											
Sales direct at own ABC store	226	2,708			730	2,850			2,993		
Sales indirect via VA ABC stores	226	2,708			730	2,850			2,993		
Bourbon (Bottles)											
Sales direct at own ABC store	0	0			56	0			451		
Sales indirect via VA ABC stores	0	0			57	0			453		
Total Bottles	641	7,695			6,611	20,064			32,824		
Prototypical Distillery	$	$	%	$	$	$	%	$	$	%	$
Income											
Vodka											
Sales direct at own ABC store	4,440	53,284	31.33%	6.92	8,743	111,608	35.84%	5.56	213,438	38.80%	6.50
Sales indirect via VA ABC stores	4,642	55,700	32.75%	7.24	8,944	118,423	38.02%	5.90	220,842	40.14%	6.73
Whiskey											0.00
Sales direct at own ABC store	2,203	26,436	15.54%	3.44	1,242	33,093	10.63%	1.65	36,851	6.70%	1.12
Sales indirect via VA ABC stores	2,313	27,750	16.31%	3.61	1,249	34,576	11.10%	1.72	36,979	6.72%	1.13
Bourbon											
Sales direct at own ABC store	0	0	0.00%	0.00	1,242	0	0.00%	0.00	9,937	1.81%	0.30
Sales indirect via VA ABC stores	0	0	0.00%	0.00	1,249	0	0.00%	0.00	9,991	1.82%	0.30
Tastings	486	5,828	3.43%	0.76	4,179	12,537	4.03%	0.62	20,895	3.80%	0.64
Merchandise Sales	92	1,100	0.65%	0.14	300	1,200	0.39%	0.06	1,200	0.22%	0.04
Total Sales All Types	$14,175	$170,097	100.00%	22.10	107,697	311,438	100.00%	15.52	550,135	100.00%	16.76



Revenue and Expense Summary Cont.

Prototypical Distillery	Year 1 Monthly Avg.	Year 1 Annual Total	Percent of Revenue	Revenue/ (Cost) per Bottle	Years 2 & 3 Quarterly Averages	Year 2 Annual Total	Percent of Revenue	Revenue/ (Cost) per Bottle	Year 3 Annual Total	Percent of Revenue	Revenue/ (Cost) per Bottle
Variable Costs											
Whiskey Input Costs (Corn, Yeast, etc.)	(349)	(4,186)	(2.46)%	(0.54)	(2,302)	(6,723)	(2.16)%	(0.34)	(11,693)	(2.13)%	(0.36)
Vodka Input Costs (Potatoes, Yeast, etc.)	(400)	(4,798)	(2.82)%	(0.62)	(4,047)	(11,321)	(3.64)%	(0.56)	(21,054)	(3.83)%	(0.64)
Bottling Expense	(1,728)	(20,736)	(12.19)%	(2.69)	(15,165)	(41,767)	(13.41)%	(2.08)	(79,550)	(14.46)%	(2.42)
Merchandise Costs	(31)	(367)	(0.22)%	(0.05)	(105)	(412)	(0.13)%	(0.02)	(424)	(0.08)%	(0.01)
Barrel Expense	(66)	(790)	(0.46)%	(0.10)	(909)	(1,830)	(0.59)%	(0.09)	(5,445)	(0.99)%	(0.17)
Lab Costs	(400)	(4,800)	(2.82)%	(0.62)	(3,464)	(9,888)	(3.17)%	(0.49)	(17,823)	(3.24)%	(0.54)
Variable Labor Contingency	(3,235)	(38,819)	(22.82)%	(5.04)	(16,076)	(47,297)	(15.19)%	(2.36)	(81,308)	(14.78)%	(2.48)
Spirits Excise Taxes	(2,140)	(25,680)	(15.10)%	(3.34)	(17,655)	(51,360)	(16.49)%	(2.56)	(89,880)	(16.34)%	(2.74)
Total Variable Operations	(8,348)	(100,175)	(58.89)%	(13.02)	(59,722)	(170,598)	(54.78)%	(8.50)	(307,176)	(55.84)%	(9.36)
Total Variable Marketing	0	0	0.00%	0.00	0	0	0.00%	0.00	0	0.00%	0.00
Total Variable Costs	(8,348)	(100,175)	(58.89)%	(13.02)	(59,722)	(170,598)	(54.78)%	(8.50)	(307,176)	(55.84)%	(9.36)
Variable Margin	5,827	69,922	41.11%	9.09	47,975	140,840	45.22%	7.02	242,958	44.16%	7.40
Fixed Costs											
Processing Machinery (inc mat. hdlg)											
Equipment Lease & Loan Payments	(604)	(7,245)	(4.26)%	(0.94)	(2,014)	(10,024)	(3.22)%	(0.50)	(6,089)	(1.11)%	(0.19)
Tools, Dies, Fixtures	(50)	(600)	(0.35)%	(0.08)	(157)	(618)	(0.20)%	(0.03)	(637)	(0.12)%	(0.02)
Maintenance/Repairs	(150)	(1,800)	(1.06)%	(0.23)	(470)	(1,854)	(0.60)%	(0.09)	(1,910)	(0.35)%	(0.06)
Total Equipment Costs	(804)	(9,645)	(5.67)%	(1.25)	(2,641)	(12,496)	(4.01)%	(0.62)	(8,635)	(1.57)%	(0.26)



Revenue and Expense Summary Cont.

Prototypical Distillery	Year 1 Monthly Avg.	Year 1 Annual Total	Percent of Revenue	Revenue/ (Cost) per Bottle	Years 2 & 3 Quarterly Averages	Year 2 Annual Total	Percent of Revenue	Revenue/ (Cost) per Bottle	Year 3 Annual Total	Percent of Revenue	Revenue/ (Cost) per Bottle
Facility Lease Payments	(1,500)	(18,000)	(10.58)%	(2.34)	(4,705)	(18,540)	(5.95)%	(0.92)	(19,096)	(3.47)%	(0.58)
Propane Expense	(500)	(6,000)	(3.53)%	(0.78)	(1,568)	(6,180)	(1.98)%	(0.31)	(6,365)	(1.16)%	(0.19)
Utility Fees	(327)	(3,920)	(2.30)%	(0.51)	(1,833)	(6,180)	(1.98)%	(0.31)	(8,487)	(1.54)%	(0.26)
Pest Control	(20)	(240)	(0.14)%	(0.03)	(64)	(247)	(0.08)%	(0.01)	(262)	(0.05)%	(0.01)
Computer service	(75)	(900)	(0.53)%	(0.12)	(239)	(927)	(0.30)%	(0.05)	(983)	(0.18)%	(0.03)
Total Facility Costs	(2,422)	(29,060)	(17.08)%	(3.78)	(8,409)	(32,074)	(10.30)%	(1.60)	(35,195)	(6.40)%	(1.07)
Fixed Sales and Marketing											
Promotional Expense	(2,083)	(25,000)	(14.70)%	(3.25)	(8,504)	(30,900)	(9.92)%	(1.54)	(37,132)	(6.75)%	(1.13)
Total Selling and Marketing	(2,083)	(25,000)	(14.70)%	(3.25)	(8,504)	(30,900)	(9.92)%	(1.54)	(37,132)	(6.75)%	(1.13)
General/Administrative											
Distillery licenses and bonding	(250)	(3,000)	(1.76)%	(0.39)	(934)	(3,690)	(1.18)%	(0.18)	(3,783)	(0.69)%	(0.12)
Salaries (Mgmt./Admin. Support)	(2,917)	(35,000)	(20.58)%	(4.55)	(17,008)	(61,800)	(19.84)%	(3.08)	(74,263)	(13.50)%	(2.26)
Fringe and Overhead (0.3)	(875)	(10,500)	(6.17)%	(1.36)	(5,102)	(18,540)	(5.95)%	(0.92)	(22,279)	(4.05)%	(0.68)
Business Insurance	(417)	(5,000)	(2.94)%	(0.65)	(1,307)	(5,150)	(1.65)%	(0.26)	(5,305)	(0.96)%	(0.16)
Legal & Accounting	(583)	(7,000)	(4.12)%	(0.91)	(1,830)	(7,210)	(2.32)%	(0.36)	(7,426)	(1.35)%	(0.23)
Telecommunications	(300)	(3,600)	(2.12)%	(0.47)	(941)	(3,708)	(1.19)%	(0.18)	(3,819)	(0.69)%	(0.12)
Office Supplies and Miscellaneous	(167)	(2,000)	(1.18)%	(0.26)	(523)	(2,060)	(0.66)%	(0.10)	(2,122)	(0.39)%	(0.06)
Total General/Administrative Costs	(5,508)	(66,100)	(38.86)%	(8.59)	(27,644)	(102,158)	(32.80)%	(5.09)	(118,996)	(21.63)%	(3.63)
Unforeseen/Contingency											
Unforeseen Expenses (0.02)	(283)	(3,402)	(2.00)%	(0.44)	(2,154)	(6,229)	(2.00)%	(0.31)	(11,003)	(2.00)%	(0.34)
Bad Debt (0) of Sales	0	0	0.00%	0.00	0	0	0.00%	0.00	0	0.00%	0.00
Total Fixed Costs	(11,101)	(133,208)	(78.31)%	(17.31)	(49,352)	(183,857)	(59.03)%	(9.16)	(210,960)	(38.35)%	(6.43)



Revenue and Expense Summary Cont.

Prototypical Distillery	Year 1 Monthly Avg.	Year 1 Annual Total	Percent of Revenue	Revenue/ (Cost) per Bottle	Years 2 & 3 Quarterly Averages	Year 2 Annual Total	Percent of Revenue	Revenue/ (Cost) per Bottle	Year 3 Annual Total	Percent of Revenue	Revenue/ (Cost) per Bottle
Prototypical Distillery EBITDA	(5,274)	(63,285)	(37.21)%	(8.22)	(1,377)	(43,017)	(13.81)%	(2.14)	31,998	5.82%	0.97
Depreciation											
Equipment Depreciation	(1,490)	(17,878)	(10.51)%	(2.32)	(4,470)	(17,878)	(5.74)%	(0.89)	(17,878)	(3.25)%	(0.54)
Building Depreciation	0	0	0.00%	0.00	0	0	0.00%	0.00	0	0.00%	0.00
Receivables Interest (50 days @ 8.5%)	(165)	(1,981)	(1.16)%	(0.26)	(1,254)	(3,626)	(1.16)%	(0.18)	(6,406)	(1.16)%	(0.20)
Net Prototypical Distillery Income	(6,929)	(83,144)	(48.88)%	(10.80)	(7,101)	(64,521)	(20.72)%	(3.22)	7,714	1.40%	0.24



APPENDIX I: PRO FORMA OPERATING STATEMENT

Pro Forma Operating Statement

	Start-up	Year 1	Year 2	Year 3
Revenues [Sales]	$0	$170,097	$311,438	$550,135
Total Processing Costs	($20,341)	($100,175)	($170,598)	($307,176)
Total Marketing Costs	$0	$0	$0	$0
Variable Margin (Loss)	($20,341)	$69,922	$140,840	$242,958
Total Equipment Costs	($400)	($9,645)	($12,496)	($8,635)
Total Facilities Costs	($7,887)	($29,060)	($32,074)	($35,195)
Total Selling and Marketing Costs	($10,000)	($25,000)	($30,900)	($37,132)
General and Administrative Expenses	($9,864)	($66,100)	($102,158)	($118,996)
Unforeseen and Contingency Expenses	$0	($3,402)	($6,229)	($11,003)
Prototypical Distillery Earnings EBITDA (Loss)	($48,492)	($63,285)	($43,017)	$31,998
Tax Credits	$0	$0	$0	$0
Interest Expense	$0	($1,981)	($3,626)	($6,406)
Depreciation Expense	$0	($17,878)	($17,878)	($17,878)
Net Prototypical Distillery Venture Income (Loss)	($48,492)	($83,144)	($64,521)	$7,714



APPENDIX J: CASH FLOWS

Cash Flow, Start-up and Year 1

	Start-up	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year 1
Operating Activities														Annual
Net Income (Loss)	($49,982)	($17,694)	($9,531)	($9,440)	$1,136	($8,905)	($6,065)	($7,934)	($4,339)	($322)	($6,498)	($8,158)	($5,394)	($83,144)
Non cash charges to net income (loss)														
Depreciation	$1,490	$1,490	$1,490	$1,490	$1,490	$1,490	$1,490	$1,490	$1,490	$1,490	$1,490	$1,490	$1,490	$17,878
Tax Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(Increase) Decrease in current assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Accounts receivable (Distilled Spirits sales)	$0	($3,560)	($14,107)	($158)	($18,509)	$16,975	($6,082)	$2,910	($6,187)	($7,511)	$10,631	$2,857	($4,758)	($27,499)
Inventories	$0	($9,066)	($9,461)	($7,582)	($7,787)	($7,235)	($7,061)	($6,130)	($4,250)	($3,698)	($3,524)	($2,782)	($524)	($69,099)
Increase (decrease) in current liabilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Accounts payable and accrued expenses	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Accrued interest	$25	$123	$125	$254	$135	$178	$157	$201	$253	$179	$159	$192	$165	$2,121
Net Cash Provided by (used in) Operating Activities	($48,467)	($28,706)	($31,485)	($15,435)	($23,535)	$2,503	($17,561)	($9,463)	($13,034)	($9,862)	$2,257	($6,401)	($9,021)	($159,743)
Investing Activities														$0
Purchases of property and equipment	($188,191)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Financing Activities														
Member contributions (distributions)	$575,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other contributions	$0	$123	$125	$254	$135	$178	$157	$201	$253	$179	$159	$192	$165	$2,121
Grants	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Net borrowings (payments) on short-term loans or notes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Principal payments on long-term loans	$0	($426)	($426)	($426)	($426)	($426)	($426)	($426)	($426)	($426)	($426)	($426)	($426)	($5,116)
Proceeds from long-term debt borrowings	$131,734	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Net Cash Provided by (used in) Financing Activities	$518,543	($303)	($302)	($172)	($291)	($249)	($269)	($226)	($173)	($247)	($267)	($234)	($261)	($2,995)
Net Increase in Cash	$470,076	($29,009)	($31,786)	($15,607)	($23,826)	$2,254	($17,830)	($9,689)	($13,207)	($10,109)	$1,989	($6,636)	($9,283)	($162,738)
Cash -beginning of period	$0	$470,076	$441,067	$409,280	$393,673	$369,847	$372,101	$354,271	$344,583	$331,376	$321,267	$323,256	$316,620	$470,076
Cash - end of period	$470,076	$441,067	$409,280	$393,673	$369,847	$372,101	$354,271	$344,583	$331,376	$321,267	$323,256	$316,620	$307,338	$307,338



Cash Flow, Years 2 and 3

	Y2 Q1	Y2 Q2	Y2 Q3	Y2 Q4	Y3 Q1	Y3 Q2	Y3 Q3	Y3 Q4	Annual Total Year 2	Annual Total Year 3
Operating Activities										
Net Income (Loss)	($25,179)	($6,623)	($16,168)	($16,551)	($21,462)	$20,692	$5,599	$2,885	($64,521)	$7,714
Non cash charges to net income (loss)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Depreciation	$4,470	$4,470	$4,470	$4,470	$4,470	$4,470	$4,470	$4,470	$17,878	$17,878
Tax Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(Increase) Decrease in current assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Accounts receivable (Distilled Spirits sales)	($11,300)	($9,352)	$4,853	$527	($23,517)	($19,589)	$8,340	$1,613	($15,273)	($33,153)
Inventories	($8,391)	($5,970)	($3,306)	($4,818)	($27,828)	($23,759)	($19,516)	($22,098)	($22,486)	($93,202)
Increase (decrease) in current liabilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Accounts payable and accrued expenses	($583)	($583)	($583)	($583)	($624)	($624)	($624)	($624)	($2,333)	($2,497)
Accrued interest	($813)	($1,009)	($907)	($896)	($1,389)	($1,800)	($1,625)	($1,591)	($3,626)	($6,406)
Net Cash Provided by (used in) Operating Activities	($41,797)	($19,068)	($11,643)	($17,853)	($70,351)	($20,611)	($3,357)	($15,346)	($90,361)	($109,665)
Investing Activities										
Purchases of property and equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Financing Activities										
Member contributions (distributions)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other contributions	$813	$1,009	$907	$896	$1,389	$1,800	$1,625	$1,591	$3,626	$6,406
Grants	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Net borrowings (payments) on short-term loans or notes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Principal payments on long-term loans	($2,699)	($2,699)	($2,699)	($2,699)	($2,847)	($2,847)	($2,847)	($2,847)	($10,794)	($11,388)
Proceeds from long-term debt borrowings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Net Cash Provided by (used in) Financing Activities	($1,885)	($1,689)	($1,791)	($1,802)	($1,458)	($1,047)	($1,222)	($1,256)	($7,168)	($4,982)
Net Increase in Cash	($43,683)	($20,758)	($13,434)	($19,655)	($71,809)	($21,658)	($4,579)	($16,601)	($97,529)	($114,647)
Cash -beginning of period	$307,338	$263,655	$242,897	$229,463	$209,808	$138,000	$116,341	$111,763	$307,338	$209,808
Cash - end of period	$263,655	$242,897	$229,463	$209,808	$138,000	$116,341	$111,763	$95,161	$209,808	$95,161



APPENDIX K: DEPRECIATION

Equipment	
Cost of Equipment	$188,191
Equipment, useful life in years	10
Equipment, salvage value %	5%
Equipment, salvage value	$9,410

Depreciation for Equipment	
Monthly	$1,490
Annual	$17,878



APPENDIX L: BALANCE SHEET

Balance Sheet

	Year 1	Year 2	Year 3
Assets			
Cash and Equivalents	$307,338	$209,808	$95,161
Accounts Receivables	$27,499	$42,772	$75,925
Inventories	$69,099	$22,486	$93,202
Total Current Assets	$403,936	$275,066	$264,288
Buildings and Equipment, net of depreciation	$170,313	$152,435	$134,557
Other Assets, net of amortization	$0	$0	$0
Total Assets	$574,248	$427,501	$398,844
Liabilities and Members' Equity			
Current Liabilities			
Accounts payable and accrued expenses	$0	$0	$0
Accrued interest	$0	$0	$0
Current maturities of long-term debt	$0	$0	$0
Total Current Liabilities	$0	$0	$0
Long-term Debt			
Senior debt	$126,618	$115,824	$104,436
Less current maturities of long-term debt	$0	$0	$0
Members' Equity			
Member Equity and equity equivalents	$530,774	$376,198	$286,694
Dispersed Member Equity	$0	$0	$0
Retained earnings (losses)	($83,144)	($64,521)	$7,714
Total Liabilities and Members' Equity	$574,248	$427,501	$398,844

APPENDIX M: DESCRIPTION OF CONSULTANTS

Virginia FAIRS, the Virginia Foundation for Agriculture, Innovation and Rural Sustainability, a 501 (c) (5) corporation organized in Virginia, as a business Development Center. With the assistance and support from partners such as the Virginia Farm Bureau Federation (VFBF), the Virginia Department of Agriculture and Consumer Services (VDACS), the Virginia Department of Business Assistance (VDBA) and Virginia Cooperative Extension (VCE), Virginia FAIRS intends to offer assistance to individuals, Cooperatives, small businesses and other similar entities in rural areas to enable and assist cooperative and business development.

The mission of Virginia Fairs is to assist rural Virginians in developing and advancing their agricultural, economic and social interests to enhance their quality of life. The main goals of the Center that is being created will be to facilitate and coordinate technical and financial assistance to provide traditional and innovative solutions that will allow farmers in Virginia to:

1) explore and develop opportunities using existing production and market resources and risk management techniques;
2) transition from traditional production and marketing into more financially rewarding agricultural enterprises;
3) develop value-added and high-value agricultural product and enhanced market opportunities;
4) address challenges facing farmer's production and marketing resources;
5) address issues affecting the sustainability of rural Virginia;
6) establish a centralized resource for farmers to easily access cooperative development and value-added information; and,
7) better utilize and coordinate the wide-ranging expertise available in Virginia and as such better facilitate and enhance current and future efforts and programs in these areas.

Christopher I. Cook functions as the Center's Executive Director. He is as an agricultural enterprise development advisor with a broad range of planning, business creation and development skills, as well as strategic expertise. Mr. Cook has twenty five years agricultural experience including organizing and developing farmer-owned start-up businesses, with a strong background in facilitating agricultural value added entitles through strategic planning. He has completed a feasibility study looking at the viability of ethanol production in Virginia His work experience covers two continents. He farmed in the United Kingdom and was Managing Director of a 1,000-acre farm producing liquor and small grains. His education includes the Certified Economic Development Financial Professional from the National Development Council, KY a Masters Business Administration from the College of William & Mary and a. BS in Agricultural Education from London City & Guilds, United Kingdom.



MATSON CONSULTING
AGRIBUSINESS SOLUTIONS

Matson Consulting provides expertise in business planning – from project idea to successful implementation. Clients include individuals, producer cooperatives, state governments, international organizations, and nonprofit foundations.

Services

Feasibility Studies - We evaluate your project to help to determine its viability.

Business Planning - We assist your project with the creation and implementation of a business plan.

Technical Assistance - We help you prevent and overcome difficulties you encounter throughout your development stages.

Grant Facilitation - We help through the entire grant process -- from identification of funding sources, through development of the grant application, to grant management.

Board Training - Our specialists provide direction regarding the selection, governance, and training of board members to help further advance your business.

Business Structure - We assist your organization to determine which structural forms best fit your business needs.

Market Identification - We work with you to help identify target markets and focus your marketing plan to reach those buyers.

Survey Preparation - We design, execute, compile and analyze membership and marketing surveys for your organization.

Management Consulting - Our specialists assist your team with project implementation.

Profile

James Matson, principle and founder, has nearly twenty years of experience and has assisted hundreds of businesses. He has authored more than 25 works for scholarly, industry, and popular publications. Mr. Matson has worked in 18 countries on four continents. He is fluent in Spanish and has intermediate skills in Portuguese, as well as a basic knowledge of French and Japanese.

He has a Master of Science degree in Agricultural Economics from the University of California, Davis and a Bachelor of Science degree in Agricultural Business Management and a Bachelor of Arts degree in Economics from North Carolina State University.