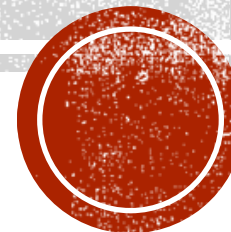


FROM BARLEY TO BEER: A GUIDE FOR ON FARM BREWING

Presented by James Matson

September 2016



JAMES MATSON

- Over 25 years experience working with small and rural agricultural businesses
- Assisted over 15 farms and businesses in the alcoholic beverage industry (wineries, cideries, breweries, and distilleries)
- Successfully completed numerous grant applications, feasibility studies, business plans and marketing plans for these types of businesses.



INTRODUCTION

From Barley to Beer: **A Guide for On Farm Brewing**



**Prepared by
Matson Consulting
September 2016**



- Study of a farm-based craft malting and brewing operation with moderate financial resources
- Basic direction/thought processes for expanding an existing brewery's operations into farm malting



NATIONAL CRAFT BEER INDUSTRY

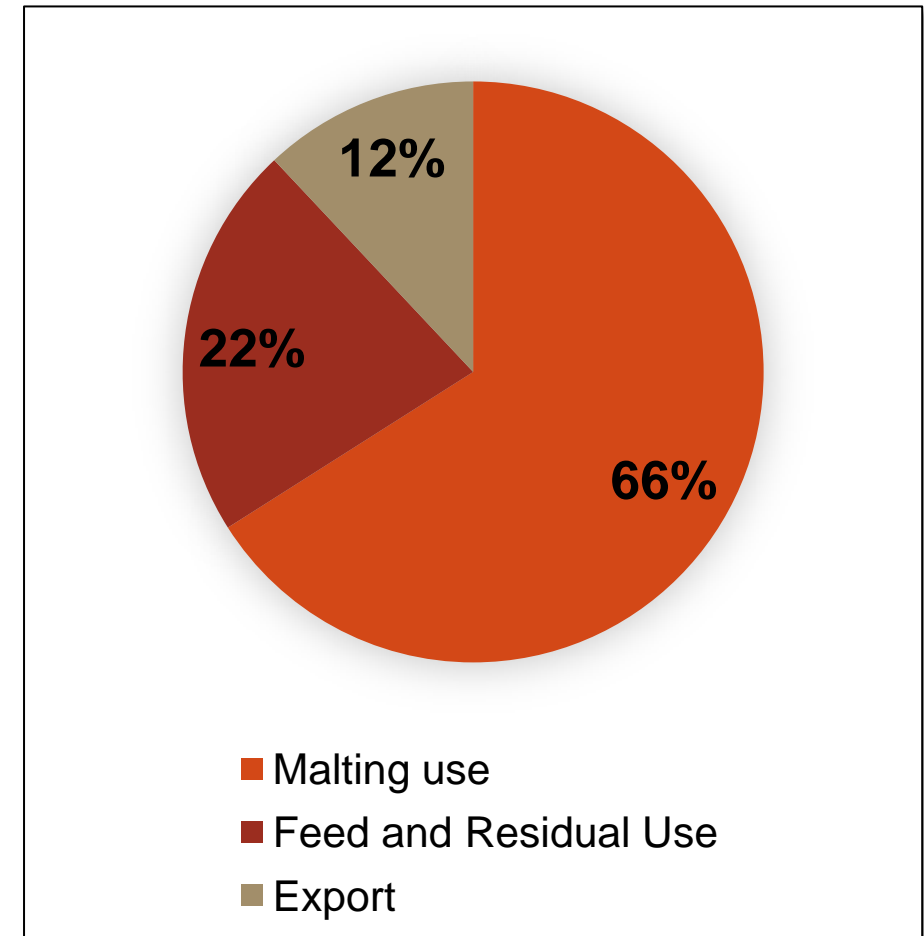


- “American craft brewers now produce about one out of every 10 beers sold in the United States.” -Fortune.com in March 2015,
- Craft brewers capture increasing segment of the commercial market with smaller batches of high-quality, artisan beer.
- According to a 2014 Gallup poll, 64 percent of Americans consume alcohol, with almost half (41 percent) favoring beer.



NATIONAL MALT INDUSTRY

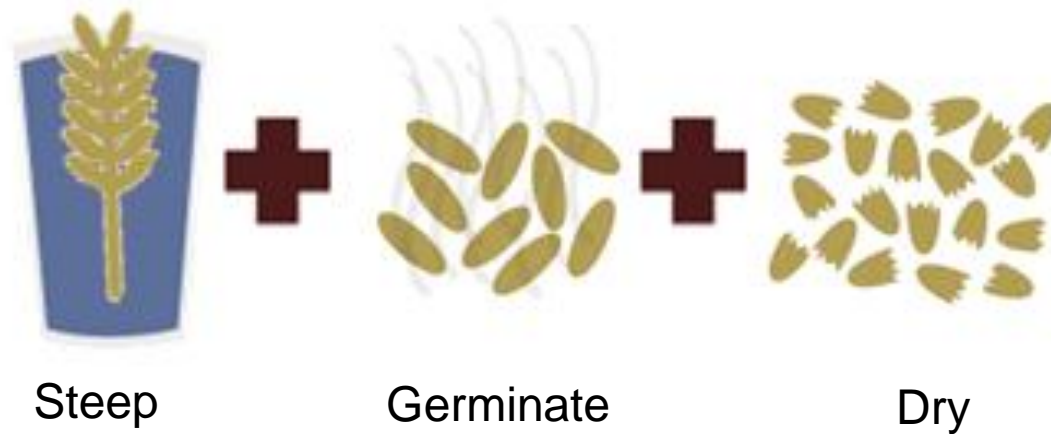
- U.S. grain producers planted 4 million acres of barley from 2004 to 2008, a contribution of over \$750 million to the nation's economy.
- Most barley grown is intended for malting, thanks to the high premium malts command.
- According to industry analysis conducted in 2014 by the Montana Department of Commerce, craft breweries consume nearly 20% of total malting barley production.



MALTING AND BREWING

- Malting ventures and breweries can help small farmers add value to their grains. You don't need to be a large grains farmer.

- Malting Process



CHALLENGES FOR BARLEY FARMERS

- Crop failures- variable weather can lead to loss of crop
- Barley grown for malting requires more labor and time commitment
- Cold storage of the barley before is preferred but can be expensive
- Most brewers and malters want a packaged product, which is an extra step and expense
- Many brewers only buy small amounts of local barley for their specialty hops, typically not as their normal base malt



MALTING AND BREWERY PERSONNEL



SELLING BEER



On vs. Off Premise Sales

On-premise sales are sales of alcoholic products 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 specialty stores and other locations selling beer and wine.

Out of State Sales

Should the brewery 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 brewery 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 brewery will be conducting wholesaling operations.



LABELING REGULATIONS

- Requires Certification of Label Approval (COLA) from the TTB
- Typical wait time- 90 days
- TB is responsible for approval and enforcement of labeling requirements

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



SAMPLE EQUIPMENT

For brewery and tasting room

Tanks	Milling equipment	Bottles and Labels
Fermenters	Hoses, fittings, valves	Yeast propagation systems
Bottling equipment	Processing utensils & supplies	Display cases
Sales racks	Pump (sanitary)	Bar
Pumps	Bottling holding tanks	Labeler
Tank cleaning equipment	Capper	Signage
Milling systems/hoppers	Piping and Tubing	Cooker



INDUSTRY EXAMPLE

Woods Mill Malt House

Lovington, VA



- malt only local barley and other grains, growing the majority of their inputs on their 300-acre farm and using traditional floor-malting methods
- successfully processing grains into high-quality malts for local home brewers, craft breweries, and distilleries since opening in 2014
- Construction of an on-site brewery and tap room is underway



INDUSTRY EXAMPLE

ROGUE

Rogue Ales

Oregon, California, and Washington

- 10 “public houses” and tasting rooms, and two farm locations where they grow their own beer inputs
- Both of Rogue’s farm properties are located in Oregon, where they grow, harvest, and process their own hops, rye, jalapenos, pumpkins, hazelnuts, honey, and other inputs for their award-winning beers
- Barley farm, located in Tygh Valley, is a 3,800 acre ranch that houses the malting facility



FINANCIAL ANALYSIS-SALES

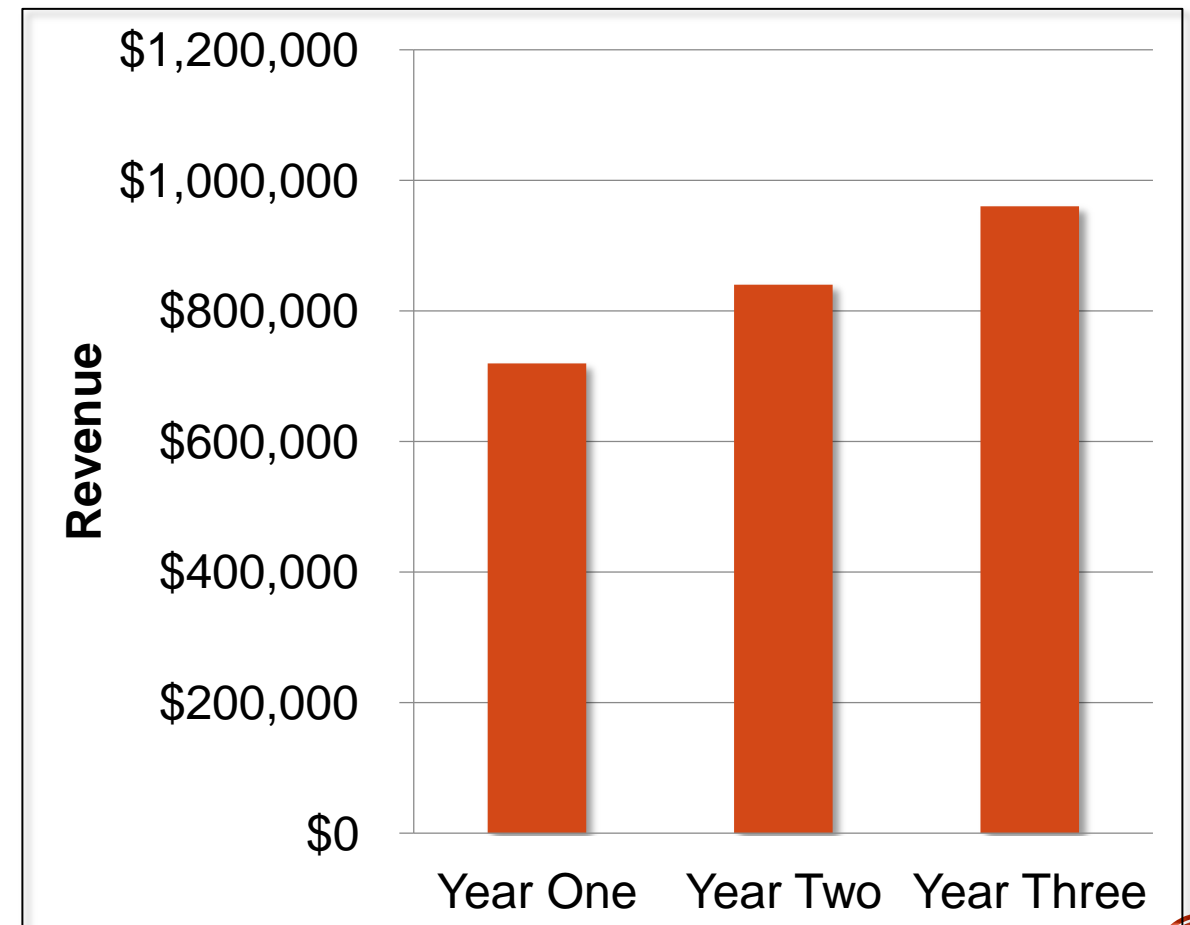
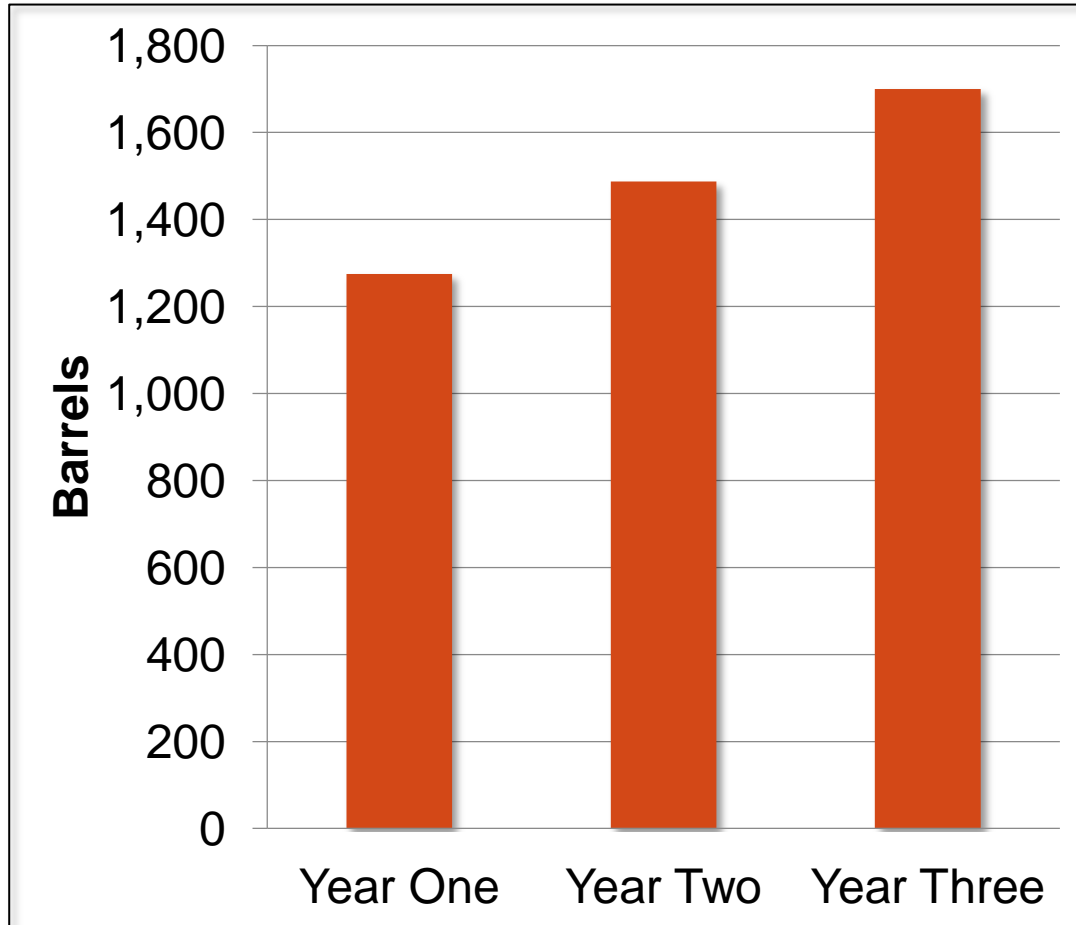
Sales Distribution by Year 3

Product	Wholesale	Retail
Kegs	30%	5%
On Tap Glasses (3 and 12 oz servings)	0%	20%
Bottles 12 oz	5%	40%
Total	35%	65%

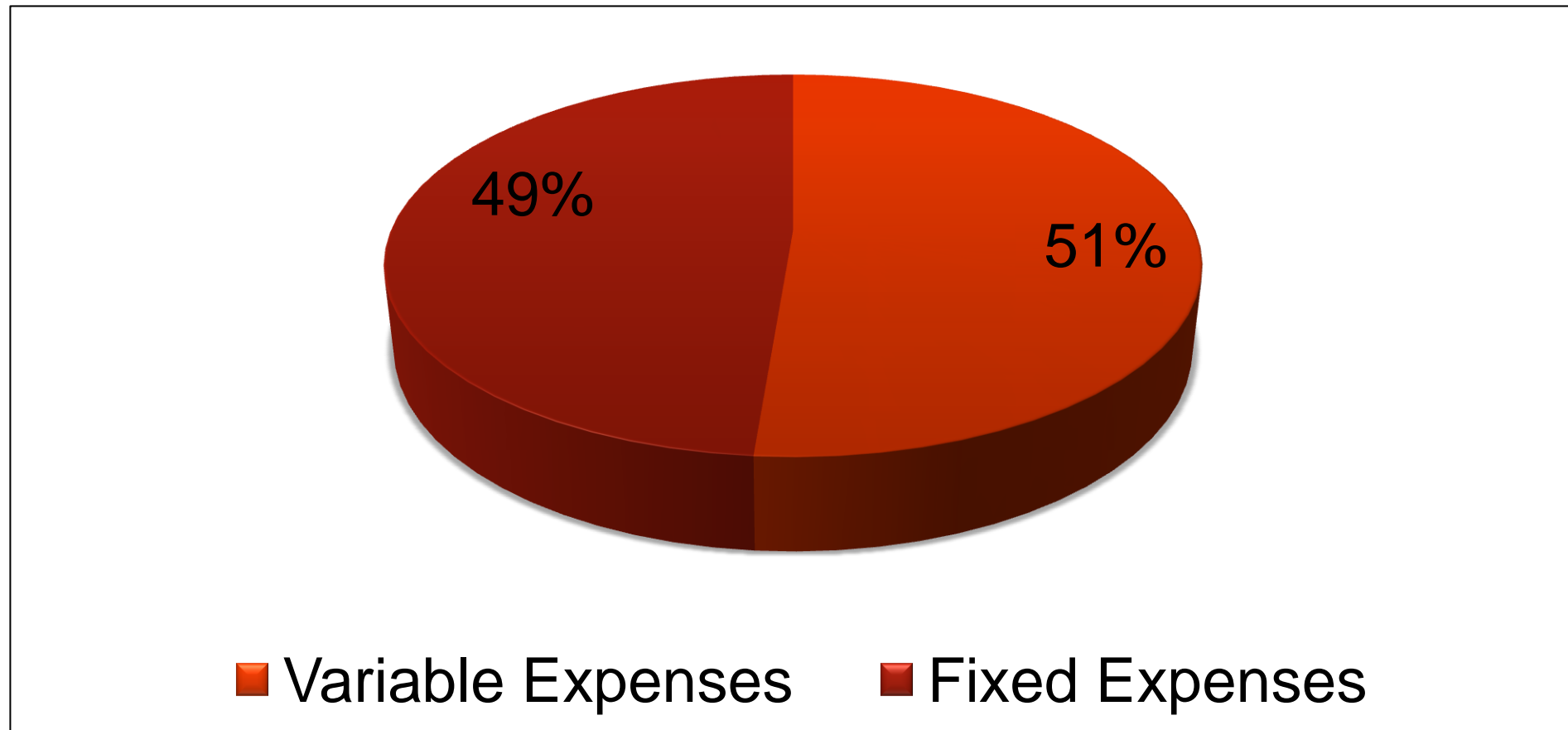


SALES

Barrel Quantity Sold & Dollar Sales



EXPENSES



FACTORS INFLUENCING PROFITABILITY

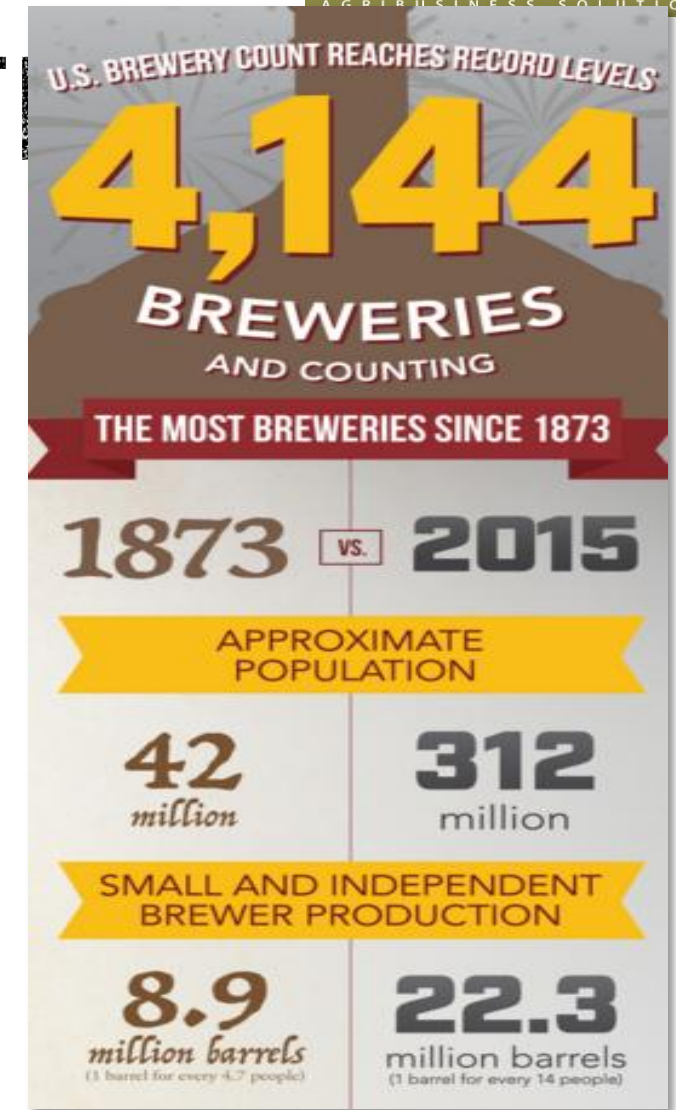
Factors that could change sales outcomes for the business:

- Production quantities
- Product price point
- Employee wages and salaries
- Sales distribution- retail vs. wholesale



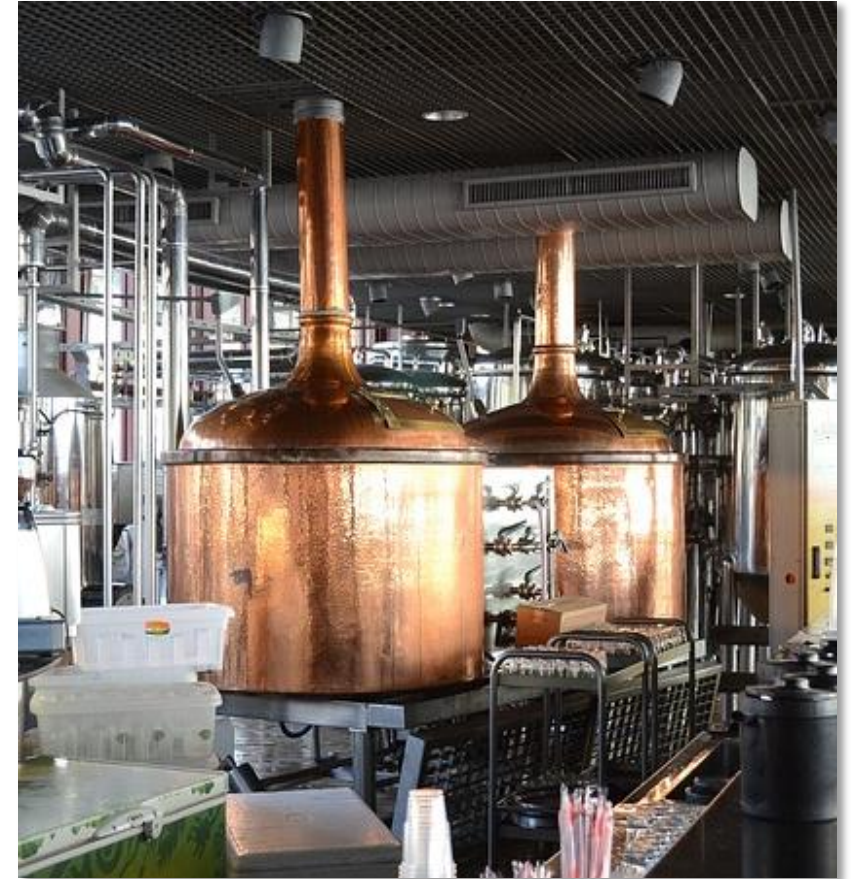
INDUSTRY OBSERVATION

- Industry for both malt and hops production in the nation overall is growing
- Virginia is not a powerhouse for hop production, and only a minute portion of the industry is located in the mid-Atlantic
- Even with a substantial increase to the hops industry, Virginia would still represent only a small amount of production nationwide



BREWERY OBSERVATIONS

- Expected production efficiency for a brewery is about 85%, including losses from batch errors, contamination, human errors, damage in transport or packaging, and other unforeseen circumstances
- Beers can be transported over distances, but transportation costs can reach unsustainable levels should local sales prove less than an ideal.



STARTUP PROCED

- Complete a business plan
- Consider a plan of alternative supply in the event of crop failure
- Significantly more growth will require additional production equipment
- Choose beers that do well with consumers and replace underperforming beers
- Consider an operation like a beer club where contracts are generated and sales are guaranteed



STARTUP CONTINUED

- Focus on maintaining cash flow and not maximizing profits
- Contact food safety personnel to maintain awareness and compliance with food safety related rules
- Consult with a trademark attorney
- Contact a marketing expert to help create a brand identity
- Implement quality control procedures before the beginning operations



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