

# General Overview of State Food and Beverage Manufacturing Regulations for Locally Grown Hops in Tennessee

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The information presented here is intended for educational purposes and is deemed correct and accurate at the time of writing and to the best abilities of the authors. This information is not intended as legal advice or binding for regulatory authorities. Each food processing venture is often unique and subject to specific regulatory applications and oversight.

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**Foreword** – During the winter of 2017, a team of UT Extension specialists developed a proposal to launch a small project related to investigating the production and marketing of hops in Tennessee. The proposal was titled “Opportunities for Specialty Crops in Tennessee: Focus on Hops” and was largely the result of increases in the number of inquiries to Extension personnel across the state from folks interested in growing hops and from a larger number of local brewers trying to find locally grown hops. The proposal was awarded funding from the Tennessee Department of Agriculture (TDA) through the Specialty Crop Block Grant program. The proposal had a variety of objectives including the development of a written educational guide to assist potential growers in the considerations of growing hops in Tennessee.

Additional objectives of the project included conducting visits and tours with hops growers in other states, conducting a symposium on hops with other University of Tennessee colleagues, and conducting a survey of local brewers to gain a better understanding of local demand for hops. The suggestion for developing this publication, “General Overview of Tennessee Food and Beverage Manufacturing Regulations for Locally Grown Hops in Tennessee,” was made at the symposium on hops. Special appreciation is extended to Debbie Ball, Tennessee Department of Agriculture agricultural business development consultant, and the Tennessee Department of Agriculture for assistance and support of this project and the development of this publication. This publication is intended to provide a general and basic overview of

the Tennessee Department of Agriculture regulations that apply to hops as an ingredient in commercial beverage manufacturing.

## Introduction

As an increasing number of Tennessee producers consider growing hops as an ingredient for the manufacturing of beverages, more and more questions are being asked about the food regulations involved with preparing hops for commercial manufacturing. For the most part, commercial food and beverage manufacturing of products intended for off-site consumption in Tennessee is under the regulatory oversight of the Tennessee Department of Agriculture. Commercial food and beverage manufacturing of products intended for on-site consumption in Tennessee is under the regulatory oversight of the Tennessee Department of Health. Ingredients used in the commercial production of food and beverages must come from an approved source. Approved sources are generally defined as facilities properly permitted and inspected under appropriate state guidelines. (Morris et al., 2012)

The precise regulatory oversight for hops used in commercial beverage manufacturing varies for: (1) wet hops including dry hopping, (2) cleaning and drying/dehydrating hops (3) processing and pelletizing hops for commercial beverage manufacturing (4) beverage manufacturing for on-site consumption and (5) beverage manufacturing for off-site consumption. Each of these is discussed in more detail in the following sections.

## Wet Hops Including Dry Hopping

Upon harvesting, the active ingredient in the hop (lupulin) starts to oxidize immediately. Hence, hops from beer have to be dried and stored in a cool, dry area or used almost immediately (within a 36-hour window) in a process called wet hopping (Wisacre Brewing Company Website, 2019). Wet hopping is where unprocessed hops are added to the beer wort. Wort is a “beer starter” and is composed of malt extract (from grain mash) and water (Food Republic Website, 2019). A form of wet hopping is called dry hopping; the point in the process where the hops are added to cool wort after the fermentation process is underway. Dry hopping has nothing to do with the state of the hop itself. Primarily because of dry hopping, hops could be subject to food safety concerns and, therefore, food safety regulations as pathogens would not necessarily be destroyed by adding them late as compared to early in the fermentation process (Siegle et al., 2018).

Currently, there is no regulatory oversight for fresh hops that are used in beverage manufacturing. Fresh hops, often referred to as wet hops, that are harvested and utilized in beverage manufacturing prior to drying or processing may be marketed and handled similar to other fresh food products such as tomatoes and lettuce that are used in food manufacturing and food service. Wet hops are considered a raw agricultural commodity and could fall under the federal Produce Safety Rule that can be found in the Food Safety Modernization Act (FSMA). However, as of May 2, 2019, the US Food

and Drug Administration announced that the agency will not enforce product food safety rules with respect to hops production and processing (USA Hops, 2019). Growers with an average annual value of produce sold during the previous three-year period of \$25,000 or less are also exempt for any of the crops covered by FSMA. (Note: the \$25,000 applies to all agricultural sales by the farm, not just commodities that would be subject to FSMA regulations.) Growers and users of hops are still encouraged to follow sound food safety practices. Educational modules can be found on the American Hop Growers website at Good Bines: Foundations of Food Safety, [usahops.org/cabinet/data/Foundations%20of%20Food%20Safety%20Public.pdf](http://usahops.org/cabinet/data/Foundations%20of%20Food%20Safety%20Public.pdf).

## Cleaning and Drying/Dehydrating Hops

Generally speaking, there is no regulatory oversight for the act of cleaning and drying hops to be used in commercial beverage manufacturing. Similar to grain used in food manufacturing, cleaning and drying hops is not considered a component of food manufacturing by TDA's food processing regulations. Therefore, there are no specific regulations or permit requirements when cleaning and drying hops for brewers.

## Processing and Pelletizing Hops for Commercial Beverage Manufacturing

Processing hops may involve grinding, cracking, hammering, milling and/or pelletizing. TDA food processing regulations consider grinding, cracking, hammering, milling and/or pelletizing hops to be part of the overall commercial beverage manufacturing process and these acts must be performed under a permit and inspection by TDA. In general, a facility in which hops will be pelletized would likely be considered a low-risk food operation and permitted by TDA as a food manufacturing facility. The annual permit fee will be based on the size of the food processing facility. A “small” food processing facility of less than 10,000 square feet is subject to an annual permit fee of \$50, while a “large” food processing facility is larger than 10,000 square feet and subject to an annual permit fee of \$100. Both small and large food processing facilities are subject to an on-site inspection every 18 months. Pelletized hops packaged for wholesale would be subject to weights and measures label requirements. Pelletized hops packaged for retail sales would be subject to weights and measures label requirements and all food product-labelling regulations. For more in-depth explanation of these two requirements, the UT Extension publication PB 1399 “[Getting Started in a Food Manufacturing Business in Tennessee](#)” provides detailed information about food labeling requirements. (Morris et al. 2012).

## Beverage Manufacturing for On-site Consumption (Microbrewery/restaurant)

A variety of businesses exist where beverages are manufactured for commercial sale. Craft breweries often manufacture beverages for on-site consumption in a pub-like or a restaurant setting. Establishments where beverages are made only for on-site consumption in Tennessee are permitted and inspected under the

regulatory oversight of the Tennessee Department of Health in a similar fashion as restaurants, cafés and bakeries. (Morris et al. 2012).

## Beverage Manufacturing for Off-site Consumption

If a business manufactures beverages in Tennessee only for off-site consumption the regulatory oversight will be by the Tennessee Department of Agriculture. In general, a facility in which beverages will be manufactured for off-site consumption will likely be considered a low-risk food operation and permitted by TDA as a food manufacturing facility and subject to an annual permit fee of \$50 or \$100 (depending on the total square footage of the business) and an on-site inspection every 18 months. (Morris et al. 2012).

In the event that beverages are manufactured for both on-site and off-site consumption in the same facility, dual permits will likely be necessary – a permit from the Tennessee Department of Health for products prepared for on-site consumption and a permit from the Tennessee Department of Agriculture for products prepared for off-site consumption. (Morris et al. 2012).

## Summary

The regulatory oversight for hops as an ingredient in commercial beverage manufacturing will vary based on how the product is processed and how the end beverage product will be marketed. The sale of fresh (wet) hops direct from the grower does not require food regulation oversight at the state level and at this date, nor does it require federal oversight (subject to any further changes to implementation of the FSMA). Similarly, the act of cleaning and drying hops does not require food regulation oversight in Tennessee. The act of pelletizing hops is considered food processing and

must be done in an inspected facility under permit by the Tennessee Department of Agriculture. The actual locations and facilities in which beverages are commercially manufactured must be inspected and permitted by the appropriate state agency. The Tennessee Department of Agriculture is the applicable state agency with regulatory oversight for beverages prepared for off-site consumption while the Tennessee Department of Health is the state agency with regulatory oversight for beverages prepared for on-site consumption. Proper label and weights and measures requirements must be followed for ingredients and beverages prepared for wholesale and retail sale.

## References

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