

Project Final Report

Opportunities for Specialty Crops in Tennessee: Focus on Hops for Brewing

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NOTE: This report is intended for internal use and for use with the sponsoring agency as a summary of the externally funded project.

It is not intended for nor has it been prepared and edited for educational and teaching purposes.

Background

The brewing and distilling industry has been expanding in Tennessee, especially at the craft, hobby and micro levels. An increasing number of beverage brewers and distillers have been inquiring about locally-produced grains and other farm products for use in brewing and distilling. Crops for brewing and distilling (such as malting varieties of barley, wheat, corn, rye and hops) have not been well proven for commercial production in the state. In addition, processing and marketing channels for these crops are not well established either. Farmers are often looking for alternative crops and buyers are often looking for local supplies, but matching buyers with sellers is not always easy.

Discussions and planning meetings to address the potential for growing and marketing hops in Tennessee began in the fall of 2016. A formal grant proposal was developed to investigate hops and submitted to TDA for SCBG funds in the spring of 2017. The project was selected for funding in the fall of 2017 and work commenced in November. The intended number of project beneficiaries was 200.

Collaborators

The following individuals served as the primary collaborators in the project:

- **Rob Holland**
Center for Profitable Agriculture
UT Extension
- **David Hughes**
Agriculture and Resource Economics
UT Extension
- **David Lockwood**
Plant Sciences
UT Extension
- **Aaron Smith**
Agriculture and Resource Economics
UT Extension
- **Eric Walker**
Plant Sciences
UT Extension
- **Hannah Wright**
Agriculture and Resource Economics
UT Extension

Summary

The *Opportunities for Specialty Crops in Tennessee: Focus on Hops for Brewing* project has been a great success. Project collaborators assembled, developed and implemented an aggressive program from initiation to completion. Overall, we estimate that more than 3,800 people received information related to the project. Here are some highlights of the project:

- Direct contact was made with 738 specialty crop growers, potential growers and agriculture educators.
- Materials and educational publications prepared for this project were disseminated to some 563 individuals.
- Direct consultations were conducted by the primary project collaborators with an estimated 811 individuals.
- Information prepared for the project was disseminated via the project web site and via e-mail correspondence to an estimated 1,700 individuals.
- A web site has been developed to highlight the information developed for this project:
<https://ag.tennessee.edu/cpa/Pages/Hops.aspx>
- Listed in Table 1, 13 fact sheets, publications and educational materials were developed and utilized for the project.
- Overall, more than 3,800 contacts have been made with specialty crop growers, colleagues and interested stakeholders concerning information related to this project.

Table 1. Listing of Fact Sheets, Publications and Educational Materials Developed and Utilized for the Project	
<u>Title</u>	<u>Publication/Tracking Number</u>
Introduction and Overview for UTIA Symposium on Hops	CPA Info#309
General Overview of State Food and Beverage Manufacturing Regulations for Locally-Grown Hops in Tennessee	SP 808
Introduction and Overview for UTIA Symposium on Hops	CPA Info #309
Summary of Educational Information Presented at Regional Hops Workshops	CPA Info #327
Summary of West Tennessee Hops Workshop	CPA Info #359
Summary of Tennessee Hops Initiative Study Tour to Washington State	CPA Info #360
Summary of Tennessee Hops Initiative Study Tour to New York State	CPA Info # 361
Contribution of the Craft Beer Industry to Tennessee's Economy	W-860
Project Summary: On-Site Sustainable and Value-Added Agriculture Business Training and Crop Tours	CPA Info#364
Summary of Tennessee's Craft Breweries Survey with Focus on Hops	CPA Info #366
General Guide to Growing and Marketing Hops in Tennessee	W-912
Overview and Considerations of the Craft Beer Market: Focus on Producing and Marketing Hops in Tennessee	CPA Info #377
Food Safety Modernization Act (FSMA) and Pre-Processing Considerations of Hops for Beverages	CPA Info #376

Table 2 presents a more detailed listing of the actions that were taken in the project, a description of the deliverables and outcomes and the number of participants/contacts reached.

Table 2. Summary of Project Objectives/Actions, Deliverables and Participants/Contacts

Opportunities for Specialty Crops in Tennessee: Focus on Hops for Brewing to enhance the competitiveness of specialty crops through more sustainable, diverse and resilient specialty crop systems

<u>Objectives/Actions</u>	<u>Deliverables</u>	<u>Number of Participants/Contacts</u>
Identify the important (use/demand) sectors that contribute to a successful production industry for hops.	<ul style="list-style-type: none"> • Participate in Hops Conferences and Educational Events • Participate in Out-of-state study tours • Develop “General Guide to Producing and Marketing Hops in Tennessee” 	n/a
Summarize applicable hops production systems and experiences in others states.	<ul style="list-style-type: none"> • Participate in Hops Conferences and Educational Events • Participate in Out-of-state study tours • Conduct/Host Hops Symposium • Conduct Hops Grower Meetings/Workshops • Conduct and Summarize Survey • Publish “General Considerations for Growing and Marketing Hops in Tennessee” 	n/a
Conduct an internal hops production planning symposium	<ul style="list-style-type: none"> • August 15, 2018, UTIA Campus • 77 participants • 10 presenters/speakers • Information from the symposium is available online at: https://ag.tennessee.edu/cpa/Pages/HopsSymposium.aspx 	77
Participate in Various Hops Conferences, Educational Events and Professional Development	<ul style="list-style-type: none"> • South Atlantic Hops Conference, March 2019, Asheville, North Carolina • Virginia Hops Conference, March 2018 • South Carolina Hops Conference, June 2018 	6
Conduct Out-of-state Study Tours (Washington and New York) and Summarize applicable hops production systems and experiences in others states	<ul style="list-style-type: none"> • August 2019 in New York, 5 participants • June 2019 in the Yakima Valley of Washington, 5 participants • Summary of Results: https://ag.tennessee.edu/cpa/Pages/HopsStudyTourNewYorkState.aspx https://ag.tennessee.edu/cpa/Pages/HopsStudyTourWashingtonState.aspx 	10
Develop and Distribute Publication on commercial food	<ul style="list-style-type: none"> • Published UT Extension Publication SP 808 – General Overview of State Food and Beverage Manufacturing Regulations for Locally-Grown Hops in Tennessee 	138

and beverage regulations related to hops	<ul style="list-style-type: none"> • Distribute and discuss with 138 County Extension Agents at 7 in-service training events during the Fall of 2018 and 2019 • Available online at: https://extension.tennessee.edu/publications/Documents/SP808.pdf 	
Develop and distribute additional publications and fact sheets related to hops	<ul style="list-style-type: none"> • Contributions of the Craft Beer Industry to Tennessee's Economy • General Overview of State Food and Beverage Manufacturing Regulations for Locally Grown Hops in Tennessee • Food Safety Modernization Act (FSMA) and Pre-Processing Considerations of Hops for Beverages • Overview and Considerations of the Craft Beer Market: Focus on Producing and Marketing Hops in Tennessee • These fact sheets have been utilized with approximately 78 specialty crop growers and will continue to be used in various outreach, teaching and consultation events with specialty crop growers. 	78
Develop and Distribute publication "General Guide to Growing and Marketing Hops in Tennessee"	<ul style="list-style-type: none"> • This publication represents the culmination of the project and will be used in outreach with farmers in educational events for years to come. • https://extension.tennessee.edu/publications/Documents/W912.pdf • 1,500 copies printed and distributed • Will be used in teaching • Distributed web link and a limited number of printed copies to each County Extension Office (110 agents and specialists). • Distributed web link for the publication to the members of the Tennessee Hops e-mail group (51 participants) 	161+ (1,500 printed copies will be distributed)
Develop and Distribute Publication/Report on the Summary of Demand Potential for Specialty Crops by Tennessee Craft Brewers	<ul style="list-style-type: none"> • 34 craft brewers participated in survey • Distributed and Discussed results with 138 County Extension Agents at 7 in-service training events in the Fall of 2018 and 2019 • Results specific to hops summarized and available at: https://ag.tennessee.edu/cpa/Pages/HopsTNCraftBreweriesSurvey.aspx 	138
Conduct Grower Meetings/Workshops in Tennessee	<ul style="list-style-type: none"> • Develop Educational Presentations • 179 participants in 5 sessions across the state <ul style="list-style-type: none"> ○ Murfreesboro (87) ○ Lafayette (58) ○ Greeneville (15) ○ Pikeville (11) 	179

	<ul style="list-style-type: none"> ○ Memphis (8) • Summary of educational information presented is available at: https://ag.tennessee.edu/cpa/Information%20Sheets/CPA327.pdf 	
Develop E-mail "group" for sending hops related information	<ul style="list-style-type: none"> • An e-mail list of hops growers and interested growers is maintained for distributing information on the crop. There are 51 on the list along with 118 Extension agents on our internal e-mail communications list. 	169
Conduct on-site study tours and consultations with hops growers and brewers	<ul style="list-style-type: none"> • Visit and consult with hops growers in 3 counties during the summer of 2019 (Bedford County, Maury County, Monroe County) • Visit and consult with local and craft brewers during 2019 and 2020 in 4 counties (Maury, Davidson, Shelby). • 21 participants 	21
Consult with growers, farmers and landowners about growing and marketing hops	<ul style="list-style-type: none"> • During the project, the 5 primary project leaders continually responded to and participated in conversations and consultations about growing and marketing hops. • Consultations were provided in-person, on-site, via telephone, e-mail and other methods. • Project leaders were asked to provide an estimate of the number of consultations they had with growers, possible growers and agriculture educators during the 3-year project • Approximately 811 contacts reached through various consultations. • Many consultations stemmed from the announcement of the project's launch in December 2017 https://ag.tennessee.edu/news/Pages/NR-2017-12-HopsSpecialtyGrant.aspx 	Estimated at 811
Distribute information from the project via the hops project web page	<ul style="list-style-type: none"> • Post project information to web at: https://ag.tennessee.edu/cpa/Pages/Hops.aspx 	Estimated at 1,700

Examples of Publications and Fact Sheets

The following images represent the cover page of selected publications and fact sheets developed for the project.



Implications and Future Steps

Results of the project identified numerous production constraints and marketing challenges for a viable hops industry in the state. To date, crop yields in the state have been less than adequate to support enterprise profitability. In addition, the lack of robust local demand for wet hops and the lack of hops palletization and dehydrating infrastructure has also challenged profitability. The project has helped identify hops growers and potential growers and has provided tremendous support. Input from project participants indicates a

Photos

The following are various photos from the project:



Hops farm visit on Monroe County, Tennessee.



Hops study tour to Yakima Valley of Washington.



Hops trellised in Washington.



Pelletized hops in Washington.



Hops harvesting machine in Washington.



Young hops growing in Washington.



Local study tour at Tennessee Brew Works.



Hops farm visit in Maury County, Tennessee.



Hops farm visit in Bedford County, Tennessee.



Hops Symposium on UTIA Campus in Knoxville, Tennessee.



Programs in agriculture and natural resources, 4-H youth development, family and consumer sciences, and resource development.
University of Tennessee Institute of Agriculture, U.S. Department of Agriculture and county governments cooperating.
UT Extension provides equal opportunities in programs and employment.