



## 4-H Foundations of Maple Sugaring Enterprise: From Sap, to Syrup, to Sales Instructional Content Guide for Volunteers and Club Leaders

### Unit 3: Kitchen and Business

#### **Goals:**

1. Provide educational experiences related to operating a maple sugar product business and creating value added food products.
2. Provide experiences rooted in positive youth development (PYD) for Maine 4-H youth. (See PYD Planning Guide on the last page.)
3. Facilitate the learning and practice of entrepreneurial and workforce skills related to maple forest agricultural occupations in northern New England.

<b>Learning Objectives</b> *The items with an asterisk are assessed for the Level 1 Digital Badge	<b>Activities &amp; Resources</b> (Instruction will be virtual or remote unless noted as an in-person activity) <b>Two Types of Selected Student Text Resources (SSR)</b> <b>Orange- Activity or Worksheet</b> <b>Black- Informational Resource</b>	<b>Citations for All Sources and References</b>
*Explain the purpose and benefit of having business plan for a maple sugaring business	<b>SSR 3A - <a href="#">Business Plan Guidelines</a></b>  <b>SSR 3B - <a href="#">Business Record Keeping</a></b>   <i>In-person activity at host site</i>	Center for Farm Financial Management (2021).  Cornell Maple Program (2020). pp.147-152 ( <b>SSR 3B</b> )  Maine Small Business Development Centers (March 2022). pp.11-14 ( <b>SSR 3A</b> )  Wolfe, L.M. (2019). pp.66-72  <i>Host Guide: Week 3-Kitchen and Business, Items #1 and #2</i>

Please note that by using this guide you may be asked to provide input for improvements to the program. Andrew Hudacs, [andrew.hudacs@maine.edu](mailto:andrew.hudacs@maine.edu), Version January 2025

In complying with the letter and spirit of applicable laws and pursuing its own goals of diversity, the University of Maine System does not discriminate on the grounds of race, color, religion, sex, sexual orientation, transgender status, gender, gender identity or expression, ethnicity, national origin, citizenship status, familial status, ancestry, age, disability physical or mental, genetic information, or veterans or military status in employment, education, and all other programs and activities. The University provides reasonable accommodations to qualified individuals with disabilities upon request. The following person has been designated to handle inquiries regarding non-discrimination policies: Director of Equal Opportunity, 5713 Chadbourne Hall, Room 412, University of Maine, Orono, ME 04469-5713, 207.581.1226, TTY 711 (Maine Relay System).

*Recognize loans or other funding sources for entrepreneurial activities.	<b>SSR 3C</b> - <a href="#">Youth Loans Fact Sheet</a>	US Department of Agriculture Farm Service Agency (2024a). ( <b>SSR 3C</b> )
*Label one data collection and record keeping method for a maple product business.	<b>SSR 3B</b> - <a href="#">Business Record Keeping</a>	Cornell Maple Program (2020). pp.147-152 ( <b>SSR 3B</b> )
*Locate online the state requirements for selling maple syrup.	<b>SSR 3D</b> - <a href="#">Maine Food and Fuel License Application</a>  <b>SSR 3E</b> - <a href="#">Maine Home Food License 101</a>	Maine Maple Producers Association (2024a).  Maine Department of Agriculture, Conservation and Forestry (2021a & 2021b)). ( <b>SSR 3D and 3E</b> )
*Describe how to locate additional learning opportunities about maple forest management, the creation of maple products, effective agribusiness practices (ex. workshops, conferences, internships, apprenticeships, classes)	Activity by UMaine Extension Staff or Partners	Maine Maple Producers Association (2024b).  University of Maine Cooperative Extension (2024).
*List two evidence or research-based resources about how to produce maple syrup or value-added foods	<b>SSR 3F</b> - <a href="#">Maple Sugar Ratios</a>  <b>SSR 3G</b> - <a href="#">Maple 4 Ways -Value Added</a>  <i>In-person activity at host site</i>	New York State Maple Producers Association. (2017). p.33-34 ( <b>SSR 3F</b> )  Perkins, et al. (2022). 9-3 to 9-9, 9-12 to 9-31  Wolfe, L.M. (2019). p.63-65  Vermont Evaporator Company (2023). Document file p. 13 ( <b>SSR 3G</b> )

Please note that by using this guide you may be asked to provide input for improvements to the program. Andrew Hudacs, [andrew.hudacs@maine.edu](mailto:andrew.hudacs@maine.edu), Version January 2025

In complying with the letter and spirit of applicable laws and pursuing its own goals of diversity, the University of Maine System does not discriminate on the grounds of race, color, religion, sex, sexual orientation, transgender status, gender, gender identity or expression, ethnicity, national origin, citizenship status, familial status, ancestry, age, disability physical or mental, genetic information, or veterans or military status in employment, education, and all other programs and activities. The University provides reasonable accommodations to qualified individuals with disabilities upon request. The following person has been designated to handle inquiries regarding non-discrimination policies: Director of Equal Opportunity, 5713 Chadbourne Hall, Room 412, University of Maine, Orono, ME 04469-5713, 207.581.1226, TTY 711 (Maine Relay System).

		<i>Host Guide: Week 3-Kitchen and Business, Items #3 and #4</i>
*Name the USDA Food Safety Basics four vital rules for safe handling and preparing foods	<b>SSR 3H</b> – <a href="#">Four Vital Rules of Food Safety</a>	USDA (2024b). ( <b>SSR 3H</b> )
*Recognize USDA Maple Syrup Grades and Standards	<b>SSR 3I</b> - <a href="#">Maple Syrup Grades &amp; Standards</a>	USDA (2024c). ( <b>SSR 3I</b> )
Create a value-added maple product	<b>SSR 3G</b> - <a href="#">Maple 4 Ways -Value Added</a>  <b>SSR 3J</b> - <a href="#">Replacing White Sugar with Maple in Baking</a>  <i>In-person activity at host site</i>	Vermont Evaporator Company (2023). Document file p. 13 ( <b>SSR 3G</b> )  Vermont Evaporator Company (2023). Document file p.20 ( <b>SSR 3J</b> )  <i>Host Guide: Week 3-Kitchen and Business, Item #5</i>
*Recognize three value added maple products and their ingredients	<b>SSR 3K</b> – <a href="#">Value-added Maple Products</a>	Perkins, et al. (2022). pp.9-3 to 9-9, 9-12 to 9-31  Wolfe, L.M. (2019). pp.63-65 ( <b>SSR 3K</b> )
*Recognize four or more occupational areas that are connected to maple syrup business operations, value-added food production, and selling maple products.	Activity by UMaine Extension Staff	National Council for Agricultural Education (2024).

Please note that by using this guide you may be asked to provide input for improvements to the program. Andrew Hudacs, [andrew.hudacs@maine.edu](mailto:andrew.hudacs@maine.edu), Version January 2025

In complying with the letter and spirit of applicable laws and pursuing its own goals of diversity, the University of Maine System does not discriminate on the grounds of race, color, religion, sex, sexual orientation, transgender status, gender, gender identity or expression, ethnicity, national origin, citizenship status, familial status, ancestry, age, disability physical or mental, genetic information, or veterans or military status in employment, education, and all other programs and activities. The University provides reasonable accommodations to qualified individuals with disabilities upon request. The following person has been designated to handle inquiries regarding non-discrimination policies: Director of Equal Opportunity, 5713 Chadbourne Hall, Room 412, University of Maine, Orono, ME 04469-5713, 207.581.1226, TTY 711 (Maine Relay System).

*Recognize leadership and ethical decision making in the agriculture and business community <sup>1</sup>	Activity by UMaine Extension Staff  <i>In-person activity at host site</i>	Boyles, M. (July 27, 2023).  Lasley, et al. (1997) <i>Host Guide: Week 3-Kitchen and Business, Items #6 and #7</i>
*Identify workplace traits and skills that are transferable from maple sugarhouse business operations and value-added food production to other industries.	Activity by UMaine Extension Staff	National Center for O*NET Development (2024).  U.S. Bureau of Labor Statistics (July 25, 2023).

#### Sources and Text Resources:

- Boyles, M. (July 27, 2023). *What are business ethics and why are they important?* Harvard Business School Online. <https://online.hbs.edu/blog/post/business-ethics>
- Center for Farm Financial Management (2021). *AgPlan app*. <https://agplan.umn.edu/>
- Cornell Maple Program (2020). *Maple Syrup Production Beginner's Notebook*. Cornell University. <https://bpb-us-e1.wpmucdn.com/blogs.cornell.edu/dist/7/5773/files/2020/02/beginner-notebook-1st-ed-1.pdf>
- Lasley, P., Baumel, P. C., Deiter, R. & Hipple, P. (February 1997). *Strengthening Ethics Within Agricultural Cooperatives*. Rural business Cooperative Service Report 151, United States Department of Agriculture. <https://www.rd.usda.gov/sites/default/files/rr151.pdf>
- Maine Department of Agriculture, Conservation and Forestry (2021a). *Food and Fuel License Application*. [https://www.maine.gov/dacf/qar/permits\\_and\\_licenses/index.shtml](https://www.maine.gov/dacf/qar/permits_and_licenses/index.shtml)
- Maine Department of Agriculture, Conservation and Forestry (2021b). *Home Food License 101*. [https://www.maine.gov/dacf/qar/permits\\_and\\_licenses/documents/home-license-101.pdf](https://www.maine.gov/dacf/qar/permits_and_licenses/documents/home-license-101.pdf)
- Maine Maple Producers Association (2024a). *Maine state license: Filling out your state license*.

<sup>1</sup> This learning objective can lead to instructional alignment with AFNR Standards: CRP.09. Model integrity, ethical leadership and effective management; CRP.09.01. Model characteristics of ethical and effective leaders in the workplace and community (e.g. integrity, self-awareness, self-regulation, etc.); CRP.09.02. Implement personal management skills to function effectively and efficiently in the workplace (e.g., time management, planning, prioritizing, etc.).

Please note that by using this guide you may be asked to provide input for improvements to the program. Andrew Hudacs, [andrew.hudacs@maine.edu](mailto:andrew.hudacs@maine.edu), Version January 2025

In complying with the letter and spirit of applicable laws and pursuing its own goals of diversity, the University of Maine System does not discriminate on the grounds of race, color, religion, sex, sexual orientation, transgender status, gender, gender identity or expression, ethnicity, national origin, citizenship status, familial status, ancestry, age, disability physical or mental, genetic information, or veterans or military status in employment, education, and all other programs and activities. The University provides reasonable accommodations to qualified individuals with disabilities upon request. The following person has been designated to handle inquiries regarding non-discrimination policies: Director of Equal Opportunity, 5713 Chadbourne Hall, Room 412, University of Maine, Orono, ME 04469-5713, 207.581.1226, TTY 711 (Maine Relay System).



<https://mainemapleproducers.com/maine-state-license/>

- Maine Maple Producers Association (2024b). *Mentor Program*. <https://mainemapleproducers.com/mentor-program/>
- Maine Small Business Development Centers (June 2019 & March 2022). *A guide to starting a business in Maine*. America's Small Business Development Centers. <https://www.mainesbdc.org/business-plan-guide/>
- National Center for O\*NET Development (2024). *My Next Move*. U.S. Department of Labor, Employment & Training Administration. <https://www.mynextmove.org/>
- National Council for Agricultural Education (2024). Agriculture, Food and Natural Resources Content Standards: Career Ready Practices. <https://thecouncil.ffa.org/afnr/>
- New York State Maple Producers Association. (2017). *Maple Activities-6th Grade*. <https://bpb-us-e1.wpmucdn.com/blogs.cornell.edu/dist/7/5773/files/2021/02/6th-grade-worksheets-revised.pdf>
- Perkins, T.D., R.B. Heiligmann, M.R. Koelling, and A.K. van den Berg (Editors). 2022. North American Maple Syrup Producers Manual. Third Edition. The University of Vermont and the North American Maple Syrup Council, Burlington, Vermont. [www.mapleresearch.org/manual/](http://www.mapleresearch.org/manual/)
- U.S. Bureau of Labor Statistics (July 25, 2023). *North American Industry Classification System*. <https://www.bls.gov/bls/naics.htm>
- USDA Farm Service Agency (2024a). *Fact Sheet: Youth loans August 2019*. <https://www.fsa.usda.gov/programs-and-services/farm-loan-programs/youth-loans/index>
- USDA Farm Service Agency (2024b). *Keep Food Safe! Food Safety Basics*. <https://www.fsis.usda.gov/food-safety/safe-food-handling-and-preparation/food-safety-basics/steps-keep-food-safe>
- USDA Farm Service Agency (2024c). *Maple Syrup Grades & Standards*. <https://www.ams.usda.gov/grades-standards/maple-syrup-grades-standards>
- USDA (2024d). *Strengthening Ethics Within Agricultural Cooperatives*. <https://www.rd.usda.gov/sites/default/files/rr151.pdf>
- University of Maine Cooperative Extension (2024). *UMaine Extension Workshops, Classes, and Events*. <https://extension.umaine.edu/register/shop/>
- Vermont Evaporator Company (2023). *Curriculum for Little Kids, Big Kids and Biggest Kids: For biggest kids*. <https://vermontevaporator.com/at-school/>

Please note that by using this guide you may be asked to provide input for improvements to the program. Andrew Hudacs, [andrew.hudacs@maine.edu](mailto:andrew.hudacs@maine.edu), Version January 2025

In complying with the letter and spirit of applicable laws and pursuing its own goals of diversity, the University of Maine System does not discriminate on the grounds of race, color, religion, sex, sexual orientation, transgender status, gender, gender identity or expression, ethnicity, national origin, citizenship status, familial status, ancestry, age, disability physical or mental, genetic information, or veterans or military status in employment, education, and all other programs and activities. The University provides reasonable accommodations to qualified individuals with disabilities upon request. The following person has been designated to handle inquiries regarding non-discrimination policies: Director of Equal Opportunity, 5713 Chadbourne Hall, Room 412, University of Maine, Orono, ME 04469-5713, 207.581.1226, TTY 711 (Maine Relay System).



## Positive Youth Development (PYD) Planning Guide

### 4-H Maple Sugaring 101

Please list the ways in which you plan to incorporate each of the PYD Objectives (below) into your learning experiences.

<p style="text-align: center;"><u>BELONGING</u></p> <p><i>Objective: Youth will feel connected to their peers</i></p> <p>How will you create a sense of belonging in your activities and meetings?</p>	<p style="text-align: center;"><u>SPARKS</u></p> <p><i>Objective: Youth have the opportunity to explore something they care about, their “sparks”</i></p> <p>What “sparks” will you be facilitating in your activities?</p>
<p style="text-align: center;"><u>HANDS-ON</u></p> <p><i>Objective: Youth will “learn by doing” a hands-on experience</i></p> <p>What hands-on experience will you be facilitating during the on-site visits or at another time?</p>	<p style="text-align: center;"><u>REFLECTION</u></p> <p><i>Objective: Youth have the opportunity to reflect on their learning experience</i></p> <p>How will you facilitate youth reflection in your activities?</p>

Please note that by using this guide you may be asked to provide input for improvements to the program. Andrew Hudacs, [andrew.hudacs@maine.edu](mailto:andrew.hudacs@maine.edu), Version January 2025

In complying with the letter and spirit of applicable laws and pursuing its own goals of diversity, the University of Maine System does not discriminate on the grounds of race, color, religion, sex, sexual orientation, transgender status, gender, gender identity or expression, ethnicity, national origin, citizenship status, familial status, ancestry, age, disability physical or mental, genetic information, or veterans or military status in employment, education, and all other programs and activities. The University provides reasonable accommodations to qualified individuals with disabilities upon request. The following person has been designated to handle inquiries regarding non-discrimination policies: Director of Equal Opportunity, 5713 Chadbourne Hall, Room 412, University of Maine, Orono, ME 04469-5713, 207.581.1226, TTY 711 (Maine Relay System).