

Engaging students in NTFPs – opportunities for experiential learning




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Agenda

- Background
 - Define non-timber forest products
 - Our experience/research and outreach areas
 - Next steps
 - Discussion and suggestions
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Background

- Department historically had wood focus
- Name changed to SBIO
- Increased emphasis expanded to include alternative natural materials
- Students show interest in (i.e., hemp)
- Added experiential learning requirement in curriculum (internship, coop, study abroad, or undergraduate research)

Timber-based economy



Need to supplement timber-based incomes

Virginia has forest based economy



What other products will the forest provide?



Global trade and use of NTFPs –
Firestone produces latex
for rubber-based products (Liberia)



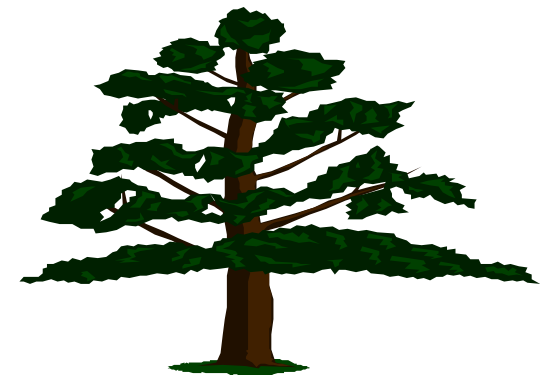
Cork has global markets, many products (Portugal)

Resin tapping - an important early Virginia export



Traditional Non-timber forest products

1. Edible forest products
2. Medicinal and dietary supplements
3. Floral or decorative products
4. Specialty wood products
5. Ecosystem (personal) services



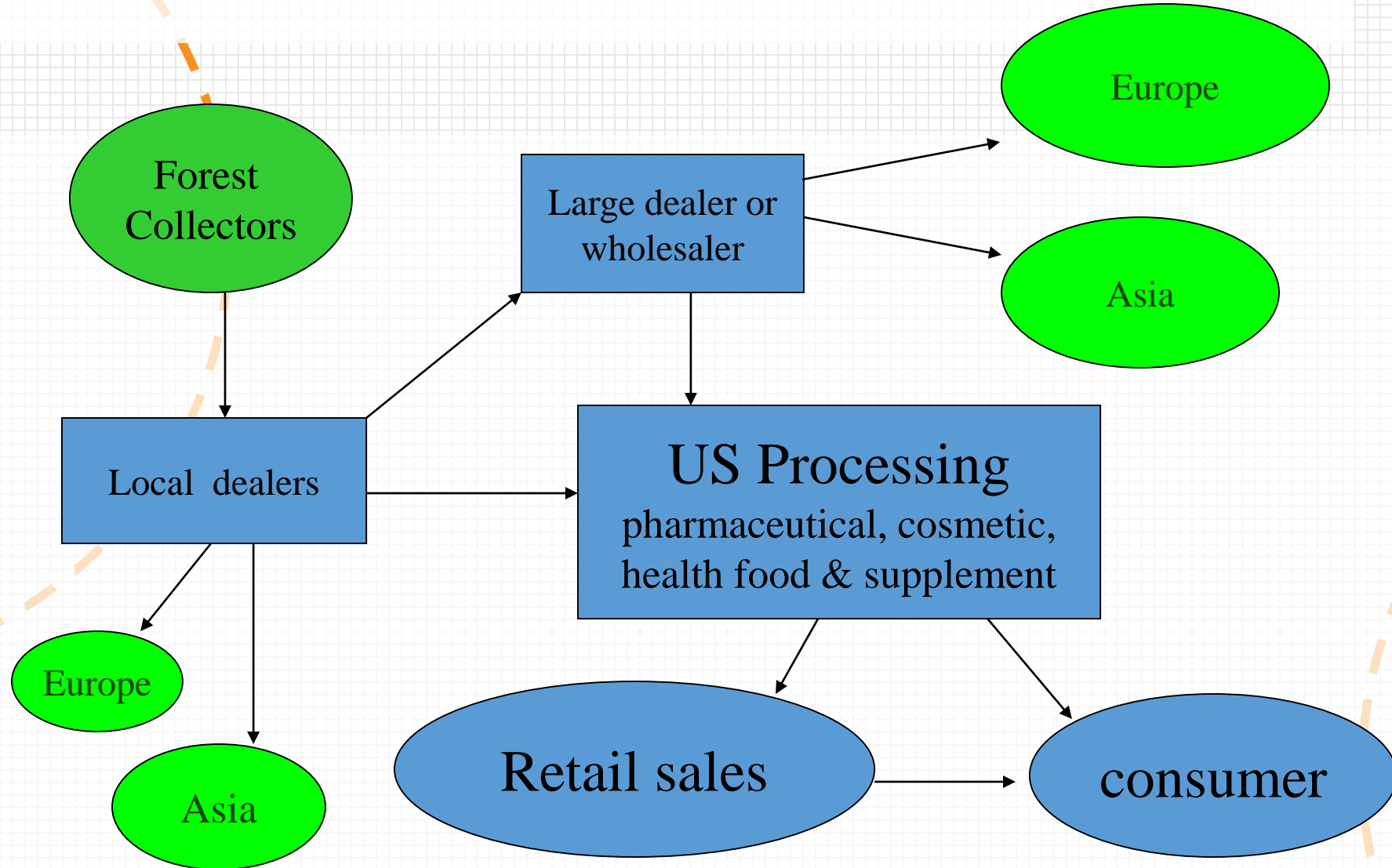




Wild foraging – Morels and ramps



2. Medicinal and dietary supplements





Variety of medicinal and herbal products – many with high value

3. Decorative uses



4. *Specialty wood products*

- Products include: handicrafts, carvings, turnings, utensils, containers (baskets), furniture
- One of a kind carvings or furniture pieces
- Good seasonal income for suppliers and carvers
- Uses for wood waste



Charcoal - use of wood waste



Students processed and test marketed local charcoal

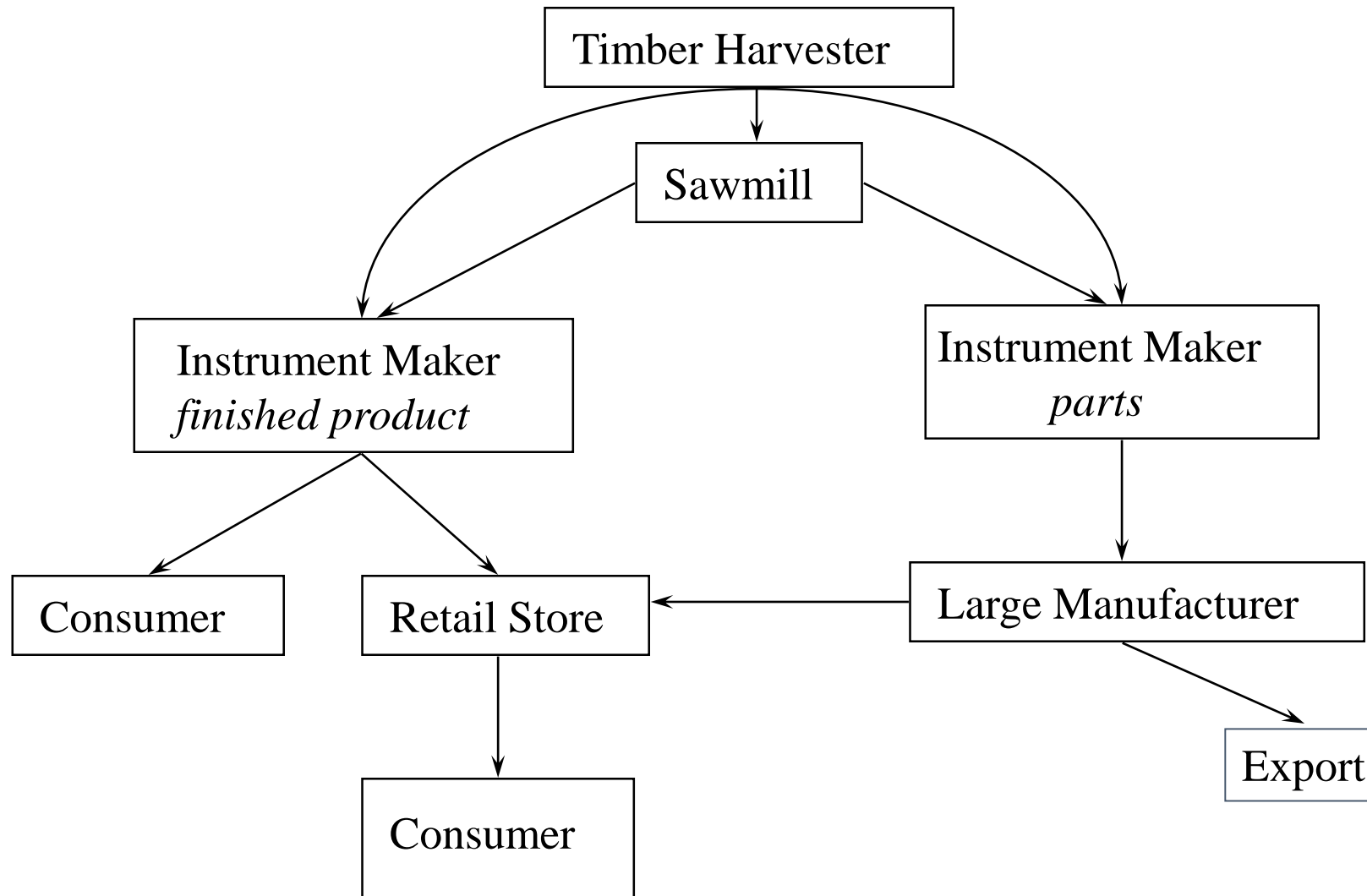


Opportunity: utilize small pieces (of waste)
to make value-added products



Tourism and economic development - Tamarack, WV

Research on markets: Wood used for Musical Instruments



5. *Ecosystem services*

Forest values that are not tangible include:

- Recreation (i.e., mushroom collecting, bird watching)
- Ecotourism or agritourism (i.e., Highland County Maple Festival)
- Education (i.e., culture and history of forest use)
- Carbon sequestration



- Students have participated in research projects including:
- NTFP-based tourism
 - Economic impacts of NTFP-based festivals
 - Improving production and processing (i.e., energy use)





Market research included:


- Value-addition
- Shelf survey (labeling, etc.)
- Test marketing a regional brand

Drawbacks/ challenges

- Traditional NTFPs have limited growth potential
- Produced and to large extent locally consumed
- Little field-based technical help
- Sustainability threatened
 - Resource often limited or endangered
 - Traditional harvest and production techniques lost



Options

- Expand using biomaterials for traditional and new uses
 - Develop knowledge for uses and products
 - Relearn about traditional fiber sources (i.e., hemp)
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Course outline



- Background research
- Product selection
- Developing research strategy
- Conduct research
- Interim progress updates
- Analysis of results
- Presentation

Experience

- Starting and conducting research project
- Collaborating with colleagues (other students, faculty)
- Collaborating with entities outside the university
- Others

Some new opportunities emerging

- Hemp
 - Explore as building material
 - Fiber is byproduct of producing CBDs and other valuable products
- Bamboo:
 - Explore potential of local (invasive) species
 - Draw on centuries of product knowledge
- Mycelium:
- Other natural materials



Next steps

- Support/mentor undergraduate research projects
- Introduce new course – research project centered
- Research on hemp:
 - Expanding processing opportunities
 - Developing building applications
- With students, present and publish results



COLLEGE OF NATURAL RESOURCES AND ENVIRONMENT
SUSTAINABLE BIOMATERIALS
VIRGINIA TECH

Impacts of the Highland County Maple Festival

Daniel Grizzard and Dr. A.L. Hammett
Sustainable Biomaterials
Virginia Tech, Blacksburg, Virginia



VIRGINIA TECH.
Future Generations
University

Abstract

Special tourism events like festivals provide communities with an opportunity to attract visitors to an area for a community celebration. One such event is the Highland County Maple Festival. This festival has taken place at the end of the maple syrup production season since 1959. The 62nd annual Highland County Maple Festival took place over the second and third weekends of March in 2022. A research team from Virginia Tech partnered with Future Generations University and the Highland County Chamber of Commerce to conduct an economic impact analysis of this event. Surveys were given to both visitors and vendors at the event. Attendance at the event was estimated with car counting information from the Virginia Department of Transportation. This research found that approximately 26,500 visitors came to the festival and spent almost \$2.02 million dollars. Approximately 21% of this spending took place at the ten maple syrup farms that offered tours during the event. This means that most of the money spent in Highland County during the festival went to other types of businesses in the area. The impacts of the Highland County Maple Festival go beyond just the money that was spent. Over 73% of visitors reported being interested in visiting the county during another season because of their experience at the festival. One-fifth of visitors learned what real maple syrup was during the festival, and visitors reported being 21% more likely to purchase maple syrup after attending. The 2022 Highland County Maple Festival provided an economic boost to businesses throughout the county and created new maple syrup customers for the future.

Introduction

Tourism offers farmers a way to engage with new customers and sell products at a premium. Special events like festivals allow farmers to reap benefits of tourism, but without the time commitment. The Highland County Maple Festival was created in 1959 to help maple syrup producers sell their products for higher prices. In 2022, The Highland County Maple Festival had:

- Ten sugar camps giving tours, offering samples, and selling syrup
- 140 vendors setup through the county
- Four civic groups offering pancake breakfasts
- Live performances from local musicians and dance groups



Research Questions

- What was the direct economic impact of the 2022 Highland County Maple Festival?
- How does attendance to the festival change visitor attitudes toward purchasing maple syrup?

Methods

- Random intercept survey of visitors at two different locations in Highland County
- Used a hybrid parking lot counting method, based on National Park Service attendance counting, to estimate attendance at the festival
- Applied spending data to attendance estimate in order to estimate how much money the festival brought into Highland County

Results



- The key findings from this research were:
- The festival generated a little over \$2,000,000 in direct spending in Highland County
 - 21% of spending took place at sugar camps
 - Approximately 26,500 visitors attended the festival
 - Visitors traveled an average of 98 miles to attend
 - 20% of visitors learned what real maple syrup was during the festival
 - Visitors were 21% more likely to purchase maple syrup after attending
 - More than 73% of respondents said they are interested in visiting Highland County during another time of year after attending the festival
 - 64% of visitors came to the festival primarily because of the opportunity to learn about and eat maple syrup



Conclusion

Agrotourism events like the Highland County Maple Festival provide an opportunity for farmers to sell their products directly to consumers, generate significant economic activity, and create new customers for local products.

Acknowledgments

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Grizzard, D., Hammett, A. L., & Hammett, A. L. (2022). Impacts of the Highland County Maple Festival. *Journal of Applied Tourism Research*, 1(1), 1-10. <https://doi.org/10.1080/27702629.2022.2088888>



1. Bio

Compared to conventional...

2. Ram

Factors critical to the...

3. Ent

The transition...

SBIO 3984: Mycelium and Hemp

CRN: 91789

Taught by Dr. Hindman

Co-Taught by Dr. Hammett

Class time to be determined

The purpose of this class is to explore the emerging uses of mycelium and hemp in construction. The class will consist of experiential learning to understand the sources, manufacturing, use, and deconstruction of mycelium and hemp products in construction. Our focus will be to explore sources of product and to experience manufacture and testing of hemp and mycelium products.

Contact Dr. Hindman for more information at

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Questions?