TRANSCRIPT

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EPISODE NAME: Maple Research at UVM’s Proctor Maple Research Center, and a segment on UVM’s Consulting Archaeology Program

Today on Across the Fence the sights and sounds … and the research of the maple season. We’re heading to a Vermont sugarhouse where the priorities are research and education. Good afternoon … and thanks for joining us … I'm Judy Simpson. Maple research has a long history at the University of Vermont. It began as far back as the 1890’s. It took on new significance with the establishment of UVM’s Proctor Maple Research Center in Underhill Center in 1946. The Center is not only the nation’s leader in maple research, it serves scientists in a variety of disciplines, and it’s used as a field classroom for students across the state. Across the Fence’s Keith Silva tells us more:

The steady drip, drip, drip of sap provides the backbeat to spring’s slow march across Vermont.

Brian Stowe “We try to be ready by February first because that is about the earliest that the season really gets started, so if we’re ready to go and start tapping by the first of February we can usually catch all the major runs.”

The miles of sap lines that crisscross the two-hundred acres of the Proctor Maple Research Center in Underhill draw a picture of what sugar making looks like today and tomorrow.

Sugar making can be separated into two similar, but very different words: sap and syrup. The difference between the two is what makes the Proctor Maple Research Center run.

Tim Wilmot: “People have been making syrup for a long time. Now there’s plenty of old timers that are probably as good or better than most of us, certainly me, at boiling sap and making a beautiful product, but if you don’t have the sap you’re not going to make money at this business and so a lot of our research here is concentrated on increasing sap production improving the sap collection methods in terms of efficiency and the amount of sap we can get from a tap hole.”

The sale of Vermont maple syrup, on average, totals 42 million dollars a year. The overall impact on the state’s economy from the maple industry – which includes everything from equipment to employment -- is estimated by the Vermont Agency of Agriculture at 190 million dollars.
Tim Wilmot is working on a research project to improve the efficiency of collecting sap. It takes about 40 gallons of sap to make one gallon of syrup. Wilmot knows that collecting sap is a matter of inches … to be more accurate … it’s a fraction of fractions of inches.

Wilmot: It’s actually 3/16 interior diameter as opposed to 5/16 interior diameter. In terms of sap collecting it’s all about vacuum for most people that’s a vacuum pump, but there’s many more sugar makers in Vermont and many more in other places that don’t have vacuum pumps for various reasons, maybe they only have a couple hundred taps here, couple of hundred taps there or it’s too expensive or they don’t have electricity and so on. The weight of the sap in the line is what creates the vacuum when you have a closed system the weight of the sap pulling on, eventually pulling on the spout is what creates a suction, when you have that large diameter tubing a lot of times there’s not enough sap in the line as it’s running down the slope to create enough weight to create this suction, but with this smaller diameter tubing it seems like we can get a more solid column of sap that creates a much better suction.”

Wilmot’s research is yielding positive results.

Wilmot: “I’ve wanted to do something that’s a little simpler in terms of collecting methods. We have a lot of high tech methods of collecting sap with tubing using wet and dry lines and pumps are getting more advanced. I really want to be a lot more sure about this before I want to convince a lot of people to start trying this, but I know there’s already people trying this in the field and have said, yeah, this is good, this is working for me. There were probably people that thought of this before, but we’re a research center, we get something and we can run with it.”

At the Proctor Maple Research Center … everything flows to sugarhouse … the efficiency in sap collection leads to a stainless steel state-of-art evaporator.

Brian Stowe: “the main reason for this part of the operation is not only to produce syrup so we can sell it and fund the operation this is where we prove our data or our methods. When we collect our sap from certain set-ups, certain installations, certain spouts, certain tubing, certain tapping depth, certain tree, whatever variable we’re looking at. We can then collect the sap separately, keep a measure of how much sap we’ve collected from a portion of the woods under each one of those variables, so we have good data there, then we boil the syrup down and then we have hard numbers to give the sugar maker to say, if you do this, under these conditions, you can make this much syrup and that gives us a lot more proof when we go to present to sugar makers. They see that our operation is doing a really good job, making a lot of syrup per tap per acre and they believe our research then even more.”

Syrup is the proof … proof that the research works, that the methods are sound, but the final product sugars off as information and outreach.

Stowe: “If we just did what we do and then didn’t share it with the public, well then what good would we be? We can walk into a room with a group of sugar makers and say this is what we did and these were our results, and again, be one of the group, but have the research and the technical knowledge to share with them and they really appreciate that.”

Maple sugar making is a sweet science made all the sweeter and sappier by the work done at the Proctor Maple Research Center. In Underhill, I’m Keith Silva with Across the Fence.
Judy.: We switch our focus now to another research-based program at UVM. For more than 30 years the University’s Consulting Archaeology Program has unearthed clues that help explain our state’s history and heritage. The program gives students hands-on experience, and the opportunity to work alongside professionals. For more on that we join Rebecca Gollin, who was on-site last summer as the Consulting Archaeology Program sifted through the past:

Researchers from the University of Vermont are digging up the past in South Burlington.

John crock: UVM Consulting Archaeology Program / - “...here’s a native American settlement, based on a little bit of previous surveying work, dates to about 1300, or about roughly 700 years ago.”

John crock is the Director of UVM's Consulting Archaeology Program, which is a research unit within the school’s Anthropology Department. Consulting archeologists work at different sites around Vermont, often in advance of construction projects.

Crock / - “the project here that we are working on for the Air National Guard is related to a road project of a realignment of the road here, a National Guard road, as part of upgrades for the guard part of the Airport we are doing some archaeology in advance of that to salvage a Native American site that was identified a few years ago.”

The crew includes archeology professionals as well as students, many of whom get their start in archeology by working in the field during summer breaks.

Kathryn Bennett: UVM Consulting Archaeology Program / - “I did a field school with John Crock last summer and he asked a bunch of us to stay on and work for the rest of the summer so than when I knew I was going to be back here this summer, I asked him if I could join the crew again, and he said yes, thankfully, and so I’m back and I’m loving it.”

Bennet is an archeology major at Hamilton College in upstate New York.

Bennett / - “I knew archeology, but I didn't know about digging, or even anything about the process, so I learned a lot from John and we had a great time helping out and just learning how to dig, how to dig square holes is hard, learning how to screen, learning what to look for in the screens.”

With its many features, this site is an ideal place to both work and learn.

Robinson: UVM Consulting Archaeology Program / - “this is certainly one of the more impressive sites I’ve worked on, just for the density of what we call features, which are fire hearths, or storage pits, or refuse pits, the # of artifacts they're turning up, and its setting...”

Jess Robinson is a research supervisor with the Consulting Archeology Program, which is known as CAP. Like many here, his introduction to archeology was as an undergraduate at UVM.

Jess Robinson / - “during my work at UVM I’ve pretty much worked on every period, all the way up through pre-history... it's a good place to be able to range widely if you’re interested to study northern hunter gathers…. For a lot of reasons Vermont is just a great place to study and work as an archaeologist.”
Nats

Crock / - “in addition to the ongoing inclusion of students, we also have our staff, fulltime staff is made up of mainly UVM graduates who graduated a few years ago, maybe took a field school, a class that we offer in the Department of Anthropology, got trained, and then got hired by CAP. Some of them have gone away to work, as far away as Hawaii and Alaska and South Carolina, but then have migrated back to work with us again. So it's a wide network of UVM archaeologists out there in the world and proudly, many of them are trained here in Vermont.”

Warren Rich is another UVM graduate who has returned to work in Vermont.

Warren Rich: UVM Consulting Archaeology Program / - “I've worked in South Carolina, and the Caribbean... I did my field school in Anguilla with John when I was a freshman at UVM, that's kind of how I had my first taste of archeology, and that was a really cool site, right on a beach bay, you know, sandy soil, lots of great pottery and other artifacts, and it was a cool introduction to archeology in general, and I came right out of that and started working in VT, with CAP, and did that for the next 4 or 5 summers through my breaks, and my college career.

The CAP researchers work in this field for a number of weeks, expanding the area of their efforts, and observing what they can about the site and its features. For more information, they’ll head to the lab, where bags of dirt and material removed from the site will be meticulously examined.

Nats, lab, food, bone, etc. -

Crock / - “We have the advantage in Vermont of having a winter lab season, because the grounds frozen any you can't do archaeology... So in the winter our field crew becomes our lab staff, and we do all the processing and analysis on campus”

As work continues in the field, preserving as much information as possible before construction starts is key. The road being built has been designed to have as little impact as possible on the area that’s being studied, but such measures are not always possible.

Crock/ - “…these archaeological sites are not renewable, even when they are excavated they are destroyed (0:09:13.6) even if it's done archaeologically, and we take really great notes, we've still destroyed the site in the process and never can go back to it.”

Digging into the past to preserve the information there for the future… in South Burlington, I’m Rebecca Gollin with Across the Fence.

Judy.: Thank you, Rebecca. Our final segment this afternoon takes us to southern Vermont. UVM Extension horticulturist Leonard Perry visits with Vermont author Julie Moir Messervy about her book, “Home Outside.”

Julie your latest book is “Home Outside.” Could you tell us what that actually means?
Home is not just the house that we live in. The first thing you see when you come home at night is your landscape. The last thing you leave is your property so home outside is as important as home inside and this book is about how you create home for whole property.

Is that about the design or how do you think about it? As a living space?

There's that to but it's about how do you think about the design of the whole property and that's my six steps to take you through are really referring to. I talk about comfort zones and in the middle of the book about this welcoming zone and the neighboring zones with the side yard and the living zone in the back and take that apart so you have certain principles that you want to think about upholding in each of the different zones around your house. The whole idea of this book was everything needs to be doable in it. There are a few little bit higher end that people can do but most of the projects are small. Their small sized houses their small size lots and they're doable. I want people to feel confident that they too could design their own home landscapes.

Sounds like you've gone through the process of your six steps that people can follow but also it sounds like a lot of case studies that people can get ideas.

Case studies as well as before and after so I love seeing where something started and how it can transform with not too too much work. It's lots of fun and there are all sorts of other things in there that are fun. Really great photographs from all over the country, Canada, even a little bit of Europe is in there. Showing people how to do the things that I talk about and the simplest possible language with great photographs.

I know a lot of times I will see these and people will think that somewhere else I can do that because that's in Europe but I know a lot of times you can get ideas that may not be the same plants but the same idea about using colors textures and things.

There are great ideas everywhere and people are living lives in the same kind of way. You're going to find principles and patterns that are useful no matter where they are. Hopefully the book will do that for you.

Judy.: Our thanks to Leonard and Julie. Again, the name of Julie’s book is “Home Outside.” That’s our program for today. Thanks for joining us; I’m Judy Simpson. I’ll see you again next time on Across the Fence.

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