Today on Across the Fence we will explore the growing demand for locally grown grains and hops. Ongoing research led by a team of UVM Extension scientists is providing practical knowledge to farmers and more choices to consumers. We will find out more about this latest educational opportunity involving grains and hops. Good afternoon and thanks for joining us I am Keith Silva in for Judy Simpson. Despite the increased demand for and production of locally grown food over the past decade, bread was always the exception. Farmers struggle to find the best varieties of grains to grow in our climate and well bakers weren’t enthusiastic the quality wasn’t quite there. UVM Extension hears the needs of growers bakers and consumers alike and now bread from locally grown grains and flour is on sale across Vermont. It's a success story that only happens with hard work and the grinding trial and error of research. Joining me today are Heather Darby UVM Extension Agronomist and Erica Cummings UVM Northwest Crops and Soils Program. Welcomed ladies. Heather how has the production market for grain changed over the last five years?

Heather.: The market in Vermont?

Keith.: Yes.

Heather.: OK yeah well the market in Vermont of course we've been on here a couple of times now talking about this but it’s expanded and keeps expanding I would say. The demand keeps growing so the market is good and were still continuing to work on getting more farmers involved in growing grain to meet that market demand.

Keith.: I'm sure you always knew that it would get here but maybe five years ago did you think it would expand this quickly?

Heather.: I don't know I guess I didn't have my magic ball so I wasn't sure what I was going to do but I could see that the buy local movement was strong and I think everybody wondered if it was just a short term fad. Obviously this has been going on for five years and it does continue to grow.
Keith.: Erica a lot of your work takes place in the lab. What changes have you seen as far as the wheat quality since you started research?

Erica.: I think the basics are we're finding out that we have the tools to tell farmers what the quality is. Prior to that farmers would grow grain they would sell it they'd mill it and there was no real baseline to know what the quality parameters are. What we're finding is we do have some issues that we're working on, trying to improve protein content, and doing variety trials to find varieties that are higher.

Keith.: It's almost a chicken and the egg sort of thing to plant this or is it the soil? Is there a magic formula? Is it the soil is if the weather is it the seeds?

Erica.: It's everything.

Keith.: OK.

Heather.: That's what they say about farming too. A farmer just isn't a farmer there's all these pieces that go into the success of farming and growing crops. It's not just one thing.

Keith.: Heather the Green Growers Conference is Thursday, March 15. What is the focus this year?

Heather.: You know it's hard to focus on anything but I would say the strong focus is on seed and people saving their own seed and being able to access see that's appropriate for this region and for the goals of farmers for this area. So we are having a big focus on the seed that farmers need and that's actually the overarching theme of the conference. But now we have a strong emphasis on milling. On small still milling and we have Tom Lenard coming who is an expert baker and miller and has even dabbled in farming. So he'll be great to have.

Keith.: Excellent. Do you think the attendees are coming to the conference to find out what's going on or are they trying to get new information? What do you find from people?

Heather.: It's the place to be. If you're not there no but I think we have a broad group of people that will come. Some people that are just hearing about all this and trying to feel out the water to see if it's something they would like to actually do in the future on the farm. Then we have a homestead or home gardener group that comes growing on a really small scale. Then of course we have commercial growers as well as other stakeholders like our bakers and millers. It's a pretty diverse group of attendees.

Keith.: Definitely the place to be. Another crop Heather and her colleagues are looking into in the green mountains is hops. Vermont is already a leader in micro-brewed beer so why not a local beer made from local ingredients?

[inset 11.22.11 here]
This is the hard work of applied research … the ‘grunt work’ … the calculating, collating, and collecting of data … and if that isn’t incentive enough … there’s also the smell … of beer.
This is the Vermont Hops Project – a study being conducted by University of Vermont Extension investigating the viability of growing hops in Vermont and the Northeast. There are 560 plants being grown here on three-quarters of an acre. The bines … that’s bines with a B … grow on strings and there can be several bines originating from one plant. 99% of hops production worldwide is for one purpose and one purpose only … to give beer its flavor and, yes, its aroma.

Rosalie Madden/University of Vermont Extension: “On the hop plant, the part that is of particular interest to a brewer is the hop cone. It’s a flower; and the part that is of the most important would be the lupulin which is on the inside, it’s right next to the stem that’s where all the essential oils and alpha acids are … that’s beer, right there.”

Hops are not difficult to grow … in fact many home-brewers will raise a handful of hop bines alongside their vegetable gardens … but what Madden and the Vermont Hops Project want to achieve is to scale up production and to make hops a sustainable commercial crop in the Northeast.

Madden: “Hops are really exciting, we know they can be grown here, they were grown here a hundred, a hundred-and-fifty years ago, but we don’t know how to grow them today with today’s varieties. You can plant them in your backyard, I’ve got some in my backyard they look great, but when you start growing them on an acre basis it’s a very different ballgame. And so figuring out how to fertilize properly so you’re not fertilizing too much so that the pests come and destroy them or you’re wasting your money on fertilizer, or figuring out how to fertilize them enough to maximize your yields, that’s one of the big things that we’re really focusing on. We have a variety trial, and so we’re looking at what varieties do grow well here, already we can tell several varieties just don’t thrive, they get hit by disease, they get hit by potato leaf hoppers, they get hit by eastern comma butterflies, there’s been a lot of problems we’ve discovered, but some are definitely doing much much better.”

To collect the data Madden and her colleagues cut down the bines, measure the length of each one, count the cones, and weigh the yields. Its tedious work, but what they learn will establish the baseline for hops production in the Northeast for years to come.

Madden: “that’s how you collect data, you know the important things are often the little things, like counting out one hundred cones, yeah, you could say right now that Nugget and Cascade have bigger cones than Zeus or Hallertau, or Sterling because their cones are really little, but you don’t know what effects that, like you could get bigger cones from a ‘Sterling’ plant if you were to do certain things, which is what we’re trying to determine, perhaps even like the number of bines that’s optimal per string and things like that and how that effects maturity, we found that more bines on a string delays maturity a little bit, the cones are often smaller, but this is anecdotal right now.

This project is happening at a critical time as farmers new and old try to find their own niche in the public’s ever-growing demand for local food.

Alden Harwood// Harwood Farm – Addison, VT: “I’ve never been big on niche markets, but I don’t really consider hops to be a niche market. I think it’s more of the local movement and the
bigger breweries, they’re not interested in the people around here, but the smaller brewers are saying, ‘yeah, you bring me something I like it, I’ll buy it right off the back of you truck.’ Demand is high especially from Vermont’s micro and craft-brewers, but a Vermont beer made from 100% locally-grown hops and grain is still in the fermenting stages.

Mark Magiera/The Bobcat Café: “the best comes from everywhere and you know the American ideal is we can make the ‘best stuff,’ Vermonter can make the best stuff given the opportunity to bring a product to market it will be tapped. I love to say it’s the field of dreams if you build it they will come, perhaps, when the craft brewing industry made its resurgence 30 years ago 40 years ago now people were going like, oh, craft brewing what are you doing, they’re were innovators who basically said if they build it they will come and the industry has grown quite a bit so small towns like Bristol can have a brew pub once again it’s great.”

The next step for the Vermont Hops Project is to get their small-scale hop harvester up and running. The bines will still have to be cut off the strings by hand, but the harvest will go much faster.

Madden: “right now we’re picking 560 plants so that’s 1100 or so strings by hand, we’ve been doing this for about a month and that’s only a three-quarter acre and there’s eleven of us.

Like the building of Rome … research takes a bit longer than a day to complete, but Madden and her colleagues know that every cone counted is one step closer to establishing a new ‘crop’ in Vermont agriculture. In Alburgh, I’m Keith Silva with Across the Fence.

Keith.: Back here in the studio now. Erika we saw you in the video that looks like there's a lot of hard work there. What did you learn from working on this project?

Erica.: That it definitely takes a lot of hard work. And having the hop harvest up and running will be great for next year.

Keith.: Erika you said you're clothes and everything smells like beer did you just have to burn those afterward?

Erica.: Actually I enjoy this now after spreading chicken manure by hand, smelling hops is great.

Keith.: That was a good deal. Heather the Hops Conference is March 19. You'll be presenting some results from this past growing season. Any previews you can give us?

Heather.: I would say that we're going to give a really good presentation on what not to do in your yard. We've learned an incredible amount of just basic information. The best way to learn something is to do it get your hands dirty and figure out how this crop grows here in Vermont. So we will be talking a lot about what not to do but then also highlighting varieties that we felt performed the best. We will talk about insect pests that we came across and ways to control those.

Keith.: How big of a hop yard does someone need if they're going to grow them? Even if it's a
small commercial grower size?

Heather.: I think that is still yet to be determined as we continue to work out cost of production and also cost of processing equipment which we hadn't started to look at in the past but we are now. Most people right now when we say commercial would be from 1/4 to up to 10 acres. We're hoping in that range we are going to see people making some sort of profit.

Keith.: There was a discussion when you are working with wheat research that what works in Vermont when you can't look at the northwest or how no grain works there. Is it the same with hops can we grow of Vermont hop maybe not like out the northwest?

Heather.: Definitely we know hops can grow here hops of been grown in the past just like grains and it's just really fine tuning the production practices variety selection just like we did with wheat to figure out what varieties is going to do best here how we're going to control the pests and diseases here and so it is building our own set of practices for this region and hopefully also developing a variety of hops just like we're working on with wheat that's going to represent our region and that's what will be known for.

Keith.: You said earlier you didn't have a crystal ball but is there any crystal ball where you think there may be beer brewed from hops that you've grown up in Alburgh?

Heather.: Yes we been working with a number of brewers as we saw in the video and continue to bring more brewers into the fold of experimenting and working with local hops. Stay tuned be looking for things at your local brew pub and in a store that say Vermont made.

Keith.: All Vermont made all the way through.

Heather.: It's coming.

Keith.: Will consumers drive that?

Heather.: Definitely. The brewers are driving at because a lot of rumors are supportive of the buy local movement but of course if consumers are supportive of it as well then the success will come because we have to have somebody who wants to buy it. You can make something all day long but if nobody wants to buy it and it's not going to be successful.

Keith.: Before we run out of our time limit highlight the two upcoming conferences. The tenth annual Green Growers Conference is March 15 at the Essex Resort and Spa from 930 to five for more information you can go to the website or you can call (802)-524-6501. Again 802-524-6501. And the 2012 Winter Hops Conference kicks off on Monday, March 19 at the Sheraton Conference Center in South Burlington. The hops conference web site is on the screen or again you can call (802)524-6501. There still spots available people can still attend both conferences?

Heather: Yes there's still a little bit of room so get your registration in.

Keith.: Get your registration and that's right.

Heather.: Don't wait.
Keith: Heather and Erica thank you very much for being with us today. And as always I want to thank you for stopping by *Across the Fence* and thanks to everyone here at WCAX for helping us out we'll see you tomorrow.

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