Today on across the fence we size of the recent rise in Vermont grown grain production and what it means to farmers acres and that lovers everywhere. Good afternoon and thanks for joining us I am Keith Silva in for Judy Simpson. In recent years Vermont has been center stage in the production and sales of locally grown food. Vermont farmers won international competitions for Vermont made cheeses and beers. The next product may just be bread made from grain grown and the green mountains. May and might not be able to live on bread alone but if it's born and raised in Vermont it certainly makes life much more palatable.

This is what we call folding and it says a number of different things.

Randy George owns and operates Red Hen Baking in Middlesex. In the course of the day he and his staff will make between 1500 and 3000 loaves of organic handmade hearth baked bread.

Randy.: One of the things I like about bread and why I enjoy being Baker is because as it's not just as about taking something that tastes good and throw it in the pot and cooking it up and there you are. There is this entirely other thing going on.

Ever since he founded red hen in 1999 George's been asked when he'll be baking bread using only locally grown ingredients. His response was that the quantity and the quality of many locally grown grains wasn't quite often stays high standards. Then in 2006 red hen and baking was asked to provide bread made from 100% Vermont grown grains for a statewide localvore challenge. The results were mixed.

Randy.: There's a lot that happens between the fields and a mixing bowl. The bread we're able to make it that point the first years of the localvore challenge was one that I even put a
disclaimer with out to the participants of that challenge that I want you to know as this isn't something I would normally sell of the store but I want to support this effort and it's also a way to give a reality check to where we're at it this point in time and where we were at was you have bread and it was edible but I didn't feel really comfortable putting my name on it. We're not doing anybody good if we do not make good bread.

Lessons learned from the localvore challenge still fresh in his mind George still worked with a local grain providers in a mutual effort to unlock the secret of locally grown grains.

Randy.: Bakers were giving the farmers the back and saying well this is good but it could be better. Here are some of the things we're seeing.

Farmers passed on what they were seeing and hearing the University of Vermont extensions Agronomist as heather Darby. Darby turn tested trial and experimented to different varieties and harvesting practices.

Heather.: The bakers and the localvore is in the farmers are getting together is and listening to each other trying to figure out OK how can we create a better quality product for the end user and the user is saying OK how can we deal with some of the inconsistencies how can we change our recipes are or how can we work with what we're getting.

Today after many trials the red hen baking company is producing three varieties of bread made from 100% locally grown ingredients as the home including the bread named after the renowned wheat breeder in Charlotte Vermont’s own Cyrus Pringle. Georg no longer needs two include a disclaimer with his Vermont 100% grown bread. As he continues to be optimistic that farmers and bakers working together can develop a product that's unique to Vermont.

Randy.: It is likely see with so many things and so many other foods in Vermont we may not grow things that look exactly what we see and other grocery stores in any other part of the country. I don't really feel like our holy grail needs to get it like the Midwest. We need to be working together as farmers and bakers to come up with something that is unique to Vermont. If you're standing here five years ago and asked me do you think there's ever going to be a time you make Vermont 100% I would've given you a whole list of reasons why that's next to impossible. So it's really remarkable that we're in this position.

Keith.: I'm joined in the studio now by heather Darby. Good to have you back.

Heather.: Hi Keith.
Keith.: Let's begin where Randy left off five years ago two years ago can we be talking about bread made with 100% locally grown greens?

Heather.: I snicker a little bit because I think we all believe that you can do it. I think that's a New England farmer tree when someone says you can't you try you definitely prove them wrong. I was a little bit skeptical myself but I knew our farmers work with the kids and work the hardest they could to get the quality wheat that Randy needed to bake bread.

Keith.: I tried to get ready to help me the lay person to understand is this night and a light years apart? You really come a long way in a short time.

Heather.: Definitely. When we first started we were really focused on yields primarily talking mostly about cattle feed. All the sudden Randy came into the picture and basically started telling us we needed to focus more on yields. We really had to look at quality and none of us knew what that meant. And Randy helped us understand that once that happened we moved rather quickly to be able to grow the wheat that Randy needed.

Keith.: You're saying in the beginning whether people said you could do it are not this wasn't thought of as a value added product you were thinking about animal feed?

Heather.: For the most part. You there were a few people like Ben Gleason who is in the video that has been selling wheat to Randy for a long time but yeah we were focused on growing grain for animals and then the localvore movement take in and there was more demands for wheat flour and other products as well. Then we started to focus on that.

Keith.: When did that research start Heather?

Heather.: The research started let's see? We started meeting as a group in 2004 the grain growers. And was probably 2007 2006 that we started winning research plots out to look at different varieties primarily that would do best in our conditions. Then we've gone gangbusters from there. We have about 1000 research plots focused on growing wheat from bread baking specifically.

Keith.: One of the things about wheat it's a crop like anything else so you put it in the ground and six months later you don't know what you're going to get depending on mother nature right?

Heather.: Right yes. That's the tough thing is that there are some crops we can grow pretty easily here like grass. We grow a lot of the grass for cows to graze but growing food grade crops is a little more difficult because the standards are a lot higher and there's a lot of things that go wrong during the season that sometimes the farmers have control over but a
lot of times they don't. One of the primary issues we have in the northeast is micro toxin issues which are mostly determined by the weather conditions wet weather humid weather during flowering which generally seem to see a lot of when wheat flours in Vermont. That's something we have you worked on here specifically.

Keith.: As a scientist as a researcher what have you learned personally about growing grain and the last 6 7 years?

Heather.: I've learned more than we can talk about in 10 minutes but I think variety selection is very critical for disease resistance but also for quality there's a lot of genetic differences among varieties so some varieties are just better for baking bread and others. Even though they may be sold as bread wheat some are just superior than others. I would say for us in Vermont we need to pick the best variety for this area. We're still trying to get a handle on what is the best one but we found that it is one of the best ways to give farmers a tool to help them overcome some of the weather issues. That helps combat that a little bit.

Keith.: What about harvesting? I think we always think about wheat as happening when it's hot out in the Midwest August September right? Is that the same for around here?

Heather.: We would be harvesting wheat here actually in July August. Generally we want to be drive when we're harvesting but that doesn't happen very often. One of the things we found is if farmers harvest sometimes earlier when the grain might still be a little bit too wet to put into storage that we can preserve some of the quality the bread baking quality. That's one of the new things we have been looking at and farmers are moving towards harvesting the week when it's a little on the wet side and drying it's so it preserves the quality and the qualities not ruined when it rains for weeks straight.

Keith.: One of the reasons why you have been so successful so quickly is that last year was such a great weather year. Is there any way you can factor out lock a little bit and hedge things with mother nature?

Heather.: I think last year was a great year for wheat production. It was dry during harvest and people were able to harvest grain of very high quality without dealing with rain. To hedge our bets I would say pick really good varieties. That's the best thing the farmer can do. Get stuff planted early and get it out of the field as soon as it's ready to harvest. Regardless of the moisture.

Keith.: One of the things and ran be talked about was you have brought to this and UVM extension has brought this on testing facility now. You're testing grain for bread is different and for feed or anything. Talk to me a little bit about that.
Heather.: We were fortunate enough that Bakers in the farmers were asking to they need to test the week for quality for bread baking quality. The mycotoxins we talk about we need to test wheat for that. Because mycotoxins can make people and animals sick. We were fortunate enough to be able to secure some funds through the university to be able to start the UVM cereal grade quality testing laboratory. We measure falling number which is a measure of bread wheat quality protein test weights and mycotoxins. It's one of the first labs east of the Mississippi that is available and open to the public.

Keith.: So even farmers out in New York State Pennsylvania.

Heather.: Yes. We have farmers in Quebec sending a samples we of farmers from all around all over New England in the northeast.

Keith.: Very cool. What's the next step? More bakers more farmers?

Heather.: Lots of next steps. And there's always a lot of work to do but I think it depends what area you're talking about. We definitely want more bakers to start using locally grown grains and I think having randy put out three different types of breads made with 100% Vermont wheat a showing to everyone you that it is possible to do this. Hopefully other bakers will take his lead and get on board. That would be a great next step and then more research. We need to continue to evaluate varieties because they constantly change. We need to keep up with what is best for our growers. Then we're also still looking at processing in the state of Vermont. To be able to mill flour for bakers and other value added products like rolled oats and things like that. Lots of next steps.

Keith.: You talked a little bit and we talk in the past about that portents of getting the wheat off the field. Storage and drying are issues in Vermont. Is that a step before this that? As far as mills and things like that?

Heather.: Yeah for a lot of farmers they know how to grow really well and grains are kind of new so there are some new steps that involves storage just like with other forage is that we have. So getting grain bins on farms and proper drying facilities is also an important step. It's coming as farmers start to grow more we and investigating in that you structure but yes that's really important to do that.

Keith.: You said before and that that is also new equipment that's not something like combines and things our new equipment on farms so vast that other wave that has to take place.

Heather.: Yes and again I think as the market grows and it's always that chicken or the egg deal of year where farmers want to grow grains they want to invest but they need to know they have a place to sell the grain so it seems like all these things in some ways at to
happen simultaneously. We need more bakers and users demanding you so more farmers are growing and can invest in infrastructure and the facilities process.

Keith.: A couple minutes left. All of this work has paid off for UVM. There are some new agronomy hires and more hands to help.

Heather.: Yes. We have one new agronomies specialist in the northeast kingdom in the St. Johnsbury office Dan Hudson. So he is out there and available to work with farmers. He's also very interested in grains. Then we have two new hires that are agronomic educators and they're working with farmers on implementing conservation practices. Lots going on at UVM and a lot of great focus on Food Systems which is exciting and especially building local Food Systems. So we will be back on again with all the latest and greatest and stuff going on.

Keith.: You have more shows that you. For everything grain and to learn more about others research and to see what else she has in the hopper you can visit the website WWW.UVM.edu/extension/cropsoil all one word right there on the screen. I want to thank everyone here at WCAX for making this program possible and as always thank you for stopping by across the fence.

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