

Farms, Food and You Podcast
Sweet Success With Sweetpotatoes

[Music]

Dee Shore (00:08):

Sweetpotatoes: They're North Carolina's state vegetable, and they're not just for Thanksgiving anymore. I'm Dee Shore and on this episode of Farms, Food and You, we'll explore the sweet success that North Carolina growers have achieved by filling a rising demand for this nutritious and delicious vegetable.

[Music]

Dee Shore (00:37):

Thinking back on my childhood, I remember sweetpotatoes being served in just a few ways. In the fall, my dad would bake them in the skin and serve them with fried fish and cornbread. And for Christmas and Thanksgiving, there were always sweetpotato pies and those marshmallow-covered casseroles. But big changes in the sweetpotato world had happened over the past 20 years. Today, you can whip up sweetpotato hash for breakfast, order sweetpotato fries with your burger and add a hefty helping of vitamin A with the sweetpotato salad on your dinner plate. Polish it off with a bit of vodka made from sweetpotatoes and toss your dog a sweetpotato treat. You can do this year-round, anytime you'd like.

Sweetpotato consumption has jumped and that's had a positive impact on North Carolina's farm economy. The state leads the nation when it comes to sweetpotato production. Daniel Tregeagle, an economist with NC State University, notes that North Carolina agriculture and agribusiness is worth \$92 billion annually, and sweetpotatoes are a small but significant part of that.

Daniel Tregeagle (01:49):

Sweetpotatoes are our most important specialty crop. Sweetpotato production is worth about \$350 million a year. Still, it's relatively small in the scheme of North Carolina agriculture as a whole. In North Carolina, as far as crops go, the sweetpotato industry is about 6%. The majority of the crop value in North Carolina is coming from the large commodity crops like corn and soy and wheat, tobacco, cotton, peanuts. But fruits and vegetables have always been an important component of agricultural production and perhaps increasingly so as we learn more about the benefits of a healthy diet with lots of fruits and vegetables.

Dee Shore (02:32):

Improved sweetpotatoes are giving growers of North Carolina's commodity crops new options for diversifying at a time when profit margins for some crops are razor thin and the demand for one of our top crops, tobacco, is declining. Tregeagle explains.

Daniel Tregeagle (02:51):

Sweetpotatoes appear to be an attractive alternative to the traditional row crops for growers looking to diversify. My colleague Derek Washburn and I produced a sweetpotato enterprise budget earlier this year, looking at the sample costs and returns to producing sweetpotatoes in Eastern North Carolina. And we found that the net returns to sweetpotato production in the order of a thousand dollars per acre,

which is really exciting in comparison to the traditional row crops — corn and soy and others — where the returns, if they are positive, are more like one to \$200 per acre.

Dee Shore (03:34):

As Michelle Grainger, the new executive director of the North Carolina SweetPotato Commission, explains, sweetpotatoes can be grown throughout the state, but one region dominates.

Michelle Grainger (03:47):

Out of our 100 counties in the state, sweetpotatoes are actually able to be grown in 50 to 60 of those counties. Our largest counties that produce sweetpotatoes are Wilson, Johnston, Nash, Edgecombe and Sampson County. And so those counties that are all snuggled into one another right there, the 95 corridor is where we see the largest production. Last year we registered, we being the state, registered around 94,000 acres of sweetpotatoes. And it's my understanding 20 years ago, that number was around 40,000 acres.

Dee Shore (04:26):

Where did that boom come from?

Michelle Grainger (04:28):

We would not have that, had it not been for the contribution and dedication of the commission, our farmers, Cooperative Extension and NC State working together.

Dee Shore (04:42):

Jonathan Schultheis agrees. He's been studying sweetpotatoes and other specialty crops for over 30 years as a professor and extension specialist at NC State. He says there are a number of factors that push North Carolina ahead in sweetpotato production.

Jonathan Schultheis (05:00):

There's been a lot of development of products, so you can see sweetpotatoes in alcoholic beverages. You can see them being used in cereals, in pet food and different baking types of confections. I think the fact that it's a nutritional product really helps it as well, because it's very good for you. Another thing that has helped is we have a variety that's been now available for the last decade and about a half that provides something that we consistently can produce. It has the properties that the consumer likes, and it does have excellent yields and excellent quality.

Dee Shore (05:45):

That variety is Covington, developed by NC State's Craig Yencho and Ken Pecota. Yencho says that when he came to NC State in the mid-1990s, North Carolina farmers told him they wanted something that produced a much more consistent crop than they got with Beauregard, a Louisiana-bred variety that had previously dominated the market. Yencho explains.

Craig Yencho (06:11):

Beauregard has the potential to be a really nice sweetpotato, but Beauregard is very sensitive to the environment. It's sensitive to the planting time, soil, temperature, moisture conditions. You got to remember the sweetpotato is a storage root, right? So it's a root, kind of mining through the soil. And

it's very sensitive to those just subtle changes in the soil environment, both below ground and above ground. And Beauregard could look beautiful in one field and really yield well. You could go across the road to another field that was planted maybe the same day or a couple of days afterwards, under slightly different conditions, and it would be totally different. Covington — we've always said it didn't out-yield Beauregard, and it may not have been as pretty as Beauregard, but it is much more stable and you can count on it performing and giving you a good solid yield and good solid pack out across fields and across seasons.

Dee Shore (07:11):

While Covington played a significant role in North Carolina's emergence as the leading sweetpotato-producing state, it was only one factor.

Craig Yencho (07:21):

A lot of people say that a new variety's like the engine in the car. It drives the car, but you've got to put all the other pieces around the car to really make it fly.

Dee Shore (07:29):

Some of those other pieces also came out of NC State University. Research-based recommendations from Extension have helped lessen losses from diseases and conditions like black rot and internal necrosis. And a micropropagation unit has given growers access to clean planting stock that's rid of pathogens and tested for viruses. Yet another major piece was a sophisticated storage system that allowed North Carolina growers to provide a year-round supply of sweetpotatoes. Developed in the 1990s, that system was the brainchild of NC State engineer Mike Boyette. Johnny Barnes, president of Barnes Farming in Spring Hope, says that before the system was developed, sweetpotatoes that had been harvested in the fall would start to sprout or rot by spring.

Johnny Barnes (08:25):

They would break dormancy and sprout. And when the sprouts grow, they don't stop growing. Sweetpotatoes are a vine, and those vines would just keep growing and it will suck the starch and the energy out of the sweetpotato. And it would become pithy and corklike and not palatable. It wouldn't have any weight, and it wouldn't be a good sweetpotato to eat.

Dee Shore (08:44):

Some farmers saw the losses as an inevitable part of producing sweetpotatoes, but Boyette saw an opportunity.

Mike Boyette (08:52):

Sweetpotatoes can be stored, if you give the right conditions, for a year. I mean, it's a storage root. That's what nature designed it to do. Give it the right conditions, it will go for a year. Problem was, was they put these potatoes in these buildings and these buildings would be 20 foot tall. And if they stack these bins up. And what happens is they had no way to stir the air up in the room. And so what would happen is the temperature and the heat rises and so up in the top, it would be 80, 85 degrees, whereas down on floor level, it might be 58 degrees, which is the correct temperature.

Dee Shore (09:28):

To remedy the situation, Boyette designed methods for moving air through massive indoor storage facilities in ways that kept the temperature and humidity in the ideal range. Barnes says that development opened large markets.

Johnny Barnes (09:45):

Now we ship sweetpotatoes year-round, and by having a sweetpotatoes available year-round, food service became an option. Chain restaurants, for example, were willing to put sweetpotatoes on the menu if they knew they had sweetpotatoes year-round. We used to not see that.

Dee Shore (10:02):

Another factor for sweetpotato success was an energetic promoter who was a previous SweetPotato Commission director. Michelle Grainger comments on her predecessor.

Michelle Grainger (10:13):

Ms. Sue Langdon really had this vision of taking this North Carolina sweetpotato international and taking the sweetpotato to the steakhouses and to get on children's plates as sweetpotato fries and so many other great focus areas that she pioneered and pushed and persevered through to get it out there. We're starting to see those really come home, so to speak, as far as this growth goes.

Dee Shore (10:41):

Langdon's efforts, coupled with those of visionary farmers, helped launch a substantial export industry. Again, economist Daniel Tregeagle.

Daniel Tregeagle (10:51):

The U S exports around about \$200 million worth of sweetpotatoes every year. That's from a total value of around \$600 million produced nationwide. The major trading partners are the UK, which receives around a third of our sweetpotatoes. Canada takes around a quarter, and then the EU takes the majority of the rest. And within the EU, the Netherlands is a major export partner.

Dee Shore (11:23):

Preserving the export market is a key concern for those involved in the North Carolina sweetpotato industry. Pepe Calderon, sales manager for Barnes Farming, predicts competition, especially from Spain, Egypt and other countries that are entering the market.

Pepe Calderon (11:41):

For the wages that we have to pay for labor here, we are putting ourself out of competition. Spain is competing with us, Beauregard versus Covington, but they have the proximity to the consumer to start with. They are an advantage right now. That European market is getting to a point that they are starting — if there is sweetpotatoes from Spain available, they want it local. One way that we can out-run the competition is continue specializing (in) new varieties, new taste patterns, new benefits, maybe nutrition benefits on the sweetpotatoes that we sell. Hopefully we can improve our yields to justify and to balance out the production versus cost, but that's a big jump.

Dee Shore (12:27):

While labor costs and foreign competition are concerns, so is a pest known as the guava root knot nematode. The tiny worm produces galls on sweetpotatoes, reducing yields and causing early plant death. NC State has hired a nematode expert to work on solutions, while Yencho looks at ways to overcome the challenge through plant breeding.

Craig Yencho (12:54):

That's where I think new molecular breeding tools are really going to be helpful. Because I really think we're going to have a marker that's linked to guava root knot nematode here within the next year, maybe year and a half, two years. And we're going to be able to use that marker to screen out germplasm that has resistance to guava root knot nematode.

Dee Shore (13:10):

To remain competitive in the global marketplace, Schultheis, the NC State Extension specialist, stresses the need for greater efficiency and continued high quality, inside and out.

Jonathan Schultheis (13:24):

It's imperative that we have the quality each load — every load we ship is really good and can be depended upon, and also to be able to produce the sweetpotatoes in a way, and market them in a way that's really efficient, because if we don't do that, we will cease to become competitive in time. I think we just need to move forward and continue to push the envelope and always be looking for ways to improve our efficiencies.

Dee Shore (13:56):

Schultheis says such efficiencies could come from the university's work with the industry.

Jonathan Schultheis (14:02):

I think it's been a really good partnership between the university and extension, research and industry. I think it's been great because we are tackling things that need to be addressed and we need to continue to do that so that we stay on the cutting edge and can remain competitive worldwide, basically.

Dee Shore (14:24):

That partnership has yielded wins for farmers. And it's also yielded sweet success for consumers in North Carolina and beyond. It's what Johnny Barnes calls a win-win.

Johnny Barnes (14:36):

My mom used to say about dieting, she said my rule of thumb is if it tastes good, you should spit it out. Not with sweetpotatoes. Not only is it good to you, it's good for you. You can't beat it. It's a winner both ways.

Dee Shore (14:51):

Thanks for listening today. We hope you'll join us again for the next episode of Farms, Food and You. To learn more about the College of Agriculture and Life Sciences and our podcasts, visit go.ncsu.edu/farms.

Dee Shore (15:08):

While you're there, share your thoughts. We'd love to get your ideas and to hear what topics you'd like for us to explore in the future.