Episode 05: Growing Pains

Steve Rutledge: This was one of the hemp fields. That was one of the hemp fields. This past August it was green and tall.

Ava: This is Trace Material and we're back in the bluegrass state. I'm Ava.

Alie: and I'm Alie. Last episode, we heard from environmental activist Winona LaDuke about how hemp could help free us from fossil fuel dependence and Peter Hille about a Just Transition for Appalachia. Today, we're on the farm talking brass tacks with folks trying to make that happen.

John Smith: But there's no textbook for it and nobody's gonna tell you how to do it. It requires a lot of tender love and care. Much more thanI've ever put into any crop in my entire life.

Ava**:** That's John Smith. John is a veteran farmer who now farms hemp at Harrods Creek Farm in Goshen Kentucky.

Alie: When we originally planned to take Trace Material to Kentucky, Farmington Historic Plantation was our only stop. We went there to talk to Kathy Nichols and Cassandra Sea and about the history of hemp… but we were lucky enough to get a glimpse of its future as well.

Ava: Before leaving New York, we dug around to see who was growing hemp near Louisville. We thought we might as well call around and see if we could stop in and get a feel for a modern hemp farm. We reached out to people and just a few days before our trip, luckily enough, we heard back from the folks at Harrods Creek.

Alie: They seemed a bit confused by our interest but graciously invited us to visit the farm and chat about all things hemp. It was getting there that posed a problem. Mixed signals from google maps meant we had to go old school, and ask for directions: "You'll cross a concrete bridge over Harrods Creek. Look for a large stone entrance."

Ava: We made it. Despite google maps not knowing much about it, it was a very real place. And Steve Rutledge was there to welcome us.

[More walking sounds + machinery + hemp explanation clips]

Alie: Steve brought us through a massive empty barn to the farm's office where he introduced us to John and, to our surprise, the owner of Harrods Creek Farm, Eleanor Bingham Miller.

Eleanor Bingham Miller: This land was not bought to farm. This land was bought so that it wasn't going to be Costco's and strip malls and subdivisions.

Ava: We didn't know this at the time, but Eleanor has quite the story. Her family were Kentucky newspaper magnates… back when newspaper magnates existed. She's a documentary film producer and now a champion of sustainable agriculture. All that's to say – she's the kind of person who is able to buy land and keep it out of the hands of Costco.

Alie: While Eleanor didn't buy her land with intentions of farming, the 2014 Farm Bill presented an opportunity she couldn't pass up. See, Eleanor has some grand ideas about agriculture and she sees hemp as key to putting Kentucky farmers to work and, most importantly, combating climate change.

Eleanor Bingham Miller: It's a crop that was grown here for hundreds of years and then from 1937 to 2018, it was illegal and that was long enough to lose the institutional knowledge and the seed stock and the equipment and the understanding about seasons and when to plant and when to harvest. That's now been basically eradicated from Kentucky. And what farmers, like Steve and John are trying to do with the backing of land owners like me is get that back up and rolling. And it's not, it's still very experimental.

Alie: Eleanor has a seemingly encyclopedic knowledge of hemp's history. She got pretty fired up talking about where things went wrong and how we might get things right this time around.

Eleanor Bingham Miller: If it had not been made federally illegal in 1937, of course we would have been able to keep seed stocks. But the minute, you know, the DuPont's influenced Congress to pass this law, never in hundreds and hundreds of years. Everybody, Jefferson grew hemp, right? Washington grew hemp. Everybody grows hemp. And about a third of your crop is going to be high THC on average. And most of it when I was young, there was stuff called rope, which I think was ditch weed, kind of remnants that, you know, you could smoke rolled up in a newspaper. And the only reason you get high as the solvents that were in the newspaper.

Ava: Eleanor has clearly read her Kentucky hemp history.. But John has a surprisingly personal connection to the former cash crop. As you may remember, during the WWII Hemp for Victory campaign, the government encouraged the outlawed plant's growth again. According to John, they also supplied a labor force.

John Smith: My grandfather you know, that was long before my time, 1943 to 44 and 45 but they grew it and our operation, the base of it was just right off the interstate North of here. They all teamed up and grew hemp for the war effort. And I mean it was decorticated by hand with a break and so it was very labor intensive, but they brought in these prisoners of war that my mother told me like last year.

Alie: So John's got deep roots in the hemp industry… but those roots were severed after the war. John shared Eleanor's frustration with the mid 20th century villainization of hemp.

John Smith: The problem is after the war in the 50s and especially into the 60s when it was “marijuana is super evil” that all we're all the, all the land race all what they call ditch weed, it was destroyed. I mean the cops came in, the DEA came in, destroyed all those genetics. If we could’ve salvaged some of that it, it would, we've been way ahead right now. Don’t you agree Eleanor?

Eleanor Bingham Miller: Yeah.

Ava: John’s POW story had us thinking again about how notoriously difficult hemp can be to process. Remember that Kathy from Farmington told us that the labor involved in hemp farming was enough to necessitate the institution of slavery. And then when the US needed to grow hemp again during the war, they put POWs to work. Hemp has never been farmed at scale in this country without forced labor.

Alie: Steve, ever the pragmatist, identified this as a major hurdle for industrial hemp farming.

Steve Rudledge: It is a little still a difficult crop to manage mechanically. We don't have German prisoners. This is way past any efforts that are going back to being able to use high numbers of laborers to manage this crop on a profitable scale. Planting it is not hard, our drawback is seed source, seed sourcing has been imported and that's been unreliable, inconsistent quality.

Alie: So it’s not just harvesting that’s been causing Harrods Creek Farm trouble, it’s finding the right seeds. Remember John mentioned the DEA destroying genetics back in the 50s and 60s? When plants are grown year after year in a certain location, they start to adapt to that place. Seeds bought from China or France, might not work so well in Kentucky.

Eleanor Bingham Miller: I don't care if you're growing roses or carrots, right? I mean, if it's a seed that's adapted to your location and your growing season, if you can calculate what that is these days, that you're gonna have a much better yield.

Steve Rudledge: Seed sourcing is critical. This past year was probably our best seed source. Got it. Right time. And we had high germination, but it does not stop there. If you had to have volume in order to generate enough yield to make it economical based on what they want to pay us, they want to offer eight 10 cents a pound for what we produce in the raw material. Well, it’s costing you $550 or $600 an acre. Not including the seed because the seed is being furnished by the processor.

Eleanor Bingham Miller: That’s the chicken model because they don't have any money to pay us. So in lieu of payment for the crop, you get your seed for the next season.

Alie: Wait, the chicken model?

Ava: Yeah, basically, Tyson has a farming model where they provide farmers with chickens and feed and the farmers handle the labor and housing. Adapted to the fledgling hemp industry, this means companies set up to produce hemp are providing farmers with seeds instead of paying them. Ideally, guaranteeing another crop for farmers and future product for processors.

Alie: The problem is, those processors, just like the farmers, are still working through the kinks of this budding industry. People from every corner of the industry are building a car while they're driving it and that leads to a bumpy ride.

Eleanor Bingham Miller: They didn't license for infrastructure first. They just licensed for anybody that wanted to grow. So people jumped into it and grew whatever kind of hemp they were growing without anybody to buy it on the other end. At the time of harvest. And that has led to some farmer's bankruptcies for sure.

Ava: Imagine that, a sudden boom of planting as soon as the Farm Bill passed. Overnight, acres upon acres of hemp were being grown all over the state. That happened with CBD farms too, of course, as we heard from John Gilstrap and Donna Lupardo a couple episodes ago. But the difference here is that fiber hemp is much more difficult to process than hemp grown for CBD. It truly does require an infrastructure to back it. It's one thing to get seeds in the ground but another to build factories and invest in specialized machinery.

Steve Rudledge: Picture shooting a shotgun shell out of the barrel of a shotgun. That's what happened when the 2014 And then after [20]18 it went from 200-300 licensed growers to a thousand.

John Smith: But I mean it's a chicken and egg obviously. And it's also, I mean, this whole industry, all sectors of it, it's like the wild West. So you know, you gotta create a lot of capital to purchase from the farmer, create infrastructure and build the plants and also on the back end to market it. Another problem up until this year when it's supposedly became legal with the farm bill is there was a reluctance for investors to flop their money down on something that you know is possibly illegal or possibly might blow up in their face.

Alie: John and Steve are describing this vicious cycle of dependence that has formed between growers and processors as this industry emerges. There are roadblocks and risks at each end, and failure for one equals failure for both.

Steve Rudledge: Why would I want or her or anyone else to stick their neck out and invest a bunch of money if, I don't know if there's any future to it. We're willing to risk from some things to learn to help be more sustainable. But before you go jump over the wall, you want to know where you're going to land. And so unfortunately the processing side, I think there was a hole on the other side of the wall.

Ava: They can afford to stick their necks out a bit at Harrods Creek. They've got the benefit of a true patron in Eleanor. Steve and John have been able to figure out how to farm hemp for fiber without the pressure of needing to turn a profit quickly. But most small farms in Kentucky can't afford these risks. Many farmers aren't turning to hemp because they believe it's going to save the planet, they're growing it out of desperation.

John Smith: Actually the reason why farmers in Western Kentucky are growing thousands and thousands and thousands of acres of CBD is because the soybean market is so depressed. I mean, if they could, you know, if they could make a living growing corn and soy beans, that's what they would do. They're not gonna risk it all just to try to make a few thousand dollars per acre.

Alie: It's those farmers that need the infrastructural stability if they're going to really invest their time and land in industrial hemp beyond CBD. Remember how disappointed Donna Lupardo was that so many New York farmers are growing hemp exclusively for CBD? Well until the industry stabilizes, it seems most growers just can't take a gamble on industrial hemp for fiber and hurd.

Ava: But while these smaller farms wait for the industry to grow, Eleanor says Big Ag is setting up to monopolize the hemp game.

Alie: When the farm bill was being drafted, Eleanor lobbied for a higher allowable THC level of 1.5%. A level she says is still way below anything that could cause intoxication.

Eleanor Bingham Miller: But this 0.03% allowable THC is a terrible burden for regulators and growers alike.

Alie: Elenor believes this burden is putting put on growers for the benefit of massive companies like Dow Chemical that are cornering the seed market. She told us that Dow has already developed a GMo fiber hemp seed with guaranteed no THC.

Ava: GMO stands for "genetically modified organism." Often, the way it works is that a company will patent a genetically modified seed that is resistant to a certain disease, or can take a certain pesticide well. Farmers then are not legally allowed to harvest their seeds and reuse them, as those seeds are patented. They have to buy them again every year.

Alie: This would mean that hemp farmers across the country would be forced season after season to source their seeds from chemical companies' stockpile of GMO hemp seeds.

Eleanor Bingham Miller: 85% of agriculture in this country is GMO and the vast majority of that is big, huge industrial farmers.

Ava: A major reason to genetically modify seeds is to breed them to withstand the toxicity of pesticides like roundup. We've talked in other episodes about how hemp doesn't require those pesticides in the way many other crops do. One of the blessings of hemp missing out on the past 80 years is that it hasn't been able to be modernized or modified yet. Eleanor believes, that makes it special.

Eleanor Bingham Miller: Well, it was one of the experimental crops, you know, to try to go organic or non-GMO. And right now there, there are no other crops that I'm ready to try to, to implement. Although there some that are in the R and D phase. I can see us growing rice, dry land, cotton. I can see us weaving doing silk with a Mulberry trees and silkworms and blending the silk with the hemp and with the increasing heat it's not impossible that we not, might not be silk producing at some point.

Steve Rudledge: Risk taker, risk taker. She has jumped off the edge.

Ava: It's risk takers who really change the world. Maybe Eleanor will be among them. Her work on Harrod's Creek might seem small, but she's creating a blueprint for other farmers to follow. She and Steve and John are figuring this out so that we might all live better.

Eleanor Bingham Miller: This is the intersection of ag and politics and it's very interesting, needless to say with Mitch McConnell coming from Kentucky, you're always at that intersection if you're, if you're from Kentucky. But it is a, it is an important area because this is where climate hits the first and it hits the hardest.

Alie: We've heard that from several people while doing interviews for this season that climate change is something they feel as a real force looming on the horizon. Places like Harrod's Creek Farm or the White Earth Reservation in Minnesota are preparing, and they're doing this work for all of us.

Ava: Trace Material is a project of Parsons Healthy Materials Lab at the New School. It is produced by me Ava Robinson, Alie Kilts, Burgess Brown and the HML team. Thank you to Eleanor, Steve, John and Travis from Harrod's Creek Farm for lending their voices and expertise to this episode.