

Bills, Booms, and Busts

News Anchor: President Trump signed the Farm Bill today, and it's a big deal for those who want to profit off pot.

News Anchor 2: Hemp. That is the sister plant to Marijuana - it does not get you high.

News Anchor 3: With more and more states legalizing Marijuana some folks are touting a cannabis cousin as a possible cure-all.

News Anchor 4: CBD.

News Anchor 5: CBD.

News Anchor 6: CBD.

Alie Klits: Welcome to Trace Material, a podcast from Parsons Healthy Materials Lab. Each season we'll be breaking down the building blocks of our constructed environment...one material at a time. I'm Alie.

Ava Robinson: And I'm Ava. So, in episode 1 and 2, we covered hemp's past, and now we're finally ready to tackle the murky water that is hemp's present. Is hemp legal to grow and sell everywhere in the United States? What exactly is CBD? And if hemp and marijuana are both cannabis, where does that leave "hemp's illicit cousin?"

Alie: Hemp's current legal status is far from clear, so we're going to have a lot of help deciphering where things stand with hemp today.

Ava: We spoke to several people for this episode who have made cannabis a big part of their careers. We visited a farm in upstate New York that is fully set up to grow and process CBD and spoke to their COO. We went to Binghamton, a former manufacturing town, and spoke to New York State Assemblywoman Donna Lupardo about the political battle to bring hemp back to New York.

Alie: And finally, we sat down with reporter Mona Zhang who broke down these topics in Cannabis 102. And actually, we should begin there. Things are about to get technical.

Mona Zhang: My name is Mona Zhang and I'm the State's Cannabis Policy Reporter for Politico.

Ava: Alright, we have a lot of terms to cover. Marijuana, hemp, cannabis, CBD. What's the true distinction here?

Mona Zhang: So marijuana and hemp are both types of cannabis. Cannabis includes marijuana and hemp, but marijuana doesn't equal hemp. They're both the same species of plant, but under

US federal law, hemp is a cannabis plant that has less than 0.3% THC. Marijuana is a cannabis plant that has above 0.3% THC.

Alie: Okay, to give you a reference point. In 2017, the THC content of the most popular marijuana strains in Colorado, where it's legal, ranged from 17-28%.

Mona Zhang: The distinction between Marijuana and hemp in the US is a legal distinction, it's not a scientific distinction.

Ava: So, this arbitrary distinction becomes codified when Congress passed the Agricultural Act of 2014, more commonly known as the Farm Bill.

Mona Zhang: So basically what the 2014 farm bill did was it allowed states to set up their own pilot programs for hemp research. A lot of cannabis companies interpreted this as like hemp is legal as long as it's below 0.3% THC. And this whole industry sort of like flourished.

Alie: Starting around 2014, there was a lot of discussion around this thing called CBD. CBD is a sort of shortened version of the word Cannabidiol.

Ava: Let's get a definition of exactly what that is. For this, let's throw it back to Emily Dufton from Episode 2.

Emily Dufton: Cannabidiol is the non-psychoactive component primarily derived from hemp and being put into everything from tinctures to soaps to drinks to food. Like you can't go to a Whole Foods at this point and not see all of these products, many of which are really expensive, loaded with this substance derived from cannabis that is not fully tested and we don't fully understand, but you can buy it anywhere. And that's a cash cow.

Alie: Right, so CBD is a hemp product. In 2014, as soon as the government loosened the reins--just a bit--on hemp production, money started pouring in.

Ava: And four years later, once the government saw hemp's economic potential, the flood gates really opened with the passage of the 2018 Farm Bill. Let's go back to Mona.

Mona Zhang: So 2018, it actually takes hemp out of the federal definition of marijuana, so it's not in, it's not like a controlled substance anymore. You can't be prosecuted for hemp under federal drug laws. The USDA, the FDA, they haven't released their final regulations. So it's in this weird regulatory limbo where it's as legal in a sense. But you know, if you see hemp products like CBD infused beverages and stuff that's technically still illegal.

Alie: What Mona's saying here is that hemp is legal, but hemp-infused products aren't. Things in the cannabis marketplace are moving really fast, and the federal government hasn't been able to keep up with consumer demand.

Okay, I think we may need a recap of what we just learned in Cannabis 102.

Ava: For sure. So, we know marijuana and hemp are both cannabis plants. And that legally, the definition of hemp is a cannabis plant with less than 0.3% THC, and marijuana is a cannabis plant with more than 0.3% THC.

Alie: Right. But, as we learned, that's just a legal definition, not a scientific one. And CBD is a product of the cannabis plant that is low in THC.

Ava: Exactly. But, again, it's not yet regulated. So if you're buying CBD, make sure you trust the company you're buying it from.

Alie: Okay, I think that covers the technical bits. But the story of the Farm Bills is obviously about more than just percentages on a page. It took courage and more-than-a-little drive to get these bills passed. To dig into the politics of hemp in the 21st century, we sat down with one of the people who knows it best.

Donna Lupardo: I'm Donna Lupardo, a member of the New York State Legislature. I'm fortunate enough to be the chair of the Committee on agriculture and I've been working on a variety of issues, primarily involved with helping my community recover economically.

Ava: As soon as we started looking into people who could help us tell the story of hemp, Donna Lupardo's name came up over and over again.

Donna Lupardo: I think I will be associated with the hemp movement long after I'm gone from this position. The governor at one time described it this way. He said that I was the first person to blow the bugle. That's how he put it.

Alie: And of course, it was a tad more complicated than just blowing the bugle. Donna had quite a fight ahead of her.

Donna Lupardo: One of the ways I was helped was able to help sell this to my colleagues was by showing them the kinds of things that um, could be made with industrial hemp.

Alie: When the Assemblywoman walked into our interview, she had a briefcase with her. It was made of hemp, and it was filled - I mean really filled, like stuffed - with different products, all made from hemp.

Donna Lupardo: This is a scrub and hand cream. And lip balm. Hemp milk. Of course the dairy industry really, seriously objects to it being called this, so we're going to call this a hemp beverage.

Ava: Donna had her reasons for supporting hemp's return to New York State. Her community, in the southern tier of Upstate New York, needed help. The city of Binghamton and the surrounding areas would probably feel familiar to many Americans. It's situated on two rivers and surrounded by rolling and densely forested hills. Walking around downtown, we saw some stunning architecture: large Victorian mansions, former department stores with intricate cast-iron facades, but we also saw a lot of empty storefronts.

Donna Lupardo: We are basically a manufacturing town without manufacturing. This was a community that was built on the spirit of entrepreneurs...we were used to big companies basically taking care of everyone's needs and when those companies left, this community and many others like it, were paralyzed for a very long time. It's probably the main reason I got into politics was to help this community see itself in a new light, to build a new positive narrative based on the resources that we have. That's why industrial hemp seemed like a perfect fit.

Alie: Donna has been working to help her community since she joined the State Assembly in 2005. After the 2014 farm bill was passed, she got to work by talking to her community about what hemp could do for them. That briefcase she showed us earlier...she's been carrying it along with her for a while now.

Donna Lupardo: This community, you will be surprised, has embraced this along with with me. At first, of course, they thought I was a little off trying to promote something along these lines as if this plant could help rebuild our economy. But once I carried this bag of hemp samples to rotary clubs and Kiwanis clubs and schools and every place that would hear me out. The manufacturing hook is what did it, and for New York State, period. Agriculture by itself is a tough sell. My colleagues often times have a romantic view of agriculture and they don't really associate a new commodity crops like hemp as something worth pursuing.

Ava: Hemp certainly lends itself to being romanticized. In the past few episodes, we've heard about how this is a miracle crop that has 25,000 uses and just might be able to save the world. But miracles, magic and world-saving weren't the way to sell it to New York's government.

Donna Lupardo: I made it practical. I had to make it a practical reality that this is something people could do something with. This isn't just an ear of corn coming off the stalk. This is a multi-use plant.

Alie: Clearly, one of Donna's favorite things about hemp is that it does have so many uses. She knew that if hemp came to the Southern Tier of New York state, it wouldn't just be helping farmers, or manufacturers, or retailers.

Ava: But so far, people haven't been making a whole briefcase worth of items from it, they've been mostly focusing on just one.

Advertisement: All natural CBD products are life-changing for those with severe issues and searching for a natural alternative.

Donna Lupardo: The messaging on industrial hemp has been overwhelmed by the hemp extract CBD market. You can't travel to a gas station, you can't go anywhere without having this in front of you. We need help in helping people visualize what is possible.

Alie: And the CBD industry right now, it could be considered, well, booming. But people like the Assemblywoman, who are paying close attention, fear that it might soon bust.

Donna Lupardo: We currently have a problem in oversupply, and we haven't perhaps given as much attention to the processing of CBD and other extracts. And also I think how many of us did not anticipate that of the 500 growers we have right now with a dedicated 18,000 acres, that three quarters of them would want to grow for CBD and extracts. It was a little disappointing to be honest, that more weren't embracing the fiber and grain varieties. We think the environmental benefits, the building material benefits for soil regeneration. There's so many pluses in terms of, of that. But the farmers feel that there's more money to be made obviously and growing for extracts.

Alie: Okay, so maybe we weren't quite done with Cannabis 102. The difference between hemp grown for fiber and hemp grown for CBD is that CBD hemp is pollinated, and fiber hemp is not. CBD farmers are interested in the flower, just like Marijuana growers would be. Fiber hemp, although the same species, is not that short plant with dense buds you might be imagining. It stands 12 to 15 feet tall, with a thick, tough stalk. It's that stalk that produces most of those 25,000 uses.

Ava: In New York State, we're seeing what's called "growing regions" pop up, where one region focuses on CBD and the other focuses on fiber. Farmers have started developing networks to share their successes and failures as they enter uncharted territory.

Donna Lupardo: The Hudson Valley is probably the one place that the strongest cooperative has emerged. There's about 20 partner farmers down there, all growing for CBD and that's been quite effective for, for them.

Alie: We headed to the Hudson Valley to one of the farms Donna was talking about.

John Gilstrap: I'll take you to this field over here. We have Cherry Wine, Sour Spruce, Kush OG.

Alie: We were lucky enough to get a tour of Hudson Hemp with it's co-founder and COO, John Gilstrap.

John Gilstrap: This field here is about six acres. And it was planted in late May and it's about different varieties and we're probably going to be harvesting in two weeks. It's grown really fast

this year. The weather has been really kind to us. Last year there was a lot of rain and then a huge drought and it just like messed everything up.

Ava: Hudson Hemp is located right outside the town of Hudson, New York. It's about a two-hour drive up north from New York City. Pulling up to the farm, even before we saw the field of hemp plants, we could smell them.

John Gilstrap: In 2017 we grew at nine acres that year. And then last year we went up to 28 and this year we're up to 80.

Alie: Hudson Hemp was one of the first farms to get a license from New York State back when it was part of the pilot program that came out of the 2014 farm bill. As they've grown, their tactics have changed. And in order to keep up with market demand, they have started to industrialize.

John Gilstrap: Historically, we've been doing culling by hand. But you know, as you get up past 20 acres, it's, you know, you're running a plantation and it's not like what we wanted to do. So we're probably gonna use some sort of machinery this year which is not totally desirable because with the machinery you, you end up losing a lot of the tricombs on the flower as you, as you, as you cut it. If you look, you see they're really fuzzy, glistening particles on here.

Ava: Hudson Hemp has a beautiful property. The facilities in which they process the flowers and turn them into extracts is pristine and impressively high-tech. It seemed like they might have the ability and funds to do research into fiber cultivars as well.

Alie: John did say they were interested, they've even started a small test plot of fiber hemp. And then he brought up the "d" word...decorticator.

John Gilstrap: The problem with the industry here though with the material side of it is there are not a lot of decorticators in the area. So it's a really low margin business. It's tough to get it off the ground. Although that's probably...the materials as the next wave of this industry for building materials for energy batteries, fiber, plastics, things of that nature. So, but we need the machinery and the research in the region to spread that growth.

Ava: So, what's a decorticator? It's the machine that pulls apart the hemp stalk into two components--the fiber and the hurd.

John Gilstrap: This is the hurd, inside. This is the fiber that gets stripped off in the decorticator.

Ava: The fiber is used in things like clothes and rope and the hurd is used in building materials. Processing hemp in this way is notoriously difficult, because hemp is unbelievably strong.

John Gilstrap: But so, you can try to like try to pull this up this apart. You really can't.

Ava: And we really couldn't. Processing is the number one roadblock for moving forward with fiber hemp. That decorticator, it is not only expensive, but it requires a lot of space.

Alie: Aside from its strength, hemp has a number of other attractive properties. 1. It doesn't require pesticides and 2. it's able to *sequester* carbon. Hemp achieves this by extracting unwanted chemicals from the ground into its stalks and leaves. Though that particular crop would be unusable, this can be incredibly helpful to clean soil for future crops.

John Gilstrap: We tested a field out front here. It used to be an apple orchard a few years ago and we planted there, see what would happen. And the plant test came back high and cadmium. That's a big heavy metal in pesticides. Hemp is a great bioaccumulator, it'll soak up anything out of the earth...They use it in BP and their oil spill to soak up oil. So, you know, your soil has a lot--it makes a lot of sense--your inputs have a lot to do with your output, right?

Ava: With the current CBD market being so tantalizing, it's hard for farms to turn away. Both Donna Lupardo and John Gilstrap seem to believe that we're just beginning our journey with hemp. Here at Parsons Healthy Materials Lab, we're especially interested in using hemp hurd for building materials. As we will see in upcoming episodes, there's a lot of excitement about hemp's potential to transform the building industry in the US.

Donna Lupardo: It fulfills the dream I've had of manufacturing on a number of levels, but that one I think people will be very excited about when they see what's possible. This is the one area people around here have not been able to really visualize... I think when people see what's possible with these building materials, they will embrace it very much. I want to see more done in that area.

Alie: Okay, so obviously there's a lot going on with hemp. People are making money off of it, its creating jobs and it's sequestering carbon. But let's not forget about what we learned in episodes 1 and 2. We know that hemp was primarily farmed by enslaved African Americans in the 19th century, and that Harry Anslinger targeted black and brown communities with racist policies and that the War on Drugs disproportionately targeted communities of color. But, is this history being taken into account? Mona Zhang, who took us through Cannabis 102 at the top of the episode has spent a lot of time writing and thinking about how these new policies do or don't reckon with the history of cannabis in America.

Mona Zhang: So although the issue is very often viewed as an agricultural one, it has a lot of impacts on criminal justice from an enforcement standpoint...when the 2018 farm bill was moving through Congress there was at one point in the bill a provision that would ban those with felony drug convictions from ever being in the hemp industry...it was a compromise for more conservative lawmakers to get hemp legalization through and make it palatable to them.

Ava: The Farm Bill's were created to help American farmers, who are disproportionately white. We know that people of color, especially black Americans, were targeted by anti-cannabis laws.

Despite black and white communities using Marijuana at similar rates, there is a disproportionate number of felony drug convictions in the black community. From what Mona was saying, conservative lawmakers were not interested in healing any of the wounds created by the last two centuries of cannabis policy.

Mona Zhang: In the end, the ban ended up being like those who have had a felony drug conviction in the past 10 years can't enter the hemp industry. Criminal justice advocates say that's really unfair, especially if people have the expertise to be growing cannabis and also belong to a certain group of people who have been disproportionately targeted for drug offenses.

Alie: Essentially, the farm bills in many ways continue the pattern of cannabis history in the United States. Families that had suffered under Anslinger, Nixon, and Regan's policies were pushed further away from it. There is still an opportunity to embrace criminal justice reform on a state-by-state basis, but so far, many states haven't seemed interested.

Alie: In our next episode we're going to explore the new economy that might be built with hemp. We've seen the devastating effects that extraction and exploitation can have on our planet and our people. Can hemp be the cornerstone of a new economic system that will rebuild communities from Appalachia to White Earth? Join us next week when Winona LaDuke makes her case for hemp.

Alie: Trace Material is a project of Parsons Healthy Materials Lab at the New School. It is produced by me, Alie Kilts, Ava Robinson, Burgess Brown and the HML team. Thank you to Mona Zhang, Assemblywoman Donna Lupardo and John Gilstrap for lending their voices, thoughts and experiences to this episode. And special thanks to Friends of Healthier Materials who help make this possible. Our theme music is "Rainbow Road" by Cardioid. Additional music from A. A. Alto and Blue Dot Sessions.