



## Cultivating Cannabis

### Transcript – Overview

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Welcome to Cultivating Cannabis. I'm Stephanie Syson with The Grow Network. Over the next eight modules, we're going to share with you all you need to know so that you can grow cannabis at home. We've multiple expert growers joining us to share their experience and knowledge of this beautiful plant. We're gonna take you on a journey, sharing with you the history of cannabis, how you can grow your own whether indoors or outdoors, harvesting, curing, and even how to craft homemade remedies such as oil infusions and tinctures. I'm so excited to share this course with you and soon you will be cultivating your own cannabis at home.

Stephanie Syson: Welcome to Cultivating Cannabis. This is Module One: History, Strains, Medicinal Uses and Legality. In this module, we're joined by cannabis expert and good friend, Brian Gandy. Welcome to Cultivating Cannabis Brian. We're so glad that you have decided to join us and teach us all the things that you know about this plant. I would love to give our viewers a little bit of a background on how you got to the place where you are now and why you like the cannabis plant, why you cultivate it.

Brian Gandy: Well, my background is in horticulture. So, I got into horticulture because of my love of food and you know, cannabis -- I never thought when I was going to school for horticulture that it would be this legal. So obviously I had some intentions of understanding it either way. I've always been a big fan of it, but it's a beautiful plant, it's a lot of fun to grow. You know, outside of the marijuana and getting high and all that, either I've grown out of it or the industry's grown to where I'm more excited about the other uses for medicine and in particular, the food, fiber and fuel and the next revolution in agriculture.

Stephanie Syson: Can you get us started by telling a little bit about what you know about the history of the cannabis plant?

Brian Gandy: Yeah, so cannabis, which pertains to hemp and marijuana, dependent on the application, has been used for thousands of years, mostly for materials first and then for medicine. I think that's the evolution of it and food, fiber, fuel, and medicine. So --

Stephanie Syson: Used for all of those things?

Brian Gandy: Yeah, probably almost in that order. Yeah, it's an extremely versatile plant that's been used for a very long time.

Stephanie Syson: Where did it get its start that you know of?

Brian Gandy: They -- the best estimations are Russia, Pakistan, Indochina are like, you know -- that part of the continent, that part of the world; higher elevations and higher latitudes and then it's migrated south from there.

Stephanie Syson: And about what time period do we know of that cannabis has been used?

Brian Gandy: Oh, I mean I know it's been recorded and used for thousands of years. Like 5,000 years, I think. They found sheets that are that old.

Stephanie Syson: Wow.

Brian Gandy: Like that fiber, yeah.

Stephanie Syson: Do you know when it came to the Americas?

Brian Gandy: Probably with the slave trade I think is when it came over. You know, everybody stuck seeds; it was like okra. People brought it over, unfortunately by the circumstance, but it grew very well in the tropics and that's where a lot of the THC varieties came from actually, is in the Caribbean. It was brought over that way.

Stephanie Syson: And what about in America? I know that it had -- it was perfectly legal and actually required to be grown at a certain point.

Brian Gandy: Right. And that would have been the more traditional route that it came over was with the colonialization and brought over as a fiber crop. It used to be mandated by the government, this was well after the Revolutionary War, but you had to grow hemp for fiber on your property.

Stephanie Syson: Awesome. When did it become illegal?

Brian Gandy: That was in -- what was it the 30's? 1930's and there was a lot of pressure. There was a lot of different stories and opinions on it, I guess. But my biggest belief is that it was made illegal because it was -- petrochemicals and fossil fuel science was really blossoming at that point and this plant and the oils and the materials that came from it presented a lot of competition. Like Henry Ford made a car out of hemp that ran on hemp, you know, back in the day. So, they, you know, through all the different channels and ways you'd wanna look at it, they made it illegal and I think that's where the majority of the pressure came from to criminalize it.

Stephanie Syson: Hmm and so, in the intro, we talked a little bit about the difference between the terms marijuana and hemp, but I'd love to get your kind of definition of what's the difference. Are they different plants? Are they the same plant?

Brian Gandy: Exact same plant, Cannabis Sativa. The main difference is marijuana gets you high, hemp won't get you high. Hemp can still be highly medicinal for a lot of different reasons, but you -- the common association is more that hemp is the industrial crop; food, fiber, fuel and then the medicinal is overlapping between hemp and marijuana. But marijuana has THC and hemp has CBD or other cannabinoids that are medicinal but the line in the sand is marijuana gets you high, hemp is more utilitarian.

Stephanie Syson: Okay and of course, for this course we're gonna use the term marijuana to describe plants that will get you high and hemp to describe plants that will not as well as cannabis just as the entire family of plants as far as how we grow them and things like that.

Brian Gandy: That's a good clarification because it can get confusing.

Stephanie Syson: Yeah, a lot of different terms out there.

Brian Gandy: Yep.

Stephanie Syson: So, you mentioned CBD and THC. Can you tell us a little bit about what those terms mean and what the difference is?

Brian Gandy: So, the basis of it is they're both considered, in plant physiology, secondary metabolites. So, they're plant compounds that are generated for one reason or another. The resin on the marijuana plant or the hemp plant or the cannabis plant is thought to be an evolutionary protection and in those oils are these cannabinoids. Now, why they interact with the human body so well or the rest of the animal world is still kind of being discussed, but yeah, the plants -- it's a metabolic, chemical compound that is inherent in the plant. Some people say it entices humans to cultivate it or there's a million different ways to look at it, but yeah, they're just chemical compounds that just happen to be beneficial to humans.

Stephanie Syson: So, I'd love for you to explain to all of us about the different strains cause we see Sativa and we see all of these different terms that we may or may not understand what that means.

Brian Gandy: Yeah. So, when you see Sativa or if you live in a legal marijuana state when you go to the shops, they'll give you a couple different options, usually Sativa or Indica. You don't see a lot of Ruderalis being sold at shops, but they're really fun for home growing. It really just depends on, and it's in response to the shape, the morphology of the plant, and also the genetic origins of the plant. The Sativa's are considered more equatorial, the ones that evolved closer to lower latitudes and the Indica's would be out of India, Pakistan, Afghanistan. Those are gonna be higher elevation, higher latitude lineages and you know, that's where you get into the different plant structures. And Indica's would be considered a heavier, more sedative effect and Sativa's are more uplifting, euphoric, and creative. Nowadays, most of the strains available are some kind of hybrid of a ratio of both, but there are still true Indica's and true Sativa's out there to give you the full, you know, spectrum of effects.

Stephanie Syson: I liked how you said one-time Indacouch was a good way to remember --

Brian Gandy: Yeah.

Stephanie Syson: -- the distinct --

Brian Gandy: Yeah, that's day one at the dispensary. They'll tell you Indica means Indacouch. It's a good way to remember it because it is -- the couch lock is real if you smoke a Kush or something really heavy. It will just relax your whole body to the point where you'll eat two pints of ice cream and watch a whole series on Netflix.

Stephanie Syson: And so in regards to Sativa's or Indica's, are there some favorite named varieties that are available for people to purchase if they wanted to go one way or the other with that?

Brian Gandy: Yeah, I mean traditionally, the Indica's are like the Kush lineage. Any OG Kush, Bubba Kush, Bubblegum; like a lot of the Kush is what I would associate with the strong Indica's. And then on the Sativa side, there's Durban Poison which is a favorite of mine. It's --

Stephanie Syson: They have the most interesting names.

Brian Gandy: Yeah, well it comes from the city of Durban in the South Africa. It's a land-locked genetic and it was isolated Sativa down there. It's a really unique plant and you know it when you see it or smell it, if you've ever been around it. Any Haze, the Haze lineages are all Sativa's too. So, there's Ghost Train Haze. Blue Dream is a really, right down the middle hybrid between Indica and it's got Blueberry and a Silver Haze, I think. So, it's the best of both worlds, but yeah, I would say Kush and Haze are gonna be the main terms that I would look for.

Stephanie Syson: Okay.

Brian Gandy: There's a million different other names, but I think if you're gonna boil it down, that would be it historically.

Stephanie Syson: And can you tell us more about the Ruderalis variety cause I thought that was really interesting some of the things you said about that previously.

Brian Gandy: Yeah. Ruderalis now is maybe suspect to be the oldest genetic lineage on the planet where all of them came from. It's grown at really high latitudes like the Russian -- like edges of where plants can even grow. So, it grows like this. It's the Ruderalis. It's just a really short shrubby plant; has a really short season to grow. And it's not super popular in the United States yet, but in Europe and other places where cultivation's been going on a little longer like for hobby or underground, these varieties have been bred in with the THC varieties to keep a really short, stocky plant that's really industrious. It's a highly opportunistic and --

Stephanie Syson: So, it's a little tougher or easier to grow maybe?

Brian Gandy: Extremely tough. You can grow it on your porch any time of year as long as it doesn't get below like 20 degrees. Like it can handle a freeze.

Stephanie Syson: Wow.

Brian Gandy: But its main attribute that's different is the photoperiod that's required to grow it. It can grow in under 24 hours with light and it'll flower. If you do that with a Sativa or an Indica, they'll just continue to veg until you get down to another light cycle. So, we'll see more and more of 'em. The breeding's getting a lot better too for home growers. It's definitely something to look at.

Stephanie Syson: Okay and you just mentioned photosensitive or light-flowering. Can you tell us more about that?

Brian Gandy: Yeah. So, photoperiod is based on plant mechanism that tells it when to trigger into flower. So, there's a couple stages of growth, primarily vegetative growth and then the flowering growth with any flowering annual. So, you'll get just leafy lettuce-like growth for a couple of months and then to trigger the flower, you either have to do a couple of things. If you're growing out in the yard, like in Colorado, the day length gets shorter in August after the solstice and about the first week in August, we get the right amount of dark and light and it just triggers the plant chemically to start flowering. We control that indoors by dialing back the light cycle to 12 hours on, 12 hours off is the most common. And you can't really interrupt it, or you get really weird responses out of the plants. So that's photo-period dependent and then like day-neutral and photo-period neutral would be like the Ruderalis that just works on a total number of hours from the time you pop the seed to the time you harvest, just how much light it can actually take. So, it's a fundamental difference, but once you know that, you can grow.

Stephanie Syson: If you're growing outside, how does that affect how you grow if you can't control the light?

Brian Gandy: Timing, yeah. Like the guys out in California have to hang like little Christmas lights in their greenhouses early in the season just enough to keep the plant awake and from triggering into that flower cycle. So like if I grow one of these little plants indoors and I take it outside too early in the year, I think Mother's Day is now where I'm kinda at where it's safe, but if you take it out too early -- like I took some plants out at the end of April one time and put 'em in a hoop house without supplemental light. They triggered into flower in April.

Stephanie Syson: Oh, wow.

Brian Gandy: Before the three-four month veg period which completely screwed up the whole crop. So, it was more of an experiment. I wanted to see how far I could push it, but yeah, it totally is seasonally dependent, and it gets into your geographical location. The closer you are to the equator, the less it's an issue, but the further north you get, the more you really have to take that into consideration.

Stephanie Syson: Can you tell us a little about the common medicinal uses of cannabis?

Brian Gandy: Yeah, I mean THC, you know, medical marijuana it's been -- I don't know how many years -- seven? With recreational it's been like 10 years here in Colorado, 20 years in California. Nausea, the fatigue, appetite, for really ill people and I guess back in the day, we used to hear -- what's the one? The inflammation in the eyes that no one ever has, but they call it like a medicine for that.

Stephanie Syson: Oh, Glaucoma?

Brian Gandy: Yeah, Glaucoma.

Stephanie Syson: You can get a prescription for marijuana.

Brian Gandy: Yeah. I never met anyone with Glaucoma in my life, but it's great for anti-inflammatory. These are all the THC benefits. Sleep-aid, you know, it can be really helpful for people with insomnia. Some people claim anxiety relief; it can also be the opposite and that's all THC. The CBD is really well reported for anti-inflammatory, anti-

anxiety. It also helps people with pain, seizures. Especially in children, there's no medicine better for helping people with chronic seizures and I've even -- like my dad said it drops his blood sugar overnight --

Stephanie Syson: Wow.

Brian Gandy: -- for diabetic, so there's a million different uses for that as well.

Stephanie Syson: Excellent.

Brian Gandy: Yeah.

Stephanie Syson: And so, besides CBD and THC, what else is going on in this plant?

Brian Gandy: A ton of things. There's CBC's, so they're all cannabinoids. The secondary metabolites that I was talking about earlier, they're all different cannabinoids. So, there's -- I checked after our last visit; I think it's like 80 or more. So, each one has a different potential reaction with the endocannabinoid system that's inherent in our bodies. So now, you know, if you just look at those compounds, each one has unique things going for it. And are you talking about just chemical compounds or then like the food compound as well?

Stephanie Syson: Well, any of those. I know that there's some things in lavender and lemon and pine nuts that are similar and also in the cannabis plant.

Brian Gandy: Yeah. So, there's -- that would be the terpenes or the flavor compounds and like if you've ever had like Skittles, you know how intense the flavor is? Or Starburst or like a lavender or any aromatic plant that you just walk past in the garden or you pick it and rub it? Those compounds are flavonoids or terpenoids and there's a full spectrum of those and then different ratios and different amounts in each strain or variety. It's supposed to have a synergistic effect with either cannabinoid THC or CBD. They call it the Entourage Effect. So, it seems like they're just scent compounds, but actually, medicinally they have a lot more interplay with the plant and the body than we ever thought.

Stephanie Syson: Alright Brian, well we're down and done with module one. We're gonna see you again here shortly and talk about indoor grow rooms. So, thanks for watching. Thanks for being here with us today and we'll talk again soon.

Brian Gandy: Looking forward to it.

Stephanie Syson: Okay.

Brian Gandy: Cool.

Stephanie Syson: We're gonna talk just a little bit about the details of the legality of the cannabis plant. So, one thing to remember is that the regulations are constantly changing, both state and county and federal. So, it's very important to make sure that you check your state regulations. In general, cannabis from a federal perspective that has less than 0.3% THC is legal, but not all states have legalized it. Cannabis with higher THC greater than 0.3% is illegal federally, but legal in some states. So again, check your state and this training course is only intended for states and countries where cultivation of cannabis is legal. Here's a great website that stays pretty up to date about the legality of cannabis use. There are still four states where it's entirely illegal for recreational or medicinal use and that's Idaho, Kansas, Nebraska and South Dakota.

The numbers of plants and the quantity of dried cannabis for consumption that is allowed to be in possession also varies state by state. This is another great website here that you can click on that will have some pretty up to date information. As you can see there's some -- I listed the differences of Montana and New York. These are the current regulations in each of those states and reading through, you'll notice that they're vastly different. So again, it really, really depends on where you live.

In general, for growing cannabis outdoors, there are some fencing, locking and legal constraints to doing that. Number one that it is not visible from an adjacent property and also that it has some kind of tall fencing around it or fencing that prevents access by the general public. So just to review, laws vary state by state and are always changing. You are responsible to check with your local regulations to make sure this is legal for you to cultivate cannabis and this course is only intended for those states. Please follow all the laws and regulations that pertain to you and your location. The information in this course is provided just for educational purposes and any information around medical uses of marijuana or hemp is not meant to diagnose, treat or prevent any disease, just for education and we encourage you to look deeper into this topic than this course has the time to go through. Thanks for watching module one. In our next module, we will cover the basics of getting started including site selection, anatomy, seed starting and much more.