



## Transcript of “Caffeine, Coffee, and Mycotoxins with Dan Cox”

Bulletproof Radio podcast #100



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Dave: Hey, it's Dave Asprey with Bulletproof Executive Radio. Today's cool fact of the day is that it takes about 3 or 4 years for a coffee tree to mature and start producing fruit. Once it starts flowering, it will only produce about a pound of green coffee a year, depending on region and altitude and soil and all that. It takes between 3 and 4 thousand coffee beans to create a single bag of delicious coffee, so coffee is actually a pretty rare, special commodity, but you already knew that because you listen to this podcast.

Today's guest is someone special. Dan Cox has been involved in just about every aspect of the coffee industry for more than 30 years. He's been on TV countless times talking about consumer trends, pricing, product handling. He's also one of the few people on the planet you can go to for coffee legal matters and is actually part of coffee lawsuits when they need a legal consultant. He's also been a 3 term president of the Specialty Association of America for Coffee. The Specialty Coffee Association of America called him "Man of the Year" even.

If you were to basically sum it up in just one sentence, Dan, is it fair to say that you're old school coffee mafia? Is that accurate?

Dan: I am considered "old school," certainly. Well, I hang out with a clan of notorious coffee aficionados that really believe this is still a pretty special product and that we're all pretty passionate about it. Since I have three companions that we've traveled the nineteen different countries together and countless plantations and co-ops, so I still really like what I do. I'm very fortunate. I love what I do. I'm considered the top of my game, but candidly, I don't believe there is such a thing as an expert. There's always something new to learn, and sometimes I hear these outlandish claims that I go ... At first I say, "No way," and yet as I look

deeper, there's always possibilities of something new on the horizons and things happening that make this still an incredibly cool occupation to work in.

Dave: Coffee's changed enormously over the past thirty or so years. It's fascinating because you were there since the first Starbucks opened, essentially. You were involved with coffee from that time frame right?

Dan: Yeah. I was really lucky. In the United States, coffee's been a mature product since really right after the Revolutionary War. In the early 1900s, at the turn of the century, every town in the USA had a small coffee roaster. That pretty much end with the emergence of cans coffee which had long shelf lives. Number 2, the emergence of supermarkets where people would go into one store to buy baked goods and coffees and any other stuff you can get in a supermarket. That stayed pretty ... Our high point in coffee consumption in the United States was 1964 where about 76% of the people drank 3.2 cups of coffee per day.

Then, it died. It started going backwards because of the emergence of sodas and the great marketing that the soda companies picked up. The coffee industry pretty much stuck with trying to attract existing coffee drinkers to change to their brand instead of enticing new coffee entrants into the industry, which would be the teenagers. Starbucks came along, and they also introduced a species called robustas to create price [war 03:45] so consequently-

Dave: Wait. Wait. Starbucks didn't introduce robusta. That was just the-

Dan: No. No. No. No.

Dave: General coffee industry just-

Dan: Yeah. The coffee industry in the late 60s decided to fight the price wars. You had the Maxwell House, the Crafts, the Folgers ... They knew that people would come into a supermarket to buy a pound of coffee a week, so whatever they put on deal, they didn't feel there was a lot of loyalty in the brands. In order to reduce prices, one of the easiest things was to

do, was to reduce costs of goods, and the number 1 cost of goods was the arabica, so they introduced the robusta beans. If you do it slowly over time, it won't be nearly as noticeable. The rise of great marketing and sodas, the decline of great coffee, meant that the industry was going backwards.

Around late 70s or early 80s the emergence of Peet's Coffee Company in the west coast, a great company based out of Oakland California and Berkeley, California. He was really the instigator. Then, Starbucks picked up. Starbucks did a great job of making coffee cool, making it a cool occasion, making it hip. Although, I laugh because Starbucks is probably the number 1 or 2 user of milk products in the United States. Getting a black cup of coffee at Starbucks is actually kind of hard. People use a lot of additives. Then in my old stomping grounds, I was the first employee at a place called Green Mountain Coffee Roasters, which we started in 1981.

Dave: That's ginormous. Just so people know, Green Coffee Mountain Roasters is a billion dollar coffee company right?

Dan: It's actually 5 billion.

Dave: Yeah, exactly. Number 1 there. That's phenomenal. What's the latest ... What is Third Wave Coffee and how is Starbucks different than Third Wave Coffee? What's the Dunkin' Donuts, Starbucks things ... Give me a little bit more and give people listening a kind of understanding of the amazing business of coffee.

Dan: Well, Third Wave is now being split into 2 directions. It's pretty interesting because Starbucks is essentially looking for all of their growth to be overseas, international, pretty much Asia. They're very Asia oriented right now.

Dave: Are you over there a lot Dan? Do you see what they're doing in Asia?

Dan: I don't go there, but I am very cognizant of what they're doing over there and their plans.

Dave: It's nuts. When you walk down any street in a big city, there's more Starbucks there than in New York City. I swear.

Dan: Yeah. Well, again, in Asia, a normal city for them can be 4 or 5 million, so over here 4 or 5 million person city is Chicago. Their market tiers are so much greater than ours. Starbucks feels they've got United States covered pretty much on 2 fronts, retail in their own stores, and retail in the supermarkets. They'll continue to make some splash, but reality is they're going overseas.

Dunkin' Donuts, which is a pretty interesting east coast consumer, east coast retailer, they've got about 6000 stores of which about 5200 are east of the Mississippi. Most people on the west coast really don't know too much about Dunkin' Donuts.

The other big player of course is McDonald's. McDonald's with 31000 locations, they decided 2 years or 3 years ago to get more serious about coffee, and they've done a pretty good job elevating, mainly through price and a better quality product that, a dollar value ... Their biggest product is their café frozen coffee drink. Boy, that is going really well for them. They're doing really well.

Dave: The trick to selling a lot of coffee is sell a lot of milk and a lot sugar.

Dan: Well, that's ... We are a fat, cold, sugar based society. [If I was to saying, 07:40] what are the 3 big things we love? We love fat. We love sugar, and we love cold portion. Then, distribution. Hence, sodas and any product that has a lot of fat in it.

The other part ... The Third Wave now is the small stores, the Blue Bottles, the Four Barrels, the people that want to get into making coffee literally dripped by the cup, individual. What trend that their breaking, which is unusual, is we are so convenience oriented, drive-through time oriented, that we live in the era of line speed, the shorter the better. In a traditional takeout drive-through scenarios, whether it's a Wendy's or

McDonald's, 90 seconds is the goal, from the time you order to the time you drive away, they want to do that in 90 seconds. That's pretty darn quick. A minute and 20 is the next one.

To go into a store like Blue Bottle or Four Barrel, and I love Four Barrel in the Bay area,

Dave: I went to one in Valencia. The one there?

Dan: Yes.

Dave: I used to work a block away from there, and I know [Tao 08:48] that had roasted there. I've written about Four Barrel too. It's a great roaster and a cool environment too.

Dan: It's an amazing one. I was there last spring, and I don't really try to sharp shoot people, and the good news is nobody knows who the hell I am, and that's fine. When I go in and I'll talk to their server, whether he's a barista or just somebody ... I'll ask him a few questions, and in this case they were serving 3 different Kenyan coffees. I asked him to describe the difference between the 3. This guy was probably in his mid-30s. He was really good at that. I was impressed that he knew the regions and he the differentiations between the kirinyagan from one area, and I said "Somebody's doing some pretty good education there."

The other thing is, it takes 3 minutes. You place your order. You go get a seat. They either bring it out to you, or you come back. It's creating the scene of coffee's meant to take time. When you come here, you're going to spend 3 to 5 bucks on a cup, and you're going to really enjoy it, but it's going to take time. The exact opposite and the Third Wave that we happening in the supermarkets, is single cup coffee dominated by the Keurig brand.

Dave: Yup.

- Dan: This is amazing. None of us saw this coming. Single cup has been around for at least 25 years, but it was so poorly executed when it first entered ... We had Senseo. We had Pods. They were a disaster because 1, the machines weren't very reliable and 2, the product wasn't very reliable. Keurig comes along and the first 3 years, they bleed right in trying to figure out how to make this thing work. They start out in the office coffee industry, switched over to retail, and it's now holds first 4 of the top 10 selling coffee brewers in the United States are Keurig, and out of the top 10, they hold 6 positions out of the top 10.
- Dave: That's why I wanted to offer a cartridge that could work in a Keurig machine. Oh man, the complexity of doing that! Unless you're some billion dollar company, it is really hard ,and we finally did it, but it was an 18 month undertaking in order to try and make that happen.
- Dan: People forget that Green Mountain has 70 people in their R&D. They have NASA engineers down in their Massachusetts headquarters, and they are constantly looking at making this better. The old complaint was the coffee never tasted strong enough. Strength in this situation had a relationship to the amount of coffee you could physically get into a cup, the temperature, the grind, and the time. They initially had 9 grams for a 30 second brew cycle. Then, they went to 11 grams. Then, they changed the cup, in the Vue cup, to 15 grams.
- Dave: That was a good move.
- Dan: It was a good move. It settled with the fact that ... Environmentally, all of these things are a disaster. They will fully admit that a pound of coffee in a bag, a 1 pound bag, 1 bag, and you get about 50 to 60 cups out of it. In K-Cups, you get about 50 or 60 individual capsules that had to be thrown away, and until recently, were not recyclable.
- The industry recognized this is a disaster on environmental.
- Dave: That was one of my problems. The ones that I make are entirely recyclable. That was part of the 18 month challenge because I just don't want to make more trash than I have to. I don't think it's good for the world, right?



Dan: Oh, it's a disaster. Here in little old Vermont, and I think there are like 3 or 4 places in the United States, Boulder, Colorado, Berkeley, California, Palo Alto, California, and Burlington, Vermont, Portland, Oregon to a degree, we consider ourselves in the leading edge of environmental concerns, and here we are ... I mean try to open a landfill in Vermont. Good luck. Yet, the company realized "We've got to do something about this." They've been struggling with this for years, and they've got 1 solution, but it's not near there yet.

Dave: Is it true that they're going to partner with the EcoHomes people to fill the walls of homes with old cartridges? Just kidding.

Dan: Listen, if you could put it in tires I would be happy. I don't care, but if you could make home insulation, I'd think they'd be open to anything we could do. The new capsules, the new K-Cups are made with PET #5 plastic. Out the Vues, there's a tear away feature where you tear the lid, and the filter comes off, and then the cup itself can be recycled, but you have to do that also when the coffee has cooled. If you take it right out of the brewer, and you try to do it, there's a good chance it's going to rip and tear, and you're getting coffee browns, so you got to wait a minute.

Again, going back to our nature, we are not a culture that revels in things that take time. We are speed oriented, and we are speed food oriented. But it's a whole another story. The thing that I find interesting is you used to walk down on a supermarket aisle, and there would be sign that said "Coffee" and when you got on that coffee aisle, there would be cans of coffee. Then, there would be canisters or bins of whole bean coffee. Then, there were 1 pound bags of coffee. Now, you're going down, and you're actually seeing boxes of coffee, and within the box of coffee are these single capsules. Within 5 years, you will not even see whole bean, bulk coffee line priced in any supermarket in the United States.

Dave: Wow.

Dan: Those are dying quickly. 1 pound bags of ground coffee ... It used to be just whole bean, but ground coffee is now taking over. Cans are going by the way. For example, Folgers in about 10 years ago, invested tons of money in their new can. It's a plastic ... It looks like a paint can for cripes sakes. They-

Dave: It is Folgers I mean.

Dan: This is what for 3 million dollars' worth of design get you? People can't wait to empty it out, the coffee, so they can use it as paint can. They made the switch recently and said all of their focus is going to be on single cup performance. This is a huge deal, huge deal. Craft is now getting into it. Most of us never saw this coming. The other thing about Americans, which I love to disparage our fellow citizens, is that first of all, no matter how much you try to force us, we refuse to learn the metric system. It's foreign to us. It feels foreign to us. We don't like it.

Dave: It's like learning French or something.

Dan: It is. I absolutely ... Something that doesn't belong in the United States, even though it's the language of science, and it's worldwide; it doesn't matter to us. My point is people have no idea that 454 grams equals a pound of coffee. Thank God because if they could ever figure out the math on what these capsules cost by the pound, you would say there's no way, but if you say "Well it's only 60 cents a cup," then "Well, I can afford 60 cents a cup. If I go out to my local retailer, it's going to be between 1 and 3 dollars. What a steal!" Then, when you go "Wait a second. How many cups do I get in a pound? My god! That's 40 to 60 dollars a pound for coffee!"

Dave: It is. It's more expensive.

Dan: The joke of all them is that the number 1 product for expense wise in the market is Starbucks VIA soluble coffee in a stick. From my perspective, it is the best soluble coffee on the market today, and I have tested this well over 50 times. It's got regular soluble coffee done very well from Columbia primarily, and it's mixed in with some about 15% micro fine ground coffee, which actually gives it [some mouth feeling

16:47] some fragrance. It cost a buck. There's 3 grams in it. If you do the math real quickly, you go "Let me see. 454 divided 3 is a 151. 151 x 1 ... Are you telling me this stuff costs 151 dollars a pound?" The answer is "You betcha!"

Dave: How many grams of coffee does it take to make 1 gram of solubilized coffee?

Dan: It's about a 3 to 1 ratio.

Dave: Okay. Got it.

Dan: About a 3 to 1 ratio, so their cost to goods, as I figured out all in ... Depending on what the market is any given day, they may have maybe, and depending how much want to amateurize their research, maybe they get 10 bucks of cost to goods into that. They're selling it for 151. No wonder they advertise the heck out of it.

Dave: Of course, so that's a super high margin product.

Dan: Yeah.

Dave: Now there are studies looking at what's in solubilized coffee. The ones that I'm familiar with, that are looking specifically at mold toxins in coffee, given that that's an area where I've spent a lot of time doing research, show that on average there is twice as many mold toxins in the average instant coffee. Have you looked into that at all?

Dan: No. I haven't looked into that statistic. Mycotoxins in the plant world is ... They're everywhere.

Dave: Yeah. They are.

Dan: They're absolutely everywhere.

Dave: You can't get rid of them.

Dan: You can try to mitigate them as best as ... First thing is to try to identify them. Identify the ones that can really do damage, and is it obvious or is

it something we have to dig deeper in? There are some big offenders, and then there are a lot of lesser ones. The reality is they're everywhere. The question is what is their level of toxicity, and can we do anything about it? That's important.

The first you would like to do is eliminate them, if possible. Now if you can't eliminate them, how can you best control them? That starts with a rigorous program of testing. If we look at something like ochratoxin-A, which is a pathogen and it's formed on the mold, on the fungus of lots of different products, but coffee can be one of them, and especially coffee from Indonesia or coffee that's been in the water a long time from where it's produced to where it's consumed.

When we buy coffee from Indonesia, it's on the water at least 6 weeks to 8 weeks. During that time, it can be in a container that's closed, but depending on ... Coffee's hygroscopic, so it can pick up moisture, and with moisture you get mold. With mold, can come ochratoxin. You can't have ochratoxin without mold, but you can have mold without ochratoxin, so you have to test it.

In Europe, it's regulated by the equivalent of the FDA in Europe. In the United States it's not regulated. The problem with ochratoxin is it's in lots of different things besides just coffee, but it's not homogeneous.

Dave: Right.

Dan: You have to do more than just test 1 bag. You have to ... A container has, depending on the size of the container, between 250 and 300 bags per container, so between 38000 and 42000 pounds per container. You can have hot spots within that. Most roasters do not want to take the time or the expense to do proper testing. There is some thought that it gets roasted out at the super high temperatures, and the answer is that that's not true.

- Dave: Hold on a second. There's always people saying, "Ah, the heat destroys mold. Doesn't it kill the mold?" I mean I know the answer to this, but tell people as a 30 year coffee veteran, what's the deal here?
- Dan: Ochratoxin-A is a stable compound like many things. It's stable which means unless you get to super high temperatures, and super temperatures [inaudible 20:52] are about a thousand plus degrees. Anything less than that is just considered "hot."
- Dave: That's what Starbucks uses on their dark roast, right? Is a thousand degrees?
- Dan: Oh yeah. At least, maybe 2000. To get that charred effect, you can't do it easily. No. No.
- Dave: No offense Starbucks. We love you.
- Dan: No. No. Actually the darkest roasted coffee in the United States is Peet's. They roast it slightly darker. The range is traditionally 375 to 450 degrees Fahrenheit. That is the range, and then you've got to throw in the time it takes, anywhere between a 15 and 20 minute roast. Then, you have to work in what's the moisture content of the coffee as it's coming in. Moisture content comes at about 4 or 5 variables, but if someone said "The average roast temperature of coffee is 400 degrees for 15 minutes for a 2 bag roast of 350 pounds," I'd say that's a pretty good generality, but at those temperatures, things are created. Acrylamides can be created, but they can't be destroyed, so you can't destroy Ochratoxin-A, furan, or some of the other mycotoxins at this temperature. It can't be done.
- Dave: The spores are dead, but the poison left by the mold that made the spores is not dead ... Well it was never alive but it's present and still biologically active. Okay.
- Dan: Yes. The other issue is because technology allows us to get further and further into the DNA of anything, we can see things that used to be measured in parts per thousand, parts per million, parts per billion; now we're into parts per trillion. You do have to put that into the old

Paracelsus adage in that the poison is in the dosage. I truly believe in that. If I was to look at my food source and say "My God. Almost everything I eat has the potential to be toxic." [I always go, 22:52] "You're right." Let's just calm down and figure out what we need to test, what's reasonable and what's not reasonable.

When people come up and they figure out what I do and they say, "Well God, I drink 10 cups of coffee a day," and I go, "Well that's your problem." You're not impressing me because you can consume so much coffee. Is the issue the coffee or is the issue the caffeine? The caffeine again is another one of these stable compounds. People think the coffee is roasted darker, so it has less caffeine because it's been roasted out. Fundamentally, absolutely not true, not true. It's a stable compound. It's the same amount than you began with, then you ended with, no difference. Now, espresso's a little bit different only because the throw weight is different.

The espresso you just drank looked like it was about 2 ounces.

Dave: Yep.

Dan: We drink about 1 and a half to 2 ounces of espresso, and that could have 80 to 100 milliliters of caffeine, whereas an 8 to 10 ounce drink of regular coffee may have 100 to 150. Because it's so highly concentrated, it has more caffeine just because it uses more coffee, but it does not have more caffeine by the pound. It's the same amount. Sometimes people also think because it tastes stronger, it has more caffeine. Caffeine for the most part is tasteless and odorless until you get it in its purest form.

Dave: You may not know the answer to this, and I don't know the answer to it. I've always noticed that an espresso, I feel it before ... If I chug down an espresso and I chugged a room temperature black coffee or something, I'll feel the espresso speed my mind up faster than the coffee. I believe it's because the coffee's essential oils are still intact, and they help to escort the caffeine and some of the other phytochemicals into the brain

better, like that fat plus caffeine has a different effect than just caffeine. Have you seen anything about that? Is that part of your ... ?

Dan: Yes. That's absolutely true. Caffeine is a phenomenal carrier of all sorts of things. It also gives a lot of people a sense of alertness, a slight sense of energy. Most of the studies I've looked at feel that the number 1 reason people drink coffee in the morning is for the caffeine. It's not necessarily for the taste of the coffee. When you see it used in the pharmaceutical industry, specifically medicines like aspirin, it's not because the caffeine they feel is necessary a great additive. What it is, is a great carrier. It gets the other essential ingredients in the medication to you very quickly. Just like the old product DMSO, I don't know if you knew what that-

Dave: Yeah. I use it.

Dan: Yeah. It was used in horses for recovery of horses.

Dave: Right.

Dan: Well that stuff, you'd rub some of that on your shoulder and within 10 seconds, your breath would really smell differently. Researchers said, "Hmm. How can that work so fast. We better look at this because it could be a great carrier for other things." The pharmaceutical industry, obviously the soda industry, is the number one user of caffeine in the world. Pharmaceuticals, soda industry because it has a slight amount of upliftingness to it and energizing. Certainly, in coffee producing countries now, especially in Brazil, they're using café lattes and café au laits for children in elementary school because it makes them more alert, and they actually are proven to be better testers. Unbeliev-, Up here you would think "Oh yeah. This is just a coffee guy trying to sell more coffee."

Dave: I posted on Facebook a picture of my son drinking 2 ounces of Bulletproof Coffee made with my mold toxin tested beans plus the grass fed butter and the Brain Octane oil. My kids get it every morning. They get about an ounce or 2. You know what? They feel great. It makes them happy. They're not addicted. They don't go hyper. They're just calm and

focused and happy. I don't think I'm harming them. In fact I know I'm  
[crosstalk 27:00]

Dan: No. I don't think they're getting shorter. They're not turning browner. They're not hyper, running around beating on each other. No. I find that in the studies ... I see studies all the time that the ... I think the publicity has turned the corner to where there are more positive attributes to moderation in coffee than negative ones. There are certainly still some negative ones, but the industry is starting to say "Hey. Wait a second." Everything from colorectal cancer, breast cancer, Alzheimer's, there's some stuff going on here that we need to look at closer.

I have no problem. My daughter's an adult now, but when she started drinking coffee when she was around 10 ... I think first of all, I think she's somewhat influenced by my wife and I. Secondly, she liked it. She just plain liked it. She liked the taste of it.

Dave: I didn't think I would give my kids coffee until they're older, but when my daughter was 1, I said "Well, I'll give her black coffee" because she was reaching for my cup, and I figured she'll make a face and ... I had to fight her to get the cup back.

Dan: That's a little unbelievable.

Dave: Yeah. I was surprised, but they've just been like that, so a couple tablespoons. I think it's fine.

Dan: If your child doesn't like it, they're going to tell you real fast. They're just going to push away and say "No way. Get it out of my face." If they do like it, usually I'll go back to put some milk in it. You don't have to go crazy with sugar, but usually the first sip, if it's somewhat diluted with some milk, it certainly should be palatable.

Dave: Let's go back to ... You said that coffee has some positive things. My own research and experience has shown me that when I look at the list of negative aspects of coffee, and I look at the list of negative aspects of mold toxins that are commonly present in coffee, there's a shocking



overlap there. That when I experience coffee that is tested to be extremely low ... Like you said, there's a part per kazillion measure that I'm sure there's one of those, in any coffee bean because there's so many parts. But when I drink exceptional low mycotoxin coffee, I feel different. I even did a little study with executive function comparing 2 different coffees, and it showed that there was a difference in executive function between the 2.

You mentioned earlier the European standards. They test using probably not the most accurate test on Earth, but they test for ochratoxin-A which is one of the 27 different things that I look at in the upgraded coffee beans. They test for that and they say "All right. This coffee isn't up to European standards." What is the current European standard in parts per billion, do you remember off the top of your head?

Dan: It's either 3 or 5 parts.

Dave: Okay. Cool. My research says it's 5 and it used to be 8, but it does change occasionally. I don't always get the latest update right away. 5 parts per billion, very small. Okay. There's a container load of coffee. They tested it. It didn't make it. Where would it be tested in the supply chain? Is this at a broker? Would it be tested before it shipped from the source country? How does it happen?

Dan: The best way to test it would be begin ... Because mold can accumulate and start en route depending on where coffee's coming from, is you want to test it as it left port and you want to test it when it arrives. Importers will only do what they're asked to do. Then, they're going try [for-live-bit 30:27] to pass that cost on to the roaster. If the roaster demands it, the importer has two choice. "Okay. I'll test it, but I'm going to charge you for the test," or "No. I don't want to go through the aggravation of testing. You're not big enough for me to do this [immediate myself 30:43]

In theory, you would want to test it just as it was loaded onto the ship, and then you would want to test it again, depending on the length of travel on water, once it got there. Most roasters ... I mean the most common way of testing ochratoxin is through the use of what's called a fluorometer because it can be fluorescence. We have it in our labs. We have the capability of testing this. It truly is a pain the neck test to do. Oh my god. You have to extract from green coffee. Grinding green coffee is like grinding mustard seeds. All it does is gum up your grinders. You have to freeze it to begin with. If you've got some liquid nitrogen around, that works really well, but not a whole lot of people have that.

We freeze the coffee which makes the cell structure brittle. Then, we grind it. Then, we have to go through at least 6 phases of filtering it to where we finally get about 2 or 3 mils of this colorless liquid that we put into a fluorometer. Then, 30 seconds later we get a result. It's about 65 minutes of prep for a 30 second test. That can cost anywhere between 150 to 300 dollars to do it. Until you automate it, it's very labor intensive.

Dave: Now, that test when you're doing it, what's the sensitivity of it?

Dan: Very sensitive. I think the thing if you're really going to look at this, you want to go right back to the source, and you want to figure out how can we create conditions that these things won't ... How can we grow this stuff that will lessen the chance of it forming.

Dave: You're starting to sound kind of like the Bulletproof process there.

Dan: Yeah. It's tricky. It's really tricky, but there are niches for everything. I mean I look at now ... 15, 20 twenty years ago, the organic supply and farmer to table now ... So we pay more for organic foods if we can have assuredness that it really is organic. We like buying local now. Where you are, there's a lot of opportunities, but the thing that's really amazed me is why are our systems so sensitive to gluten all of a sudden? Now we go down a supermarket and there are aisles of gluten free products. What's going on here?

Dave: I think I have a pretty good theory on that one. Gluten cross reacts with funny enough, toxic molds. We changed our soil bacteria about 30 years ago by spraying a potent mutagen on it. We've been having these aspergillus mostly, soil microbes that are typically harmless that have become less harmless that have also moved into our homes because they live basically anytime there's moisture in a home. They produce immune stimulating molecules that have the same 8 amino acid sequence that's present in gluten and casein. I believe that's one of the underlying reasons; it's not the only one, but it's one of the underlying reasons that we're seeing this explosion. I've experienced myself in Palo Alto.

There was a toxic mold growing behind a dishwasher in a place where I was staying. When I got exposed to that, my relatively minor gluten allergies just exploded. The same thing happened to my wife. It's a known thing. It's just one of those complex systems out there, and I'm a canary for toxic mold, and that's why when I drink a cup of coffee, I can tell you if it's got ... I've had cup of Excellence coffee that tasted amazing. It was blissful and orgasmic, but 20 minutes later, I'm like "Yep. There's mold toxins in it."

Dan: There's something in there.

Dave: Yeah.

Dan: Well, I'm just amazed that the industry led by the big industry leaders, the Kellogg's and the General Foods of the world, General Mills of the world, have realized that this segment of the population is asking for it, so we better pay attention. My wife is a gluten sensitive. Consequently, we go to a couple health food stores, and she goes down that aisle and now there are gluten free pizzas.

Dave: I have some bad news for you Dan. Have you seen the studies about coffee cross reacting with gluten?

Dan: No.

- Dave: Yeah. There's actually immune ... It's proven by one lab in one case, but get this, they used cheap instant coffee. There are a ton of people who don't drink any coffee other than upgraded coffee because they react to it. I'm the same way, but when they drink a coffee that's tested for molds, they aren't getting basically the gut problems that they're getting from normal coffee. That can be a trigger for immune sensitivity. If you're like the celiac or Crohn's side of things, the quality of the coffee you're drinking is a factor in-
- Dan: You betcha.
- Dave: How you react. I don't know if your wife has paid attention to whether coffee is triggering any gluten allergies in her or whether it's triggering symptoms of gluten allergies, but it's worth noticing.
- Dan: Well she switched years ago to decaf, and she's a diehard, 2 cup a day, decaf drinker. She drinks the best decaf on the market that she can find. She seems to be fine.
- Dave: I need to ship her some of mine if she hasn't tried it. I didn't realize that she was doing that because ... I mean what is the best one that you know of? Because I'll tell you, I always get sick when I drink decaf coffee because they use low quality beans because they know they're ruining them anyway. You've found a super high quality one? If anyone on Earth would know ...
- Dan: There are ... You have to look far and wide to find them. They're usually small micro-roasters that are willing to pay a lot more for coffee. I find if you were the big brand, the one that's most common right now that I think does a pretty good job, Nespresso decaf does a really good job.
- Dave: No kidding? Nespresso. I wouldn't have predicted that.
- Dan: Nespresso. It's a subsidiary of Nespresso, of Nestlé. Consequently, they're making a lot of money, so they do a pretty good job sourcing coffee especially for the-
- Dave: In terms of flavor or ... ?

Dan: Oh yeah. Oh yeah.

Dave: Okay.

Dan: Yeah. Yeah. Yeah. I would say, from a capsule standpoint for dark roast, they're the leader in the field as they should be because of taste [taste along 36:58]. The Verismo by Starbucks has been less than successful. They're not selling very many in those machines. The Rivo from Green Mountain Coffee is kind of dead in the water, not selling very many to make espresso based beverages, but an espresso still leads the pack by far.

Dave: You find a consistent high quality, high flavor decaf?

Dan: Yeah. Yeah.

Dave: I'm going to ship some of our decaf to try.

Dan: Ship it away.

Dave: The reason is that I take the original tested beans, and our roasting is in Portland. We ship it over to Vancouver to do Swiss Water Process and ship it back, so it's a very short ship time because caffeine's also an anti-fungal agent in the coffee. It tends to be ... In fact, I'll you it's the only decaf that I don't react to.

Dan: Do you ship it over to the plant, the Swiss Water Plant?

Dave: Yeah. Absolutely. It's only about 6 hours because Portland to Vancouver and back is easy.

Dan: Now, I went to that plant in September, and I am very high positive about the plant. I've been to the plant. I've seen it before and the after. I know the management. It's the real deal. I think they're probably one of the best decaffeinated plants in the world. They do a really nice job.

Dave: That is amazingly validating because I don't have the experience to have looked at different plants like that, but they impressed me with just the quality and the whole process. I wanted to make a decaf that not only

tasted good, but also was very low in toxins because the studies, that I've come across where they look at levels of various toxins in decaf, not the ones that come from chemical decaffeination like the solvents, but actually ones from the fungal toxins, they're phenomenally higher because usually you throw robusta beans, you throw lower quality beans because you know you're ruining the beans by decaffeinating them, right?

Dan: It's the old crap in, crap out.

Dave: Yeah.

Dan: Same thing with soluble coffee, if you're ... [I taste soluble coffee of a lot of people. For 38:54]many roasters said, "Well, it's like taking your car to the demolition derby. What's the point? Don't take a good car, take a crappy car." I said, "Well, you can't possibly have good tasting coffee if you start with bad beans. Now it's the processes ... Are there better ways of making decaffeinated coffee over the year? The answer is yes. The Swiss Water people do it in small batches. I think there's something to be said for that versus a continuous decaffeination process. It really starts with the water. The water that comes out of its decaffeination plant should be drinkable. It should be purified that much through the system that it can be recycled and drinkable.

When I've been to decaf plants in Switzerland and Germany and France and Mexico and the United States and in Canada, that's the first thing I'll say is, "I want to see the water that comes out of the last batch, and I want to taste it." If they won't allow me to do that, I know there's a problem.

Dave: Wow. Okay. That's a pretty high standard.

Dan: They haven't cleaned it enough to be able to use it in the next batch. It takes time, and it takes money to do that. It takes a lot of money to do that, to constantly filter, filter, filter. Active carbonation, I think carbon is the answer, but to a lot people just don't want to take the time.

Dave: It's funny you mentioned active carbon. If I'm in a situation where I'm going to drink coffee that isn't mine and probably 90% of the time when I go out here, I can tell, like my brain doesn't do the things I'm used to at doing when I do that. Yeah. I'm a delicate flower, whatever. Apparently other people have a slight reduction in mental capacity versus say like feeling as bad as I would, but they're noticing they don't have a dip in energy later.

I take the coconut charcoal capsules, which is ... Actually, it's almost identical to the carbon that's in those water filters, although it's a finer particle size. I take those if I know I'm going to be in a situation like a coffee tasting. I'm going down to Costa Rica to work on expanding the number of plantations who can do the pre-harvesting steps the way I like them done. I know I'll be tasting stuff that's not as clean as I want, so I'm going to be popping charcoal all day long to filter it in the stomach.

Dan: Yeah. Carbon's a very good catchall for a lot of good stuff. You might be thinking, "Well I think I'll swallow a brick at a day." I say, "Well, that's not the worst thing in the world that can happen to you at all."

Dave: Yeah. I manufactured it for internal use. It's just worth using it. If I'm going to be drinking strange coffees, I will do that. One question, we talked earlier about this European coffee you tested before it goes on to the boat. You test it when it comes off. Now, we're somewhere at a port in a Europe, and we tested coffee, and the coffee's bad. It doesn't meet European standards. What do they do with that coffee?

Dan: Well, we don't like to talk about that.

Dave: Oops.

Dan: I can't tell you exactly what happens because I don't live in Europe, but if it's written into the contract, and if I was a European roaster, I would write it into the contracts. The first thing the roaster would say is, "It's rejectable, and it's your obligation, importer, to replace it with like

coffee without the toxins, obviously." Then, the importer has to figure out "What do I do with this?" It's never going to be shipped back to the producing country. That's laughable. Now, they have to sit there and say "Okay. It got rejected because the level of whatever; the mycotoxin is too high. Now, do I resell it to someone else? Do I retest it, or do I just dump it?" Then, there's transportation issues involved.

If they want to try it, sell it to another roaster that doesn't have it in their contract, they can do that. That's the 1st avenue. Try to sell it to somebody who doesn't care about the mycotoxin. If that doesn't work, then they could sell it to other countries that don't have regulations. In our country, that's called dumping. You're intentionally selling something to us that you know has a problem, whether we have a regulation or not. That's not really cool. That doesn't fly very well, even if it's sold at a discount.

But there are many, many roasters that are, I would say, less than ethical. If they have a chance to pick up something that is a lot less expensive, that's unregulated, they'll do it. It's very simple. They'll just do it.

Dave: Is there any possibility that the companies, with the coffee that they know has a problem, and that country might not notify the buyer in the US about the product?

Dan: Of course they will. Of course they will because it's not regulated. Why would I intentionally tell you, "Oh by the way, the coffee that you're buying was rejected in Belgium because it had an ochratoxin level too high," when they're saying "Well, these people don't care. Why would I even tell them?"

Dave: Yeah.

Dan: Yeah.



Dave: If you were at a US company, and you had even say internal standards, you could buy some higher toxin for less and have some nominally lower toxin, mix them all up to get the average parts per billion down. Is that ever done?

Dan: I don't think it's being done. I'm obviously not at the larger roasters. I don't think that's being done intentionally, but I have no proof. There are a lot of crooks out there that work that way. That's why I think dealing with people that are incredibly reputable is the rule of day.

Coffee is incredibly fraudulent. For example, there is more Jamaican Blue Mountain Coffee sold every year than is grown. There is more Colombian coffee, 100% Colombian coffee sold every year than is grown. Same thing with Kona coffee. There are a lot of unscrupulous people ... [inaudible 44:40] the fish, come on. The fish industry is rife with this right now. You go, and you think you're buying Chilean sea bass? Good luck. We are very open till we're very gullible. In this case, you've got to know your retailer, and you've got to ask your retailer to back it up with some simple requests. We don't want to bust your chops too much, but if you're saying this is this, I need to see your authenticity.

Wine, old wine ... I just finished reading a book, The Billionaire's Vinegar. It's a fantastic story about how these people paid zillions of dollars for old bottles of Jeffersonian wine that were never tested, and you wouldn't even know, and most people don't even want to open the bottle anyways but what's the provenance? How do you check on the provenance for some of this stuff? Very difficult. Very, very difficult.

Dave: It turns out you're not just a coffee expert, right? You're a cigar guy and a wine guy as well and a Harley guy and Porsche guy. You kind of like the finer things in life right?

Dan: I got to the stage where I was very fortunate that I had the ability to make some choices on how I want to spend my time and who I want to

spend my time with. Cigars and coffee is a natural. When the cigar craze of 1990 hit, I was among the first to really get involved in that. Marvin Shanken at Shaken Communications has done a wonderful job with Cigar Aficionado, and I did a lot of coffee tastings with that magazine. Wine, I started a wine club with 2 other guys in the late 80s, and I would say I'm a sophomore, but I'm a pretty educated sophomore. I just saw the video SOMM, S-O-M-M, which is one of the best videos on how difficult it is to become a master sommelier.

I love wines. I'm trying to teach my daughter the difference between really good wine and just average wine. Wine will be a lifelong passion.

A little bit of speed, yeah. When I got divorced, the first thing I did after my divorce was I went and bought a motorcycle. I had 25 very good years of that. I still do one trip a year with the guys. I sold my bike about 10 years ago, and I bought a Porsche, so I moved up into 4 wheels. A bunch of us I go out with ... Ben and Jerry are good friends of mine and a bunch of other business owners, and we do one trip a year. We would pick a part of the United States that we haven't been to. We fly out there. We rent bikes. Last year, we did the coast of Oregon. Incredibly cool, started in Portland, went all the way down to the coast to California. Turned, came back in, Crater Lake area, Bend, end up in Mount Hood ... It was just incredible.

I think my motorcycle days are coming to one trip a year, 5, 6 days on a bike is about it for my age now, but the Porsche's ... I can do this for a long time. Yeah.

Dave: When you're on a road trip like that, do you stop in small towns and drink coffee of questionable origin?

Dan: I would stop and drink coffee, but we try to find single chains. I have to admit. I go in an within a minute I can pretty much scope out if these people know what they're doing or not. It is fun. There are a few chains that if I have to, I'll stick with. For example, I happen to be a fan of Panera Bread, Caribou Coffee. They both because they know a lot about where their coffee comes from. They do a pretty good job. Peet's of course does a fantastic job.

I'm looking for the Four Barrel types. That's my pride and joy, is to find those little places in the middle of nowhere that take it pretty seriously.

Dave: The odds of getting a cup of coffee that won't basically knock me out the way a lot of coffee does are higher at those places. I read a blog post once that said, "You walk in the door and count piercings and tattoos, and the more of them you find, the better your odds." Is that accurate?

Dan: No. I would say ... No. I would say that's a really tell, but I would not say that that's necessarily the indicator of good coffee. It might be a certain type of cult or craft but ... Yeah. I don't necessarily subscribe to that theory.

Dave: It's fair not to because it's not always true. It depends on the part of the world, obviously. I do ... When I travel, and I travel a lot, I brew my own. I bring the equipment, and then I do it because I just got used to feeling a certain way all the time. I will go into those places, and sometimes I'll sample it, but I usually don't drink the whole cup because unless it feels right ... I can tell you if it's going to know me out.

Dan: I agree with you that many times, especially in foreign countries, it's kind of sad that I will bring coffee with me to a coffee producing country because I know they export their best, and they don't have the right brewing technology and equipment. It's kind of sad. It's just kind of sad, but it happens all the time. I just came back from a little island in the Caribbean called Culebra with my family, and this is a great family vacation. We ship coffee there before we get there. It's kind of weird, but that's what we do.

Dave: I was on Roatán, which is a similar region, coffee growing part of the world. I went in on a coffee buying expedition, not to buy coffee for Bulletproof, but just because I wanted a cup of coffee, and I didn't have a grinder. I had my beans, but no way to grind them. At the end of a whole day of riding around in a taxi and doing back room deals, I didn't end up with any coffee that was drinkable. In fact it had sugar mixed in with it, and it was instant, but I did buy a mortar and pestle, and I ground my own beans on the cruise ship later that night. It was terrible, but ... The things we do for coffee, right?

Dan: No. It's very common to see a new line of to-go coffee brewing and grinding equipment. It's from the AeroPress to these hand grinders. They're everywhere now. Now, I have to apologize Dave, but-

Dave: It's time? Okay.

Dan: I'm going to sign off by saying-

Dave: Thank you.

Dan: Thank you very much for this opportunity. Let's keep talking, and it's a joy to be a guest on your program.

Dave: Have an awesome day. Thank you.

Hi. It's Dave again. Thanks for listening to the 100th episode of The Bulletproof Executive podcast. Thanks for making it the number 1 rated show on iTunes. I started this podcast with the same intention that I had when I started the Bulletproof blog itself, which was that I could offer a ton of free information that would help you supercharge your body, upgrade your brain, and live in a state of high performance. It took me about 20 years and 300,000 dollars to learn how to do things that aren't supposed to be possible and then use them to be a better entrepreneur, a better husband, a better father.



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