

PODCAST TRANSCRIPT - FEATURING ERIC GOWER

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Dr. De Koyer: Hello and welcome back to Beyond Your Wildest Genes Podcast. My name is Dr. Noah De Koyer and I am your co-host. Today I'm super excited to have Breakaway Matcha founder, Eric Gower, as our guest.

Eric, it's a pleasure to have you on today.

Eric: Noah, it's my pleasure. Thank you so much for inviting me.

Dr. De Koyer: You know, when I reached out to you I mentioned that I received a jar of Breakaway Matcha Coldbrew in one of my quarterly boxes and I've been using the products since. You know, ironically at that same time I was looking for a quality matcha that had travel sticks, because my wife loves matcha tea. She just loves it. It's her favorite drink - several glasses a day. So, I'd like to give a shout out this podcast as a dedication to my matcha-loving wife, Kerri.

Eric: And I have a great deal of gratitude to your matcha-loving wife as well.

Dr. De Koyer: All right, but let me do your quick bio and we're going to dive right in. Eric is an author, ghostwriter, editor, tea entrepreneur, cooking instructor and private chef. He's the author of four cookbooks and the founder of a specialty tea company, Breakaway Matcha. He lives and works in Marin County, just north of San Francisco.

Dr. De Koyer: What do you have to say about your bio?

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Eric: Well, it's an eclectic one. The only thing I would add is that there was a big chunk of time in Japan. I lived there for 16 years and that's where I got to know about matcha and took my deep dive into matcha.

Dr. De Koyer: You know, the funny thing is that I'm 42 and for people my age I think the first introduction to any kind of tea like that was probably Karate Kid 2 when we saw, right, that tea ceremony and, you know, I think ever since then I've had a little bit of an interest and even more so now that I know how important polyphenols are for your health and your diet.

Eric: Indeed.

Dr. De Koyer: So, I'm going to call this podcast today Matcha 101.

Eric: Perfect. That sounds great.

Dr. De Koyer: All right, so my first question for you and it's the same question I ask every guest is how about your journey. Can you share a little bit about it, you mentioned the 16 years in Japan? But how did that all happen?

Eric: Yeah, it's kind of a weird story and oddly it is related to matcha. So, when I was a young lad, I moved out to California and I found myself in Los Angeles and on Sundays I used to take some hiking trips around it. And there's a mountain about an hour east of Los Angeles called Mount Baldy. And Mount Baldy it is the home of The Mount Baldy Zen Center and I sort of stumbled into this place one day. It's this really cool series of little kind of strange square Japanese buildings and I was wondering what the heck it was because I was in the middle of this mountain just hiking and there it was and inside were a bunch of bald-headed guys in robes cooking lunch and they invited me in.

I had lunch with them and I became fast friends with them and started sitting meditation with them, zazen. Eventually I met their teacher, a guy named Sasaki, and he was an older Japanese man. Back then he was in his 80s. He just died recently. He died at 108 I believe. And this guy couldn't speak a lick of English and so I thought, jeez, I better start studying Japanese if I want to talk to him. So I did and wound up majoring in a major called Modern Japanese Literature at Berkeley. It's the only place in the country that offered such a thing and after that, I was in a couple of weeks, I had moved to Japan.

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I moved to Kyoto and they do teach you how to read Japanese pretty well in these programs, but they don't teach you how to speak all that well. So, I thought I would just go for a year or two and try to get my spoken Japanese a little better. And, you know, one year turned into two and then it turned into five and then it turned into ten and after 16, you know, my time there had come to an end and I moved back to California.

So, that's kind of it in a very brief nutshell.

Dr. De Koyer: That's fascinating. Sixteen years... Did you run a restaurant? Did you just go to school? What did you do?

Eric: No, I had an odd career. I still do this job to this day. I work for the prime minister of Japan in the cabinet office as basically a kind of copy-editor really.

Anything that they publish in English tends to make its way to my email box and I write some commentary on it and send it back and just wait for the next one to arrive. And I've been doing this since 1987.

Dr. De Koyer: Wow. That's cool. That's really neat.

So, let's dive right in. What is matcha?

Eric: Matcha is just green tea. There's nothing more simple you could say about it. It's one of the world's oldest plants, the *camellia sinensis*. And the unique thing about matcha is that instead of consuming it in loose leaf form the way you would in most teas, either through a teabag or, you know, if you're getting fancy a pot of loose leaf tea, you know, usually you just pour hot water over some tea leaves. You wait x minutes, three, four minutes and then you pour off the tea and then the leaves remain behind. You either toss the teabag or, you know, you toss the loose leaves, but with matcha it's kind of different. It's ground really, really finely so that it resembles cocoa. So, you have this really fine powder instead of just the loose leaves and when you pour hot water over the powder and you kind of whisk it up, if you just agitate it a little bit, you do that with any kind of whisk, you consume the whole leaf.

So, instead of steeping the tea, you mix it up with water and you eat it in a way, you consume the whole leaf and as a result of consuming the whole leaf instead of just the extracting, right, I mean hot water kind of extracts what it can from tea and you drink whatever the water can extract. But with matcha, you drink, you get the whole plant, and for the same reason that, you know, eating an orange is a lot better for you than

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drinking orange juice. Matcha is roughly depending on how you measure these things anywhere between ten and twenty times healthier than regular green tea, because a lot of the action, like the reason why a lot of your doctors will tell you to drink a couple of cups of green tea every day is that the good stuff really isn't the leaves, the insoluble fibers and leaves are where all the magic happens. It's where a lot of the polyphenols are. It's where the great amino acids, the EGCGs. We can give the technical details of what exactly is in there, but basically it's much better to consume the whole leaf than to just extract it with hot water.

Dr. De Koyer: OK, so that's the difference between a regular green tea from matcha. Does it have... I fantasize about matcha having this unbelievable story or origins, you know, thousands of years ago in Japan. Does it have something like that?

Eric: Absolutely. Oh my god. The story of matcha is pretty fascinating. It goes way back. And it's kind of linked to what I said earlier about my first contact with matcha and with Japanese culture and Buddhism.

So, there was a Zen Buddhist in the 12th century named Eisai who made a trip to China. They used to do this back then and they would learn what they can and they'd go on these study missions and they would bring back these findings. And it turned out that some Chinese Zen monks were taking parts of the plant and kind of packing them together in these little disks and it was really for transporting the tea in a safe way. A lot like pu erh is done today. They kind of compacted into these like hockey pucks and you could break off a piece whenever you wanted and put it into a mortar and pestle and you'd kind of grind it up, add some hot water over it and just drink the whole thing.

And these Chinese monks discovered that if you did this, it had some medicinal properties. We understand these properties a lot better today than they did back then, but they knew intuitively that it was good for certain illnesses and ailments and also they found it kept them pretty awake during these intense periods of meditation.

So, these Japanese monks that went over there and learned all this, they brought all this knowledge back in Japan. It kind of fell out of favor in China for mysterious reasons and was replaced by other Chinese teas, but it really took root in Japan and right around the 12th, 13th, 14th centuries. And it was the Zen monks who were responsible for that.

And in those days in medieval Japan a lot of the aristocracy, a lot of the
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upper classes, would take their kind of social cues from these Zen monks. They had a lot of sort of cultural cache and they discovered that the monks were drinking this tea in this kind of unusual way and they kind of took up the practice and they sort of started adding a lot more rules and choreography to this process, the simple process of making a cup of matcha over the centuries. And basically the reason was that you could prove that you were kind of a cultured person, a person of good standing, breeding and all that by demonstrating that you could make this elaborate tea.

And so from that the whole tea ceremony was born and, you know, over the centuries it kept getting more and more ornate essentially. And it still goes on today. It really does have this passing history.

Women, especially in Japan, they can enroll in, this is today, contemporary Japan, they can enroll in these tea courses that you study matcha formally and you make matcha formally for guests. And the real reason I think, in my opinion, what's really going on is that you can demonstrate you have a great deal of grit and kind of the ability to stick to something for a long time. It takes 10, 20, 30 and 40 years, often an entire lifetime to formally study tea and to teach tea. And by going through this, you can really prove that you're a person of integrity and you have a lot of grit and you can get through things. And it's a highly desired trait in contemporary Japanese society. So, a lot of women in particular want to become fluent in the art of tea.

You know, we're doing something very different with what we're doing with the matcha than that, but traditionally the whole art of the tea ceremony has this type of history that I've just outlined.

Dr. De Koyer: To me, it's just such a great cultural thing and it's something that, you know, you don't want to lose because we lose so much of this culture. And like I said, for me the nostalgic wise I can remember it in Karate Kid. That's kind of ridiculous.

Eric: No, no, no it's great. It's fine. And today a lot of people's first encounter with matcha is at a place like Starbucks. I mean about eight or nine years ago, Starbucks introduced their first matcha and it was a great hit. And they've had it ever since. Now they load it up with enough fat and sugar to make it a matcha milkshake essentially. It's not really a tea what they serve. It's more like, you know, a calorie bomb, but it is people's first experience with matcha and that's good. Anything that gives them, it's a lot like Karate Kid, anything that gives you that first exposure is worthwhile. And some people get intrigued by it and they want to take a deeper dive and that's when they find somebody like me.

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Dr. De Koyer: Right. Now how is it produced, because Matcha is much different? You said it's a powder. You consume the whole leaf. How is it different from regular green tea production?

Eric: Yeah, they kind of like a lot of things in Japan they take these really kind of obsessive deep dives and into things, you know, and Japanese farmers who specialize in matcha are certainly no exception.

So, what they do is they, it starts with the cultivation of it. They found through trial and error that if you, in the old days this is how they did it. They would erect these bamboo poles around the perimeter of the tea fields and then they would take some hemp string and kind of tie it around the top of the poles to create this sort of stringed post ceiling. OK. And so there was this kind of like string criss-crossing over the tea field and on that string they would toss hay just using pitchforks. They would just toss hay over that so that the straw would catch over this post ceiling and create a kind of shade for the tea fields. And they found that if you shaded the tea and the more sunlight you could block, the more interesting the tea became. And it turns out that if tea, or many plants actually, but especially the camellia sinensis plant, if it's robbed of sunlight for an extended period and they do this for about a month, six weeks sometimes, then the plant has this really specific reaction like it begins to crank out chlorophyll. So, the color of the leaves really changes, because it can't process any, it is not undergoing any photosynthesis and the plant is striving to keep alive and it's cranking out chlorophyll and it's also cranking out all kinds of protein building blocks, amino acids, that lend all kinds of interesting flavors to the tea when once it's harvested. So, you know, they found that by robbing the plant of sunlight you could create a product that was quite unique. They don't really do this with regular green tea. I mean some are shaded. Some of the more refined green teas are shaded, but most aren't, it's just, you know, grown out in an open field and, you know, that's basically how it's done.

It goes on from there. So, once it's harvested, they steam it to preserve this lovely color and then they put it in these big drying rooms. They're really kind of medieval-looking. They're like big blow-dryers in chicken wire. Imagine huge blocks of chicken wire and this warm air is kind of blowing around and all these baby green leaves or are floating up in the air drying.

So, once it's dried, they store it in freezers and then when they're ready to grind it, they pull it out of the freezer and they put it in between these

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wonderful artisanal granite wheels and they're about 2-2.5 feet in diameter these wheels made of granite. And on the interior side of these wheels are these grooves that these tea artisan guys do it all by hand and the idea is that the granite wheels rotate against one another and that they very, very slowly grind these whole leaves that have just been poured in there into this very, very fine green powder which is called matcha at this point, before that it's called tencha. The whole leaf is called tencha. The ground leaf is called matcha. And it's a very slow and painstaking process. It takes about an hour to grind 30 grams which is the unit we typically sell it in. One gram is considered to be one serving of matcha. So, it takes a whole hour to do 30 servings of matcha. And you can't go any faster, because if the wheels go faster they will scald the tea. Friction will heat it up and actually burn it. It will kind of scald it, because the tea leaves are very, very delicate.

And then once it's ground, it's kind of ready to be shipped out and ready to be consumed by just any old consumer like you and me.

So, it's so an elaborate process for sure.

Dr. De Koyer: I'm assuming that's why it's so much more expensive than other teas then, because of this whole process.

Eric: Indeed. It's a very, very, very labor intensive thing. It can't really be scaled. There's not much you can do to kind of increase yields. I mean there are some things you can do. You could buy more land, but a lot of the teas that we specialize in, we call them higher premiums, they take a minimum of 30 years to grow. They produce the finest tasting leaves.

So, it's pretty hard to be a startup in the matcha world, because you've got a 30-year wait right from day one.

Dr. De Koyer: Right. Right.

Eric: So, yeah.

Dr. De Koyer: So, because we're in this age, how important is organic matcha compared to other things that have really importance that they need to be organic and other things you can probably get away with. How important is this?

Eric: I, you know, I personally think it's not very important in Japan, because agricultural standards there are quite strict. To get certified organic in Japan is a very elaborate and expensive process. And a lot of

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these Japanese farmers who specialize in matcha, just aren't that interested in going through it, but, that said, they're using these really time-tested techniques that there's nothing scary about them. They don't get sprayed, anything like that. They've been doing it the same way forever which is very, very labor intensive, kind of, you know, hand-process oriented.

So, I think, you know, matcha is one of those things. It's, you know, it's grown in the open air. The fertilizers used are natural. They tend to be fishmeal-based. One of my growers, a particularly obsessive grower, likes to go down to the fish market every day during the last part right before harvest, last couple of months before harvest, because down the fish market every day he buys, he looks for the cheapest fish he can find. He doesn't care. Always looking at the price tag, OK. And he'll buy a whole bunch of it. He'll take it home. He'll put it through a meat grinder and create this paste and then he'll apply that directly to the root ball of his most prized plants. And that has this tremendous effect of giving the tea, you know, all kinds of flavor profiles that it probably wouldn't have had he not done this. So, you know, they've been at this a really long time. There's really nothing sort of Monsanto-ish about the process.

Now that said, some people, the word organic is a kind of magic word. I mean if it doesn't have the organic label stamped on it, they're just not interested. So, there is a market for the stuff, for organic matcha because of this perception that, you know, it has to be organic to be any good.

Now the other thing to say about organic is because during the shading process that I've mentioned before. With an organic process, they're limited to what they can do during the shading process. For example, in traditionally grown matcha, conventionally grown matcha, because the plant is shaded and it's very, very dark in there. There's almost no light. The plants do get this kind of nitrogen bath. Like what happens is that they go down below the roots and they create this nitrogen-rich water and they run that water through the roots of the plant. And with certified organic, they can't do that. So, that's really the only difference, but it's a big difference, because during the shading process, you know, the plant is essentially dying, right. I mean it's been robbed of its sunlight and it's trying to stay alive. It's cranking up chlorophyll. It's cranking up amino acids. It's doing all this stuff. But without some kind of energy boost i.e. from the nitrogen, it's hard for the plant to remain really kind of vibrant and healthy. So, conventionally grown matcha typically is a lot tastier than organic matcha, even though the organic matcha is typically quite a bit more expensive. And it has this, you know, reputation of being better than nonorganic matcha.

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So, you know, it's a bit of an unusual situation there. I mean it's not like blueberries where it's clear that you really ought to be eating organic blueberries versus not organic blueberries. It's very different. But so with matcha, you know, I don't think it warrants anything to worry about to not drink organic matcha. And certainly, if you're going to do it from the Epicurean angle, if you want it to taste better, conventional matcha is the way to go.

Dr. De Koyer: That's fascinating. Is there anything that grows on tea that's a concern that our audience should be concerned of or is that not really an issue either?

Eric: To my knowledge, not really. You're talking about like molds or something like that?

Dr. De Koyer: Yes.

Eric: No, I don't think so. I think the care going into this process... I mean Japan is a very humid place, especially in the summer. I mean there is a lot of humidity. People do have mold in their houses for sure, but, you know, the steaming process and the whole way that it's done would tend to take care of any mold issues. I've never run into a mold issue. We've done a lot of testing on it. So, I think we can confidently say that there's no mold in the summer.

Dr. De Koyer: That's good, because some people are going to be concerned about that.

Eric: Absolutely.

Dr. De Koyer: For sure. For sure.

Eric: And it's a legitimate concern.

Dr. De Koyer: Yeah, it sure is. Now most people have an idea that green tea is really healthy and there are some components that I'm familiar with and maybe there's some that I'm not that I'd like you to discuss. But, I mean, there's ECGC which you commented on, there's polyphenols, you've mentioned chlorophyll and then my most famous favorite would be caffeine.

Eric: Yeah.

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Dr. De Koyer: And I guess maybe theophylline maybe I'm pronouncing it wrong, but what are some of these chemicals or components that really, you know, give matcha it's really a healthful punch.

Eric: Yeah, I mean let's start with the caffeine. I mean that is one. There are lots of demonstrated health benefits to having a small amount of caffeine in your diet. It does keep you very alert which is useful.

Yeah and, you know, the one that you mentioned before theophylline is very interesting molecules. Very interesting substance. It's been shown in laboratories that, I can talk about the study in a second, but it's been shown that theophylline in the bloodstream has a really unique effect on the brain. What happens is that alpha waves begin to get generated for whatever reason. There's some kind of link between theophylline in your bloodstream and how your brain suppresses electricity, but it exhibits a different wavelength when this is present.

So, the alpha waves are kind of stimulated theophylline goes into your system and it's super interesting. Probably about 10 years ago, down at Stanford they have a famous sleep center down there and they were really trying to understand all these different waves like the electrical wavelengths in the brain, the alpha waves, the gamma waves, the beta waves. And they invited the Dalai Lama was in the Bay Area and they invited him down and they thought that it would be interesting to test and to rig up the Dalai Lama and several of his Chief guys around him, the very experienced meditators. They've been meditating three hours a day for, you know, 70 years. And what they did was they hooked up a bunch of equipment and they asked them to do their normal three-hour morning meditation while being, you know, hooked up and they produced all kinds of data out of this, but what they really found was that when during some of the deepest sections of the meditation that these alpha waves were produced which was a really, really interesting find. No one had really known that apparently before that, but so when you're in a meditative state you're under alpha waves.

It's a very interesting one, because you are very awake, yet you're extremely relaxed at the same time. So, that's kind of it. Almost sounds like a contradiction. Most people if you're extremely relaxed, you're sort of going to sleep, but when you're in a deep meditation state, you're both. You're both deeply relaxed and you're very awake at the same time, you're very alert. You're very aware.

And theophylline it turns out, you know, is very similar. So, if you can get into an alpha wave state, the theophylline it just seems to be another

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avenue of getting there in addition to meditation which I found really interesting. So, that's why sometimes I call it a kind of liquid meditation and I'm sure that it has something to do with the origins that we talked about before, you know, when Zen monks realized, you know, they didn't know anything about theophylline in the 12th century, but they did know that somehow after drinking this tea they felt both relaxed and very awake and they were able to do these kind of extended meditation sessions with just this tea that's now became popular. So, you know, that's it. That's an extremely interesting part of the matcha story. As far as, you know, the interesting stuff inside matcha.

The other one you mentioned and that I mentioned before is something called the EGCG. It's Epigallocatechin gallate. And that has been linked in all kinds of interesting scientific and medical studies too for its effect on cancer cells. It's really very interesting that it often induces something called apoptosis which is a spontaneous sort of just death of a cell. And for whatever reason, cells that are exponentially multiplying, when they run into this EGCG they run into kind of interference, it doesn't like it. Now the mechanism hasn't been proved in a causal sense, but there are enough studies. There are couple hundred studies at this point that suggest that large quantities of EGCG in your system during for example or in conjunction with chemo and radiation is extremely helpful which is why a lot of oncologists recommend a couple of cups of green tea while you're undergoing these things. So, it's, you know, it's not proven. You have to be careful of what you say about this stuff, but it's one of those things where why wouldn't you try it? I mean if you've got some kind of cancer and you're undergoing treatment, you know, you want to do everything you can to make the treatment successful and if having a cup of green tea is beneficial, it's hard to find a reason why you wouldn't do it.

So that's kind of a very interesting part of green tea as well as especially matcha because it has roughly 20 times the EGCGs of regular green tea and again it has to do with this reason of consuming the whole leaf versus just extracting it the way you would steeping a regular green tea. It only exists in the insoluble fibers. In other words, so if you're having a cup of green tea and the hot water is extracting it, it's only getting what soluble, whatever the hot water can dissolve of that good stuff is what you get, but a lot of the good stuff isn't soluble at all. It's in an insoluble form. So, you have to actually consume the leaf in order to get the benefit.

Dr. De Koyer: Is EGCG a polyphenol then or is that a whole different kind of compound?

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Eric: It is a polyphenol. It's also called the flavonoid to make things really confusing.

And the broader category of all of these things are called catechins to make it even further confusing. So, under the rubric of catechins you have flavonoids and polyphenols.

Yeah, and that's, you could get into the much more technical aspects of it, but that's basically the structure of it.

Dr. De Koyer: No, thank you. That clears up things for me for sure. Now how do you tell a good matcha from a bad matcha?

Eric: That's a great question. It's hard to tell just from looking, like you're in a store, you're in Whole Foods and you come to the tea section and there are a bunch of... Nowadays they have a couple of selections of matcha in there. And it's just a little canister and, you know, you can't really tell anything except for what the label says. It doesn't say much, because nothing is regulated. It might say something like ceremonial matcha which people think is a good thing, but because there's no regulation on what people can label it, you can call anything ceremonial even if it's not ceremonial. It just sounds like one of those marketing words.

But yeah, basically the only way you can tell good matcha from bad matcha is to open it up and look at it and smell it and taste it. So, if you've got a white piece of paper and you take out some matcha from matcha A can and take out some matcha from can matcha B and put them next to each other, the brighter one, the brighter the tea color, almost the more looking green it is, I mean some of the best matcha is so really vibrant, vibrantly bright that it almost looks like something's been added to it, but it hasn't. It's really just that's the way it expresses itself. Most matcha on the market place is what I call culinary matcha and it's quite yellowed. There's almost like there's yellow in it. There's brown in it. There's not this really super vibrant green. So, color is your is going to be your first and most immediate way to tell good matcha from bad match. But again, you can't tell the color until you've opened the can. So, you know it's a bit of a conundrum there.

But and then aroma is the next one, you put your face right in it and it really should smell fresh. It should smell all kinds of aromas. Cacao, like a rock cacao is really what it should smell like. It almost smells like raw chocolate. The good stuff and there are other aromas in there, but that's kind of the predominant one.

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With bad matcha, the predominant aroma is I would call it hay or just kind of like straw. It just smells like a barn, kind of just "barny", a little bit on the straw side, and doesn't smell anything like chocolate. So, that's another way.

Obviously tasting is the main way. It should taste really good. If it doesn't taste good and, you know, a lot of people come to matcha and they try it for the first time and they try something from Trader Joe's and they try Starbucks or to try something else that's on sale they've seen in an Asian market or whatever. And a lot of that stuff that they're selling is just, it's a rational decision not to like it. A lot of it is quite vile. What they're really using in those leaves are the entire plant. For the really premium good matcha, we only use the new growth. Whatever grows from say the early winter until mid spring it's harvested in late April. Whatever grows during that time is just the baby leaves that are on top - the newest growth. That's what we use for the really the best stuff, but for most people the yields aren't big enough to make it a viable business really.

And so they take leaves from the entire plant. So, they're taking leaves that are, you know, many years old and throwing them into these big industrial grinders, you know, they don't take the time to remove the back bone from each of these leaves. You know, some of the things that the obsessive farmers that we talked about before do. They don't bother to go through that, because it's expensive to do all that. And so they just kind of grind up a bunch of mediocre tea leaves and declare it matcha. And it's really quite bitter and unpleasant. But if you throw enough fat and sugar at it, you know, like they do at Starbucks, I mean everything tastes good as a milkshake. You know what I'm saying?

Dr. De Koyer: Eric, listen let me ask you this, how much of an abomination is something like... 'Cause I know you sell it and we're going to talk about Breakaway in a minute, but I like Coldbrew Matcha and I like hot matcha. I probably like it cold probably more and I think that's the way that my wife drinks it. Is that like a total abominatio?

Eric: Not at all. No, no, no. No, no, no. Not, it's not an abomination. Drinking it cold is actually wonderful. It's so refreshing and it's a little less hassle to prepare. And also something to do with the human palate, but the human palate cannot taste bitter notes at certain temperatures and at around 38 degrees Fahrenheit, it's very difficult to taste bitterness and so you can take a kind of subpar Matcha and drink it ice cold. It's going to taste much better than it will if you drink it hot, because the hot brings out all the bitter qualities of the leaves are kind of expressed

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through heat and they're not expressed through when the temperatures are in the high 30s. So, there's absolutely nothing wrong. There's no abomination whatsoever to drink cold. It's a total pleasure to do. So, yeah don't think that.

The only thing I would say with abomination and again this is kind of a rational decision, but if you've got a subpar matcha on your hands and you don't want to waste it, it's sort of, the only way to make it palatable is to throw a bunch of fat and sugar in it. So, if you sweeten it up with your honey, you know, your agaves, maple syrup or even just sugar and you add some half-and-half or some cream or some whole milk or whatever it is and you shake it up. You know, now you're talking about kind of a green milkshake-type drink and that does make bad matcha palatable and that's how a lot of people experience it. If they just drink it with hot water, they're going to be in for kind of an unpleasant surprise, you know.

And that's not, you know, an abomination either. At least it's a way to get this down, but it's really not a very healthy habit. I mean, you know, the more we hear about the story of sugar, the more realize what a pretty toxic substance this stuff is, right. So, we really don't want to be sweetening everything if we care about our health. So, from that stance, you know, drinking better matcha, it doesn't need to be sweetened, there's no sugar added at all. So, that's what I would say about that.

Dr. De Koyer: Cool. So, please at this point I'd like you to talk about Breakaway. Why it's so special, quality, unique products... And for me I've been consuming your product now for I don't know six, seven, eight months. I've tried a couple different cold brews. Next time I purchase I'll buy some of the salt, because I thought that was really cool. But talk a little bit about... I mean the most recent thing I got. I got a bunch of different blends like Blend 100 and Blend 93 and I'm trying to sift my way through it.

Eric: I know it's confusing. We have 17 blends of matcha, 17 grades of matcha. And we grade them internally. It's done via some of the things that I just mentioned. It's done via color, aroma, but it's also something called how much umami, which is many of your listeners probably know what this word means, but a lot probably don't either. It's a Japanese word that means, if you directly translate it it's something like savory deliciousness which sounds ridiculous. It doesn't sound like anything, but it's basically the presence of glutamic acids on the palate.

A lot of naturally occurring foods with high umami are things like aged
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cheeses, you know, parmesan cheese. If you're seeing that kind of those little white crystals that form on a parmesan, on a really beautiful aged parmesan or an aged Gouda. And it looks like salt crystals, but it's not. Those are little glutamine crystals. If you put one of those glutamine crystals on the middle of your tongue, you just taste it. It's amazing what happens. You begin to sort of wildly and involuntarily salivate. It's really super interesting. These glutamic acids go into our system and they're aided by the production of saliva and they make foods taste really good.

And another one is miso soup. If you ever take a sip of miso soup, your whole mouth lights up with this "brothy", savory deliciousness. That's umami. I mean that's one.

Seaweed is another one. The Maillard reaction when you grill meats is another one. Like when you just taste a piece of grilled meat and that kind of that outside little crusty part is full of glutamic acids that get expressed. All of that is umami. And matcha has a ton of umami. That's kind of the Holy Grail. It's like the more umami the macho has, the better it tastes. And so we try to figure out how much umami all of these blends have and as you go up in the blends, they start at the Blend 93 as you mentioned they go all the way up to something called the Blend Daphne. The umami increases as you go up in the blends. Also the natural sweetness of the tea increases, if you go up in the blends.

It's a lot like wine. After you swallow it, how long does it remain in your mouth? Like how long can you taste it? How long does it just keep singing after you swallow it? We literally take a stopwatch and we time it to figure out how long the finish is. All of those things get kind of added up and become benchmarks for grading different quality matcha. And so we've come up with 17 so far.

And it is confusing for the novice for sure, but if you're intrigued and your listeners are intrigued, it's better to start with kind of the lower ones, the less expensive ones to make sure that you are, you know, that you like it. I mean some people like it and some people don't. I mean I think most people who are interested in their health and who are interested in food really take to matcha quite quickly, but for others, you know, their palates are just different and they're just, you know, they either need to put a lot of sugar in it to make it palatable or, you know, they're just not interested in it. But basically you start with the lower, more affordable blends and you kind of work your way up from there as you get into it.

Dr. De Koyer: Now are all your blends from Japan or does any of it

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happen in the United States?

Eric: No, unfortunately, you know, I've looked into it and I've talked to a lot of growers. And there seem to be very specific growing conditions that are really kind of perfect in Japan. Again it's like the wine world, you know, like why is it that, you know, the Burgundy region of France and the Napa Valley in California and certain parts of Australia... There are these little pockets in the world that really seem to produce some of the world's great wines and it can't be done in places like, you know, Canada and Mexico. I mean it probably could be with a lot of technological help, but traditionally it hasn't been. And I think it's the same with matcha. There are certain regions in Japan that are just very conducive to producing these really great teas. The main growing region of Japan, a place outside of Kyoto called Uji is a valley. It's this valley and at the bottom of the valley it's very humid. It's really hot in the summers. It's really cold in the winters. It's very wet. It seems to be the ideal environment. And there really isn't a place like that in the United States. I think the closest would be somewhere like Kentucky that does have a lot of high humidity and has got these low-lying valleys and stuff like that, but the amount of effort that goes into producing, you know, great matcha, I mentioned that, you know, the plants have to be 30 years old to start producing really fine stuff puts a lot of people off right there. It would have to be a very farsighted endeavor to start to do this. And it doesn't mean people can't try and some people of Hawaii have tried and I've tried some of those and they're OK. But so far the only place that's been able to do this is in Japan.

Dr. De Koyer: Fascinating. I have two final questions and I hope you indulge me. The first one is the day in the life of Eric, how does it start and how does it end? What does your day look like every day?

Eric: Well, of course it starts with a bold matcha. Got to start the day right.

No, but I tend to, you know, you mentioned in the beginning that I like to cook and I do. I tend to make a pretty good breakfast that's very nutrient dense. I like a lot of eggs and avocado and I eat a lot of fish like sardines and mackerel and stuff like that. So, I try to start the day well with some very nutrient-dense breakfasts. And then, you know, I show up at work and, you know, do my thing and I typically bring my lunch and again it's usually whatever I cooked the night before. I try to put some effort into it, but, you know, without going too crazy and I try to keep moving, of course. You know, the more we learn about optimal health, a lot of it's about movement. So many of us have these sedentary lifestyles including

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me. But I do try to get up and do some interval training. It turns out that trying to mimic how our great ancestors lived. A lot of the Paleo people kind of understand this, but sprinting is probably a lot more beneficial than jogging for 45 minutes. And there are lots of interesting reasons why, but I do try to get up and just run around.

I feel better when I do. It just kind of works for me and I really recommend it to people. And then I come back in the afternoon and I'm usually working and reading and trying to get a lot done. And then I go home for dinner and I have a young daughter. And my wife and I cook together pretty nice dinners. And we try to spend a lot of time together and not have a whole lot of stress in our lives.

And sleep is kind of important too, of course. You have to have a really decent bed. You're going to be in bed for a third of your life. You might as well try to make that experience as good as possible. So, I think if you can, if you can really, if you can sleep well, if you can get a lot of movement during the day and you can give your body as many nutrient-dense foods as possible. That really is a pretty good head start on how to lead a healthy life.

Dr. De Koyer: My God, well said. Now can a tea purveyor and lover and business owner still enjoy a great cup of coffee?

Eric: Oh yes. You know it's like people who, you know, say are you a dog person or a cat person. Well, you know, I happen to love both and I actually love great coffee. I mean I don't like supermarket coffee, I'll pass on that, but some of the, I mean one of life's great pleasures is a great pot of coffee. There's no reason why you couldn't enjoy that. I mean unless you're caffeine sensitive, unless you've got medical reasons why you shouldn't be drinking coffee, you know, why would you deny yourself that cup?

Dr. De Koyer: And how can our audience find out more about Breakaway Matcha?

Eric: Well, the website is the best place to learn about it. It's just breakawaymatcha.com. It's all outlined in great detail there. You know, we will be unleashing a whole new revamp of the website in about ten days. So, lots to look forward to there. We finally got in our research section, that I've been wanting to for a long time. I have collated a whole bunch of medical and scientific studies on what's been done with green tea and matcha in a medical community and so we've got a lot of those studies that we publish there. We did something called The Matcha

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Academy which goes into great detail about a lot of the technical aspects of some of the things we've talked about, how it's grown, you know, its history, lots of tutorials on how to make a great cup either hot or cold. You know, stuff like that. So, we're trying to educate people on this great beverage. I think it's still sort of anyone in this world of matcha, most people in the world have not really heard of it. Even sophisticated people. Last night I was with these people in San Francisco who are these great chocolatiers. I mean they're just super San Francisco chocolate people and they didn't even know about matcha. I mean if somebody like that doesn't know about it, I mean it's not hard to understand why that most of the world hasn't really heard about it. So, it's very early in the game and I'm really excited about the possibilities of how much it can really help people have a better daily life.

Dr. De Koyer: Now, correct me if I'm wrong, but for our audience you're offering a 10% off and free same-day shipping if they used the code B Y W G. Correct?

Eric: That's exactly right. We definitely encourage people to do that.

Dr. De Koyer: Great. Thank you very much. Any last words, Eric?

Eric: No, it's just a real pleasure to talk to you Noah. It's been a lot of fun and, you know, get up from your desk and move around is what I would say.

Dr. De Koyer: My name is Dr. Noah De Koyer, your co-host and you are listening to the Beyond Your Wildest Genes Podcast. If you've liked what you've heard today, please share this with your friends and encourage them to subscribe on iTunes. Leaving a review and rating on iTunes help us move up the chart and helps more people find us. You can subscribe to our incredible weekly email at www.beyondyourwildestgenes.com.

And as my oldest son, Hayden, says, be awesome and never unawesome.

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