Announcer: Bulletproof Radio. A state of high performance.

Dave: You're listening to Bulletproof Radio with Dave Asprey. Today's cool fact of the day: shed some light on farming practices and statistics in the US that you probably don't know are affecting what goes on your plate. Between 1982 and 2012, the average age of an American farmer rose from 50 and a half years to 58.3 years. Farmers older than 65 outnumber farmers younger than 35 by six to one, and at 2013, the average age of starting farmers was 49. By the way, that makes me ahead of the curve, because I'm 46, and I've had a farm for a couple years now.

Dave: Small farms have an exit rate of 9-10% per year, which is on par with all sorts of other small new businesses, and two-thirds of farmland in the US is set to transition to new owners in the next 20 years. If you're like me, you're one of those people, you care about where your food comes from, this is really, really important. This is a fundamental change in what you are going to be able to buy at any price, and if those numbers surprised you, that's good, because today's guest has said hell no to that stuff, and is totally upending what we think we know about small family farms in America.

Dave: Today's interview was recorded in person. We were together at the Beverly Hilton at the sixth annual Biohacking Conference. This is a conference that started six years ago with 100 people, and it's more than 1,000 people now, and really become part of the movement that got biohacking in the dictionary, and created something new and real and different than medicine or exercising or dieting and all that kind of stuff, around having control of our own biology. At the core of that, it's what you put into your body that really changes things the most.

Dave: If you think back to that old story about Chicken Little saying the sky is falling, you might have felt that way, when I'm talking about, oh my God, who's going to make your food? Not in the restaurant, but in the field. Well, Chicken Little wasn't talking about the Falling Sky Farm in north central Arkansas, which is what today's podcast is going to be about, because today's guest is Cody Hopkins, a physicist turned farmer turned CEO, and founder of the Grassroots Farmers' Cooperative. He's spent more than a dozen years developing a vertically integrated, sustainable livestock farm, with a vision of creating a farming business that's good for animals, good for the environment, and good for customers. 100,000% ... That was very scientific of me ... in alignment with what I've been talking about in the Bulletproof Diet. What I breathe, what I eat, what I live ... Even what I'm doing with my family. So, a guy who really, really gets it.

Dave: Grassroots is there to change how meat is produced and consumed across the country, and making sure that the food we consume is authenticated with technology. So you know everything about what you're putting on your plate, because that is the duty of care that you owe yourself and you owe your kids. He's actually done it, which is remarkably cool. Cody, welcome to the show.

Cody: Thanks so much for having me.

Dave: Physicist turned farmer. What's up with that?

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Cody: Well, I grew up in rural Arkansas. I was the first person in my family to go to college, and when I went to college, it was ... My parents and my grandparents were encouraging me to move away from, get out of the rural community, go find a job where you can actually make a decent living, because in rural Arkansas, it's tough to make ends meet. Not a lot of economic opportunities.

Cody: So, went off to college, was good in math, got a degree in physics-

Dave: You were a high school physics teacher.

Cody: Yeah, and then I ended up from there, went on to teach physics, and used my degree for a couple of years.

Dave: Wait a minute. Was Breaking Bad accurate?

Cody: No. I was a physicist, not a chemist.

Dave: Okay, that's all right.

Cody: Yeah. So, yeah, I went and I started teaching high school physics in the northeast, and I loved teaching, but I was sitting in the classroom one day. I taught at a private Catholic school, all boys school, and I had a group of 15 year olds that were ... They were full of testosterone, pimply teenagers that were cooped up in a classroom, and I found myself thinking, this is just not the right environment for these kids. They need to be outside doing something.

Cody: I grew up outside as a kid. We had a big garden, we spent a lot of time working out on our small family farm that wasn't really in production to ... We weren't making a living off of that, but it was just part of my lifestyle growing up. So, after a couple years of teaching, I really started to miss rural Arkansas, basically. I wanted to come back and try to find a way to make a living in the place where I grew up.

Cody: So it's kind of a weird turn of career, but in many ways, I went to a liberal arts college. I think what I learned there was how to learn and how to be creative, how to be a good problem solver.

Dave: You talked about how Michael Pollan and Joel Salatin were big influences on you. I think most people who are listening have heard of Michael Pollan. He wrote really great books about what's going on in the food supply. Then Joel Salatin's actually been on Bulletproof Radio, from Polyface Farms, talking about this idea that grass-fed matters. I know about it from my anti-aging stuff, which I've been doing for 20+ years. But the thing that really was astounding was when I came back from Tibet, and I'd had yak butter tea, and I tried to recreate it in the US with some butter and some tea, and it tasted bad and it didn't work. When I changed out the teas, it didn't matter, and when I changed out the butters, only grass-fed butter gave me mental feeling.

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Dave: It'd be really convenient to say, just buy some industrial butter and go to it. But it truly makes a giant difference, and when you look at all the science around toxins in grains, including the storage toxins, these mold toxins and antibiotics and all these things, I only eat grass-fed beef. I have not had a piece of industrial meat ... I don't care how good it's going to taste, I don't care if that's all that's on the menu. I'll fast or I'll eat the vegan menu or whatever. But that is the last thing I'd put in my body, along with things like NutraSweet and high fructose corn syrup and all that. It's just not worth it.

Cody: Yeah, yeah.

Dave: When did you learn that grass-fed meat was that important?

Cody: For me, I think it was two things. One is the first grass-fed steak I ever had was a totally different eating experience. It was just different flavors. But I also ... About the time my wife and I launched our farm, so in 2006, I was diagnosed with hyperthyroidism. So I was really looking into, how can I try to heal myself without having to take medication, or have my thyroid removed? That was really influential in my journey early on, trying to understand how through my diet, I could help cure myself, or try to help put my thyroid issue in remission, basically.

Dave: And you did that with food?

Cody: Yeah, yeah. Through diet, and I think lifestyle too. Going from ... There's just a different pace of life when you're living on a farm, and I'm a big believer in the idea of biophilia, getting nature nourishing you and being out ... There's been studies that show that you spend 15 minutes out in the forest, and it lowers your cortisol levels.

Dave: Yeah, forest bathing. I wrote about that in Game Changers, absolutely.

Cody: Yeah, yeah.

Dave: Your gut bacteria changes, Zach Bush talked about that, just from walking around animals and trees and things like that.

Cody: Yeah, yeah.

Dave: So you're getting some of that.

Cody: I think that ... Really, farming as a lifestyle, but also the health benefits. It's not just going back to ... You mentioned Michael Pollan earlier, and one of the things you said that I just love is, it's not just what you eat, but what you eat eats that matters. If you are feeding a cow a bunch of junk, a bunch of corn, essentially just trying to fatten them as fast as possible, trying to produce them as cheaply as possible-

Dave: That's a diabetic cow that gets fat fast.

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Cody: Exactly. You really just don't get the nutritional density you get, and the healthy fats, from consuming really high quality, well done, grass-fed beef or pasture meats.

Dave: I was in Austin a while ago, talking with the meat manager at Central Markets there, a great organic food store. They had some grass-fed buffalo. I said, is it grass finished, and he said no. I said, why would you ruin a perfectly good buffalo? His answer was interesting. He said, when it's grass-fed, the fat is orange. That's because it's so full of nutrients. But he said customers, they don't even want to eat it, because it's the wrong color, so I couldn't sell it.

Dave: He wanted the grass finish, but the demand wasn't there. And I'm to the point where if I look at a cut of ... whether it's just steak or anything else, if the fat is glowing white, that's an unhealthy animal, and you don't want to eat that. It should be yellow, and the darker yellow it is, the more of a food high you're going to get when you eat it.

Cody: That's right, yeah.

Dave: So this is about reeducating people's palates. How far along are we on just helping people understand, that tastes like a steak instead of neutral mush, which is a corn fed thing?

Cody: I think that really good grass-fed beef becomes like wine, really.

Dave: It is.

Cody: [crosstalk 00:10:00]. Each ... Last summer, my wife and I, we work ... Grassroots is a farmer coop, so we have several farms we work with. The farmers actually own the business. So we have different farmers. We have some farmers in North Carolina, some in Kansas. We're based in Arkansas. We had steaks from grass-fed farmers in North Carolina, we had one from our farm, and then we had one from that Kansas farmer. Each one had a totally different flavor profile. They were all delicious, but they all were very different in their flavors, and I think that's something that ... That's very exciting to me. I think customers should learn more about that.

Cody: Now, grass-fed beef, there's a lot of bad grass-fed out there too. You've got to do a really good job.

Dave: You're saying they feed it GMO grass in a feed lot, and call it grass-fed?

Cody: Yes, yes. They don't finish them all the way, or maybe the animal's too old or something like that. There's a real art to doing really high quality grass-fed beef.

Dave: I've had some tough, not very flavorful, not good to eat stuff. But on par, I've had just some amazing experiences there. But it is like wine. The steak is different than the other. It's not a commoditized, rubber stamped, always tastes the same.

Cody: Yeah. It has flavor.

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Dave: Now, some of the other statistics I didn't cite today, but things that I've been paying attention to since the start of Bulletproof, is that 90% or something like that of small farmers in the US have a day job.

Cody: Yeah, it's over 80%. Yes, that's right.

Dave: They can't make ends meet. So, you go to the farmers market and you buy some stuff, and it's hopefully more expensive than at the grocery store, because you're helping them to make their ends meet. But they're going to work all day, and then they come home, and we've got eight pigs this year and four sheep, and I'd tell you, that is a huge amount of work, because you run a farm that's probably a lot bigger than that. And I have help on the farm, because I'm fortunate, and plus I'm a CEO, that's my day job, and a podcaster and dad and all that stuff.

Dave: But I can't imagine trying to do that, just on that small scale, without help. So we have all these small farms we talked about at the beginning. What are they going to do, how do they make ends meet, because people are attracted to being farmers. What's your solution?

Cody: I think you brought up a very good point at the start of the podcast, is there are very few farmers today, and the ones that are here are ... They're aging out. In 20 years, who's going to be growing our food for us, if the average age might be close to 80 at that point?

Dave: More stem cells.

Cody: There you go. And you've got ... We have more people in jail than we have on farms today, and I think that one of the ... We've been doing this for almost 15 years now. We weren't farmers to start with. We're first generation farmers, so we're trying to figure this out and piece it together. I think one of the key things that we've found to help make farmers more successful is farmers working together, strength in numbers. That's one of the reasons we decided to form a cooperative, and market together, work together to help get our products to the customer.

Cody: Another thing that we really have focused on is trying to cut out the middleman. When you buy a package of meat or a package of groceries, a package of chips or whatever at the grocery store, a very small fraction of the dollar you spend goes back to the farmer. On average, I think it's about 14 cents of every dollar goes back to the farmer. We're driving a 70-75 cents per dollar spent back to a farmer or farmer owned business. So by cutting out that middleman and allowing customers and farmers to connect directly, that's another way we're working to help farmers get a bigger piece of that pie.

Dave: I feel like you might be a business masochist. You went from being a high school teacher, which is one of the most important underpaid positions in the world, in terms of working your ass off and getting paid peanuts, and then you're like, oh, I think I'll become a small farmer.

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Cody: Right, right. Yeah.

Dave: Obviously there was no business curriculum at your liberal arts college.

Cody: I obviously don't make decisions based on trying to get rich, for sure. You've heard the story, the fastest way to become a millionaire farming is to start off with $3 million.

Dave: Right, right. I will say, it is fantastically expensive to start up a farm, and we were taking raw land, and we got some of it converted over, but way more. And I look at the small farms, and I live in a valley. It's one of those fertile valleys in Canada, and most of the places that are for sale have more than $1 million of upgrades in infrastructure, and they're not going with that million dollars in there. So you have to buy an existing farm. Otherwise, you just need to be ready to write a check that no one can write a check for unless they've had previous success in their career. It has to be a labor of love.

Dave: But that's not sustainable, it's not going to work. What's your solution for that?

Cody: I think middle America land's a lot cheaper. In rural America, you can get land for $1,000-2,000 an acre, versus $10,000-30,000 an acre. So that's one of the solutions, I believe, is trying to repopulate rural America. Now, trying to get young folks to move to rural America is not easy.

Dave: Right. You've got to get internet there first.

Cody: Yeah. Well, we just got the internet. So, yeah. You've got to find ways to entice them. Part of that is being able to make a living, attractive living, doing this. Our goal is to help farmers get up to the ... at least the $40,000-50,000 range, which is not a lot of money. But it is in a rural community-

Dave: It's below the national average of $74,000.

Cody: That's right, yeah. Yeah. So right now, our goal is just to help you get a base, a minimum, farmers up to that place. That's attracting folks, and we help them find access to land, and then we also ... One of the things that we do ... We help the farmers. We make sure there's processing and help them connect to customers and help them expand their farm business too by investing in some of the inputs. So we help farmers get access to capital to expand and grow their farm business.

Dave: Is this a national thing now, or is this mostly still Arkansas? How does this work?

Cody: We started out in Arkansas, and we've been growing over the past five years, and we span coast to coast now. Working with some farmers in Oregon. We have farmers in Kansas, Kentucky, Missouri, Texas, Arkansas, and North Carolina.

Dave: Okay. So they sign up and they say, I want to be a grass-fed farmer, and then what do they have to do?

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Cody: They have to meet our standards. That's one of the first things. We spend a lot of time ... It depends on ... Some of these farmers are more established and know what they're ... They're not beginning farmers. They're farmers who more know what they're doing, and are just looking for an opportunity to expand their business. Then we have folks who are beginning farmers, and are starting from scratch. So we run them through an incubator program. We have a great partnership with a local nonprofit based out of Arkansas.

Dave: So you're actually training them on how to not have all your animal die from cold exposure and all the other stuff that's a risk.

Cody: Yeah. We have someone on staff who works, goes out, and their focus is on helping farmers get better at their production practices, and be more profitable, be more efficient. We really invest a lot in helping support the farmers.

Dave: The standards seem to work, and I'm not sure if you guys stuffed the box, but part of this episode ... We arranged this ahead of time, and I wanted to be able to promote you guys, because I think what you're doing is really important. So you sent me a big box of steaks and meat and things like that, and I've sampled the best grass-fed beef all over the place. Your meat was tender, the fat was the right color, it tasted really good, it wasn't overaged. I don't even think it was aged at all. It was impressively good and consistently good meat, and the pork chops were over the top. I [inaudible 00:18:24] those guys.

Cody: The pork chops are a specialty.

Dave: Yeah. Those were kind of a religious experience. You did it right. But I also have a history of ordering grass-fed from a bunch of different individual farms, and it's totally hit or miss. You get these gristle bombs or things that are super gamey, so the quality stuff, I'd say you did nail it, unless you gave me the best stuff. I don't know, did you?

Cody: Well, we want every customer to have the best stuff. We have super high standards.

Dave: So you didn't pick the best ones for me?

Cody: No, no. I think that it's ... Part of this is, with our model as a cooperative, one of the things we decided early on was, let's try to ... Let's support the farmers and help them focus on being really great farmers. Then let's go out and connect them to a customer base through our e-commerce platform, and give the farmers ownership of that e-commerce platform. They own it, they are ... There's a board of farmers that ... I'm the CEO of the business, and one of the founding members. There's a board of farmers that oversees me and makes sure that I'm running the business properly, but they do not have to run or think about e-commerce or customer service or shipping a box out. But they are able to retain that direct ownership in that business.

Cody: So it really creates ... It allows the farmers to really focus on being great farmers, in addition to the services we provide to them to help them improve their production

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practices. But also, it still gives them ... You're able to buy directly from a farmer-owned business.

Dave: So you have a portal set up so people go ... What's the URL?

Cody: Grassrootscoop.com.

Dave: Grassrootscoop.com. So people go there, and then you pick specifically which farm you want to get it from? Is that how it works?

Cody: No. When you order from Grassroots, it's all a la carte, so you pick and you build whatever box you want, and whenever you want to get it. There's no subscription. But when you order , you don't pick a specific farm, but every package of meat you get has a farm of origin label on it. So it shows up, it all looks the same, all the same high quality packaging. But every single package of chicken thighs or rib eye can be traced back to the individual farm that raised that chicken or that beef.

Dave: All right. I have a completely unplanned thing here. Because we're recording live at the Bulletproof Conference at the Beverly Hilton here, my kids just came in, and they know all about grass-fed stuff. Alan, can you come here for a sec? The last time we had the grass-fed rib eye at home, how did it taste?

Alan: Delicious.

Dave: What did you notice about it?

Alan: It was tender and pink.

Dave: There we go. You heard it from an expert right there.

Cody: It sounds like someone cooked it right too, then.

Dave: Yeah. We do have some good cooking technologies. In fact, that was also a sous vide thing. When you do a steak like that-

Cody: Oh, yes. Yeah.

Dave: ... you get a perfect, 116 or 118 degrees. It's pretty good.

Cody: Yeah, my kids love it too. My daughter goes for ... My son likes the lean. He's not into the fat. My daughter, all she wants, she wants the fat cut off of it, and that's all she wants to eat.

Dave: We don't eat sugary stuff, candy and all that at home, so when the kids are young, the fat's like the candy. Until they were five or six, it was like, I want the candy. And people are like, your kids want candy? No, the candy is the best part of the rib eye or the rack of

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lamb. It's the cap on there. Now they know what other candy is, but they usually don't eat that stuff.

Cody: Yeah, ours either. Yeah.

Dave: But just the quality stands up, and I did notice I had different farms in there. That's really intriguing. So just having access to high quality grass-fed stuff, and the Bulletproof Collagen, same thing. It's grass-fed. Why is grass-fed important for our soil and our environment?

Cody: Confinement livestock production causes some of the most pollution and the largest amounts of greenhouse gas emissions-

Dave: And you've got that Arkansas in spades from pigs, right?

Cody: Oh, yeah. We're in Tyson's backyard. They're maybe 100 miles away from us. But you go into these communities, and you can't even roll down your windows, because it smells so bad out. It's just terrible. Even when you drive through with your windows up, you still ... You can barely breathe.

Cody: So what we do, whether it's with our chickens or our pigs or turkeys or cattle or lamb, they are rotationally managed across the farm in a way that doesn't overgraze, and it's really almost this dance of symbiotic relationships between the chickens fertilizing, the grass growing really thick and dense, and the chickens moving on, and then three months later, the cows come through and graze, and it just creates an extremely healthy ecosystem where the animals are much, much healthier, and the soil becomes ... It's not even ... I don't like the word "sustainable", really. I'd like to think of it as beyond that. You're actually building the quality of the soil, you're generating-

Dave: It's regenerating, that's right.

Cody: That's right. We've been able to see fields ... We're in the Ozark Mountains, which is not known for high quality soil, and we have amazingly productive pastures now, 10 years of doing this. We have ... One thing we've done recently is we took a soil sample about four years ago and did it again in one particular field ... And we did it on just about every field, but we've seen organic matter go up by 1-2%, or increased the organic matter ... Well, it went up from 2.7% to almost 4% organic matter. When you make that kind of increase in the organic matter in the soil, that increases that soil's water holding capacity by 20,000-30,000 gallons per acre.

Dave: Wow. So the rain's going to stick.

Cody: Yeah, yeah.

Dave: What about carbon capture?

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Cody: Increasing the ... managing it like that, increasing organic matter, turns the soil into a carbon sink. You actually are able to ... I was reading something recently about the France Ministry of Agriculture put out this study, and it ends up being recognized by the Paris Climate Accord, where if we could increase the globe's organic matter by 0.4% every year, that would stop the increase in carbon in the atmosphere.

Dave: What does that really mean, organic matter in soil? Are we talking worms, bacteria, fungus, or poop? What is that?

Cody: Well, you're building the humus in the soil. What that does is it allows the ... It becomes a sponge that holds nutrients, prevents runoff, sequesters carbon, holds water. It really is ... It's amazing what well managed animals can do. There are very few ways that you can do that otherwise. If you don't have some sort of properly managed livestock system, then you're probably getting chemical fertilizer, and that can't be better.

Dave: Did you just say something bad about the vegan diet?

Cody: Well, not yet.

Dave: This is something ... When you look at ... My current plan is to live to at least 180, and just had a guest [Ian 00:26:12] on who says he thinks 300 or 400's available. I'm like, oh man, I've got to up my game. But I'd like there to be soil, and right now the forecasts say in 60 years, we won't have any soil. This year, my wife and I funded a Carbon Capture X prize, or at least we helped to fund. There are much bigger funders involved, but we were one of the early, rah rah, we'll do our part here. We're putting together a prize bucket for anyone who can figure out how to, with minimal use of electricity or other resources, pull carbon out of the air. One of the most promising solutions is, we have these amazing machines that pull carbon out of the air. It's called plants. But what I know from where my sheep graze, where they don't graze ... If you want soil that plants want to eat, you have to have something pooping on the soil.

Dave: So, are you raising vegetables? Are you raising grains? Are you raising other stuff? What do you do?

Cody: We just do ... We focus just on raising really great grass.

Dave: It's all about grass.

Cody: We just consider ourselves grass farmers. So by managing the animals properly, we're able to produce a lot more grass than you would be able to produce in a community like ours. I want to be careful about going too far down ... We actually have several vegans that have worked for us. My wife used to be vegan, before we started-

Dave: I was a vegan too.

Cody: Yeah, that would be ... If I couldn't get access to this, I would-

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Dave: I would eat gravel if it would sustain me. But, yeah, I'm with you.

Cody: The average American eats over 200 pounds of meat a year. I think it's 222 or something. I think we could get by with eating a lot less meat, but just much better quality. Going back to ... You mentioned Michael Pollan earlier. One of the things I read, I think it was maybe The Omnivore's Dilemma, but one of his books early on that really stuck out to me, is that our grandparents paid more for food than we do, as a percent of income. In 1960, the average American was spending about 17.5% of their income on food, and about 6% on healthcare. Today, that's totally flipped. We're spending about 9% on food, and I think it's close to 18% now on healthcare. So I think that if we could stand to buy a lot better quality and have a little bit less of it ... Pay more and be a lot healthier, I think that's a much better equation there.

Dave: I'm working on my next book, which is almost done. It's around the stuff that I'm doing to live to at least 180, and people read in the Bulletproof Diet, up to 20% of your calories are coming from protein, but you probably don't need that much unless you're bodybuilding or something. But there's some research out there that says when you cross that 20% number ... And I don't mean processed meats, which are much worse. I mean even grass-fed beef, it doesn't matter ... your risk of dying from ... I believe it was all causes of mortality, or potentially just cancer ... was about 400% higher. And it has to do with the type of amino acids that are in there, and collagen protein is different. So if you're making bone broth, that doesn't really count towards it, or it's just doing grass-fed collagen, the way I obviously recommend.

Dave: But the answer is, it's okay to spend twice as much on high quality meat that's delicious and gives you a food high, and you eat half as much of it. Two to four ounces is all the meat that you need.

Cody: Yeah. That's right.

Dave: And you take whatever's left. It's a lot of vegetables and the right kinds of fats, and you're suddenly in a very different place. What about butter and dairy? Is that a part of your vision?

Cody: Right now, we're focused just on meat, working with meat farmers, livestock farmers, doing that. But it's not something that ... We've discussed it. It's just, right now we're really wanting to specialize in helping those farmers, and developing a network for those livestock producers.

Dave: What is forested pork? That's something my listeners haven't heard of. I know what it is, but tell me what it is.

Cody: The best pork in the world. Pigs have evolved to live in the forest. We do pasture our pigs too to some degree, but we find they thrive a lot more when they're actually out in ... We live in the Ozarks, and it's oak hickory forest, so every fall, there's acorns from the oak trees and hickory nuts from the hickory trees, and all kinds of other things, like berries and whatever, throughout the year, that grow in the forest. The pigs go crazy for

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these things, and it makes actually a much healthier pig. If they're eating acorns and hickory nuts, they taste a lot better, and it also changes the fat profile too. It's higher omega 3 to omega 6 ratio.

Dave: It also improves the heck out of the forest, right? That's one of the reasons why we just got eight pigs this year instead of two last year, is because we're using them to clear the forest, because they just love to dig up old roots and stumps and everything, and it looks like a national park.

Cody: Yeah. It's like a savanna. It's beautiful. We have rye grass growing underneath the trees, and we didn't have that before. It was just so grown up, and there's just so much competition, that it was ... you couldn't even walk through there. The pigs have opened it up, and that's giving the oak trees more room to grow, and produce more mass for them to eat, and ... Yeah. It's really great. We were always looking for those symbiotic relationships, where you're putting an animal in an environment that it's evolved to live in, versus trying to force them into some other system. That usually causes problems.

Dave: Yeah. You also get less forest fires too.

Cody: Yeah.

Dave: When you're doing this. So I really firmly believe that the way we're going to get, with the current number of people we have, too, in the next hundred years, is distributed food production, including meat, because our soil requires that. You've got to have animals, you've got to have plants, you have to have an intact ecosystem with bugs and everything. If you don't have all that going on at scale, distributed around, everything stops working.

Cody: That's right.

Dave: If you only have these concentrated feed lot operations like that, you lose the biodiversity, you lose the soil microbes, and that's actually kind of hard to regenerate. So we're getting to that point where if you're going to spend $10 on a pound or two or grass-fed ground beef, it actually matters, because you either support that vision, or you support this dystopian, nasty vision of the future. Plus, when you put it in your gut, the bacteria in your gut are not going to like what happens when you're not eating the traditional stuff.

Cody: Yeah. You truly do vote with your fork. It's really a political act. Every time you buy a meat ... A Snickers bar, if you take ... We used to do this at the farmers market. People would come up, and we're in Arkansas, so we don't really ... There aren't a lot of folks who are very up to speed on grass-fed beef and the health benefits, back when we started. It's growing now. But they would say, well, this is really expensive. And I would say, do you know what a Snickers bar costs per pound? It's over $10 a pound. You can get great grass-fed and finished beef from us for less than that, and delivered to your home now, and it's ... It's just a matter of prioritizing that, and really being a conscientious carnivore, I think is really ... When you're being conscientious about this,

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then it's amazing, as you dig into it, the benefits not just to your own health, to your community's health, to the animals, to the environment ... It just makes total sense. It's a win all the way around.

Dave: When you treat the animals differently, a couple interesting things happen. With our two pigs last year, we figured, well, we're new farmers. But we did a bunch of research and have appropriate help, in terms of being able to ask the experts. We said, pigs have a very human-like metabolism, in that they use their kidneys instead of their liver to handle most toxins. So pigs are more sensitive to spoiled food and to conditions than other animals are. So we share that we pigs, so we're susceptible there. That's why industrial pork is particularly bad for you, because all that stuff gets stuck in their fat.

Dave: So we said, all right. We're going to do some intermittent fasting with these guys. We fed them once a day, which ... They all said, you can't do that. But we were feeding them vegetables that we grew ourselves on the property. We added brain octane oil.

Cody: Interesting.

Dave: I know a guy who can get me some. And because their metabolism is like ours, we added activated charcoal, because I also know a guy who makes that stuff, and it's a common food additive in agriculture, when animals are getting food toxins, they feed the lower quality food ... We fed high quality food and the charcoal. And when we took them to our butcher, who is a humane butcher who we interviewed before we decided to do it, what we came up with was ... He said, what did you guys do to these pigs? We said, what do you mean? He said, see this? You got a box and a half of meat off this 250 pound pig. He said, your neighbors had an 800 pound pig and one box of meat, and the rest of it was just fat. We had to trim it.

Dave: So if you're raising those things just to get lard ... but how did you do that? I'm a pork belly aficionado, pork belly is my absolute religion, and this is the best I've ever had. It's amazing, the difference in yield, just based on, like you said, acorns. Based on what the animals get where they are. And I know because we see them every day, how they're treated, the whole lifecycle. So I know that I feel better when I eat food that clean. But I also know, because these are my animals, exactly what kind of a life they had, exactly what kind of a death they had, and it's all in integrity. How are you guys handling the animal welfare side of this?

Cody: First of all, it's in our standards. We have very clear standards that we require ... Basically, the farmers together have agreed to. In reality, when you talk to even a farmer that runs a chicken house, they do not like doing what they do.

Dave: Oh, yeah.

Cody: They're basically an indentured servant.

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Dave: It hurts their soul. I have a friend who's a turkey farmer that way, and when one of the big companies came in and said, you will treat them this way, they were horrified. But they were going to go bankrupt if they didn't.

Cody: We've had several folks who have transitioned from conventional farming to working with us, because they want to be able to raise their animals outside. They want to treat ... They want to put them in an environment they've evolved to live in, and I've never met a farmer who wanted to mistreat their animals. They've just been stuck in a production system ... And the way it was developed was least cost. They were trying ... The industrial ag system was trying to make food as cheap as possible, and it's ... Animal welfare has been a big consequence of that, and I think that when you find ... As customers are demanding more and more transparency and higher and higher quality meats that's healthier for them, where the animals are treated better, it's creating a whole new opportunity for farmers, where they can move out of that kind of system and start to treat animals in a way that's respectful, and that they want to.

Dave: I think you dodged the question. Yeah. The current system is crappy and the animals are mistreated, and this is why you go to a restaurant and you just don't order the industrial meat. When I say industrial, if it doesn't say grass-fed, organic, or local, or something like that, you're ... Literally, just order the vegetable dish. You'll be better off on a personal biological level, and you're not perpetuating an act of evil.

Dave: But what standards do you hold your farmers in the Grassroots Cooperative to make sure that the animals are well treated? Because this matters, it actually affects how they taste, too, by the way. But it affects-

Cody: Oh, absolutely. To get into the weeds of it, take our chickens. Our chickens start out in a brooder, where they have fresh shavings and heat for the first two to three weeks of their lives. We require every farm to move those out onto pasture at three weeks old. Then once they're on pasture, they've moved every single day to fresh pasture, so they're getting a new fresh salad every single morning.

Dave: And that matters for parasites especially.

Cody: Oh, it makes them a lot cleaner. We have folks who are like, we don't use antibiotics. People in the industry that work for Tyson, when they hear about what we do, and they hear we don't use antibiotics, they just don't understand how that's possible. The fact that we're moving them every single day to fresh pasture breaks parasite cycles. It allows you to ... The birds are so much healthier, so much cleaner, and we've found that even in our processing, when we go to process the chickens, they're just ... We've done sampling that our birds are much cleaner than ... We use basically vinegar as a sanitizer, a sterilizer, and they have to use chlorine baths, and they still are ... The meat coming out of factory farms and out of the industrial system is still dangerously toxic and loaded with bacteria that is very scary. Yeah. Not to mention antibiotic resistance.

Cody: So, really what you see when you go to one of our farms, you see this dance of animals around the farm that ... where they're always on the move. The cattle move once to

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three or four times a day, depending on the season. The chickens are moving every morning. The turkeys are moving every day, the pigs are moving every three to seven days. They all have very large ... The pigs will have ... We'll have 50 pigs on seven acres for four or five days. If you go into an industrial pig house, they can't even turn around.

Dave: It's horrifying. Some of them are literally bolted to the floor, almost.

Cody: Yeah. They never see sunshine. They never see sunshine.

Dave: I can tell you how much vitamin D is in those animals. Not enough for their own good, not to mention yours if you eat one.

Dave: So, their life is good, because they get to go outside, they get to move around, and they're treated well. What about their death? Butchering is an area where, as a small farmer, I actually drove 60 miles, I think, and went to the butcher on the island that's most humane and interviewed them and all. But the big issue is that quite often, in order to sell your meat, if you're a small farmer, you have to go to these very centralized, highly industrialized, cruel butcheries, even though you don't want to. You're not going to get the right stamp on your meat if you don't do that. Have you fixed that problem?

Cody: We are making enormous progress on that front, and we grew ... When we first started, we were processing everything on farm. It was a big move for us to let someone else do that. Taking a life like that is not something that we take lightly, or anyone should. And most people are so disconnected from that side of it. But when you have a cow that you raised for two years, or a pig you raised for a year, you develop a relationship with them. You bond with them. So it is a very tough thing, but we understand that part of life is death. It's just a cycle. And so we want to treat them ... give them the best life possible, and then make the slaughter side, the processing side, as humane as possible, and it is ... One of the things that we did that makes us a bit unique is that we have actually ... Our farmers partner, we bought into a processing company.

Dave: Oh, I love that.

Cody: Yeah. It's exciting. It really ... Our processor is on our team. So they do things the way we want. They go out and visit our farms, they're connected to our farmers. There's a community that's developed around our network of farmers and processors that really, I think, creates a totally different standard when it comes to the processing side of things, because most of the time, when you take an animal to a processor or where the animal goes, it's just ... No one ... There's no community connection. They're just trying to get things through as quickly as possible. In our situation, the processors know exactly how we want things done, and they know how much work has gone into ... We've had processing staff go out and do farm tours, and then vice versa, had farmers work on the processing line.

Dave: Wow.

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Cody: Because neither one of those are easy jobs, but it's really important that both parties understand what's going on there. That, I think, makes for a much, much more humane environment for the processing.

Dave: All right. Let's ask Anna. Anna, the chicken that we got from Grassroots Coop, the stuff that you and Mommy made. What did you think about that?

Anna: I thought that it was an unusually juicy and flavorful chicken. I thought that it was really good.

Dave: Well, there you go. So, right from Anna's mouth, and Anna knows her chicken. Thanks, Anna.

Anna: The same mouth that ate the chicken.

Cody: Do you raise chickens?

Dave: No. We're thinking about ducks, but chicken egg allergies make them less useful.

Cody: Yeah.

Dave: Plus, one of the advantages of living in a farming community ... I can get the best dark orange yolk pastured eggs on every street corner, because almost every farmer around has a little ... Put a couple bucks in this little wooden box and take some eggs, so I don't have to raise the chickens. I've looked actually at guinea fowl, because they eat ticks. I don't like ticks.

Cody: Yeah. They make a lot of noise. But they do ... They're great. They're very hardy, and they do. They will keep ticks down for sure.

Dave: And it's one of these things where I didn't understand this until we'd been farming for a little while, just how mixing the different types of animals and different types of plants that are growing completely changes the whole system of it, and I would say I'm nowhere near an expert on that. But I'm already seeing the differences there and saying, what breed of sheep would be best? We tried to get the hairy pigs, the wooly pigs-

Cody: The Mangalitsas?

Dave: Yeah. We missed out this year, so next year, we're going to get some. But that's an example where that pig takes twice as long to mature, but the meat is exceptionally good, and you can have a pig sweater, which is kind of legit. But one of the metrics that really informed my recommendations in the Bulletproof Diet ... I was a raw vegan, and I am not into mistreating animals in any way, shape, or form, and I consider it highly ethical to eat a grass-fed animal that was well-treated that contributed to our soil, contributed to the world, and it's the lifecycle we're in.

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Dave: So I looked at a prayer ball in Tibet, at something like 16,000 feet, in Lhasa. And I got to talk to the head lama at the monastery, and I said, look. I just did a 10 day meditation retreat, and you guys are all about this no killing, and that is a yak skin on your prayer ball. So you are a hypocrite, right? Tibetan Buddhists love a strong debate. They are the best debaters out there.

Dave: He starts laughing. He goes, ah, one death feeds everyone. It was a really interesting, enlightening perspective, because I started looking at the deaths per calorie, and if you're looking at, oh, a 700 pound cow, and you were to eat a pound of beef a year ... Sorry, a pound of beef a day, which is way more than you need ... you're killing half an animal a year. And if that cow ate grass that grew in its neighborhood, you knew how many other animals died in the process? The frog he stepped on. There's no other deaths.

Dave: Instead, you say, I'm going to have this fake whatever vegan mush meat substitute thing ... The number of animals killed by habitat destruction, the number of animals killed by transportation, the number of animals killed by, well, big tractors going through and mowing things down ... If you're lucky enough to have animals left in that region, there's a lot of sterile farmland where there are no snakes, no bunnies, no turtles, because of the vegan food supply there. Frankly, a lot of that food goes to feed industrial animals. We have to stop that.

Dave: But when you do the math, especially if you value all lives the same, the way Buddhists do, where the mosquito and the cow ... Well, you don't want to do anything bad to either one of them. Sorry, I'll still swat the mosquito. But I really think there's an ethical argument for saying, if I can only get these nutrients this way, from animal fats, and we perform better, we feel better as human beings with moderate amounts of animal protein ... If animals lived well, you are not contributing to suffering. You're not contributing to death in a way that is greater than whatever else you are doing, if you eat beans, legumes, grains, or any of that other stuff.

Dave: So I feel like I've ... At every level, from an authenticity and integrity, the recommendations in the Bulletproof Diet and the things that I do and the things that I'm living ... It all works out, and that's one of the reasons I wanted to have you on, in addition to setting up our partnership, is that I think that this matters for people's wellness, just at an emotional level, and just to be comfortable with that fact that, you know what? This hamburger that makes me feel really good and tastes amazing killed less animals than the French fries that came with it.

Cody: Yeah. That's ... Well, you have several things going on there. One is, when you separate animals and vegetable production, you create two distinct problems. One is a lack of fertility, and the other is an excess of manure. So I think that when you think about most row crop production, it's going to depend on chemical fertilizers and lots of Round Up or herbicides and pesticides. There's a lot of ... That's terrible for the environment. Terrible for animals, terrible for the ... There's a big dead zone in the Gulf of Mexico. I think now it's ... At one point, it was the size of Delaware. Now it's the size of New Jersey. It just keeps growing because of all the runoff.

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Cody: And listen. I don't like to ... We do get sad. When we take a load of beef off, we spend a lot of time with those animals. But we also understand that we're leaving ... When those animals leave the farm, they've left the farm better than it ever was before, and there's more life there than there was before, whether it's more microbes in the soil, more diversity in the pastures. We're creating, I think, more life than we're actually losing at the end, and it's a pretty ... We process ... We'll compost ... We process the chicken. This is not a very sexy thing to talk about, but you end up with the viscera, the guts. We take that and we compost that and we use that for fertilizer. It's just ... In our gardens, there's a cycle of life there that ... Yes. It can be sad to lose an animal. But it's also ... It's creating a lot of amazing things in the process, and it's just the cycle of life. It's not ... It's just pure science, and there's going to be death no matter what you do.

Dave: Yeah, there is, no matter what you do. Worst of all, if we were to cut healthy animals out of our food supply entirely, there simply will be no healthy animals. The species will die. We've already lost so many breeds of cattle and even types of apple trees because of the industrialization, and the more diversity you have, the more resilience you have. The same is true of your gut bacteria, right? And by supporting small farmers like this, you can have heritage breeds. I have heritage breed sheep, heritage breed pigs, and they're less industrially efficient. They put on weight less quickly. But they have other aspects to them that are valuable. We want this to be spread around and to have these animals alive, and the idea that we're all going to somehow eat vegetables or grains grown on soil that doesn't have animals as part of it ... The soil will become depleted. We're probably 40 years away from running out of the nitrate mines that we use to get nitrates to make chemical fertilizer. Then the whole green revolution turns back into a brown revolution, and there will be mass famine.

Cody: That's right.

Dave: I really like animal poop.

Cody: Yeah. People used together, and I heard this recently ... There were these islands where birds would go and use a lot of bird poop. And they would mine these islands.

Dave: [crosstalk 00:53:08], yeah.

Cody: It's crazy. That was really interesting to me. That was what we used as fertilizer before there was chemical fertilizer. If you don't have animals, that's what happens. You've got to figure out some way to fertilize the land. I think that we've got ... I think that we're focusing really on the wrong problems there. Yes, let's try to eliminate confinement, industrial livestock farming. Let's replace chicken nuggets with something else. That's fine. But to look at ... Let's also replace using chemical fertilizers that kill the soil, kill the microbes, lead to more erosion, cause ... poison our waters, poison our bodies.

Cody: Let's focus on supporting small scale farmers that are doing this right. That really is what it comes back to for me, being able to connect with those small farmers, support them, and let the customers vote with their dollar on the kind of food system they want to support. That's not a Snickers. I don't want to vote that way, anyway. I don't want to

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vote for chicken nuggets. I don't want to vote for the confinement chicken operations. The great thing is, consumers have a choice, and I think it's just important they understand how big of an effect on our food system it really ... It's our biggest polluter. But it's also one of our ... a huge ... the biggest part of our economy too. There are just so many things there that get tied up in the food system that we have to reckon with, and consumers are, for so long, have been detached from that. I think it's time to reconnect. That's what we focus on trying to do.

Dave: Well, I think you're doing something new and different, something that I've wished existed, the idea of being able to unite a bunch of small farmers doing it right, so that then, when you say, I'd like to order this, I'd rather get it that way. But how do you do that? I've run into situations where I'll call a local farm and say, I need some beef. I know you it right. Yeah, I've got two chuck steaks left. Yeah, but I kind of wanted a rib eye. Or even just, I wanted a selection. But they say, I only had three animals, I couldn't get it.

Dave: So by just bringing it all together and doing it ... The other thing I've found, small farmers generally suck as business people. We talked about that before. If you're good at business, you wouldn't be a small farmer. I'm just going to say it. It is a tough life, but it's also really rewarding. But it's not financially rewarding. You wake up, you see the sunshine, you do make a connection with your animals and with the land, and it's kind of a spiritual practice, doing it right.

Cody: It is, yes.

Dave: So I just ... I'm grateful that you put all that together, because I don't think that that's easy to do, but I think that's how we make it easy, because one thing I've learned from Bulletproof ... People are willing to spend a little bit more to have higher quality. The collagen in our protein bars and the coffee, it's grass-fed, it's pastured, and I insisted on that. It would've been a lot cheaper to get the industrial stuff made from non-organic whatever. I'm not going to do that.

Dave: So, I look at that whole system and say, all right. If it's not convenient, though, only diehard people are going to do it. So the idea is, all right. I can go to one place, I don't have to sort out which farms have what and all that, it's all there. That convenience factor is terribly important. If you're listening to the show right now and you're saying, all right. I want to do this, but it's just too much work to add grass-fed into what I'm going to do ... Well, this is a way to make it easier. So it's grassrootscoop.com, is a good way to do it.

Dave: Now, we came up ahead of time with five reasons why pasture raised meat is the only kind of meat you should eat. Can you run me through those? Do you have them?

Cody: So, from our perspective, it's about sustainability. Really helping improve the environment. It's transparency. You can really see where the farm ... For us, it's about being able to connect directly to the farmer. And then it's about being butchered by hand, small scale processing, trying to do things on a small batch scale. Whether it's chickens in small flocks of 500, versus big houses of 25,000, or it's pigs in a group of 50,

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versus 10,000, we're really focused on trying to do things on a small or more human scale.

Cody: Then it's also looking at it as, food is medicine, really. If you eat the right kind of food, it'll make you much healthier, and it's ... I think that's one of the important things that I realized in my journey and trying to be healthier, manage my health, is that what I eat is going to play probably the biggest role in being able to stay healthy.

Dave: All right. We've got, because health and nutrition, sustainability, you can get it straight from the farmer, which keeps farmers in business, butchered by hand ... And I love this, this is so important, because you guys are actually running the processing side of things ... And then transparency, so you know actually what you're getting. Those are pretty strong reasons to change this, especially when you're eating this at home, and if you're out and about, it's okay to just skip the meat when you're at a restaurant if they don't have grass-fed stuff.

Dave: Cody, thanks so much for your work. I've got one more question for you, it's nothing to do ... Well, only a little bit to do, maybe, with Grassroots and grass-fed agriculture. I'm working on my anti-aging book, and I'm asking people, how long do you think you're going to live, and how long do you want to live?

Cody: Wow. I'd like to make it to 100. Yeah. I'd love to live to ... Life is great. As long as I can be a farmer, I think I'd love to live a couple hundred years.

Dave: Okay. So you think you're going to do 100, you'd live to do a couple hundred, as long as you can be a farmer. All right. Well, keep eating your grass-fed stuff, and your odds of making it past 100 go up, as far as my research.

Cody: Yeah. One of the ultimate biohacks, being a farmer.

Dave: There you go. Cody, thanks again. Your URL is grassrootscoop.com, and for the first six weeks after this episode airs, if you use code DAVE on grassrootscoop.com, they're going to do something really special for you. If you're listening to the show, this is one of the examples of a show where I'm really happy to have a partner on to talk about what they're doing, because Cody's changed from being a teacher and a physicist to being a farmer, but putting together this system of food in such a way that it's good for everyone. It's a win-win for the farmer, for the animal, for the soil, for the environment, and for the people who eat it. That's actually how food is supposed to work. So I think this episode is definitely worth your time, and you really need to go try this stuff, because it's really good.

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