

Joel Salatin, Narrator

Anneliese Abbott, Interviewer

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Location: Remote over Zoom

JS=Joel Salatin

AA=Anneliese Abbott

AA: When it comes to raising beef cattle and poultry on pasture, some of the most popular methods used in the United States today were developed or popularized by Joel Salatin at Polyface Farm. Joel came in third place among still-living individuals and sixth place total in my recent survey asking organic farmers who they had been influenced by. His most-referenced books were *You Can Farm* and *Folks, This Ain't Normal*. So it is with great pleasure that I am able to interview Joel Salatin today, on February 10, 2022, as part of the organic and sustainable agriculture history project.

So Joel, thank you so much for being willing to do this today. Do you want to start with giving a little background about the history of Polyface Farm and how you chose farming as a career?

JS: Thank you for this honor, Anneliese. I really appreciate it and it is a delight to be with you. So our family came to the farm here in Virginia's Shenandoah Valley in 1961 after losing a farm in a *junta* in Venezuela. Dad had been there for twelve years following World War II. And we were independent farmers there, and we got caught in the anarchy and breakdown of society in that *junta* of 1959 in Venezuela, with the ouster of Peres Jimenez. And so I was four when we fled and came back to the US. Lost everything and restarted here in Virginia's Shenandoah Valley, on a gullied rock pile, the worst farm that you could find. But it was cheap. And started over.

And so from early on, Dad wanted to be a fulltime farmer, but with no capital and the rocks and gullies and where things were in 1961. He spent a couple years trying to make it here. Got advice from both public and private sectors, and all of them said, "Plant corn, build silos, buy fertilizer, go into debt, graze the woodlot," that sort of thing. And his father, my grandfather, was a charter subscriber to Rodale's *Organic Gardening and Farming* magazine, when it started in 1948. And he always had, he was from Indiana, had a large compost pile, an octagonal chicken house, and was quite a tinkerer, gardener, master gardener. So Dad had an ecological ethic from him, and then of course I got it from Dad. One of the most treasured things that I have today is the inherited bookshelf, which has the books by Ed Faulkner and Louis Bromfield, and of course J. I. Rodale, these early pioneers in the ag movement.

And so what we eventually ended up doing was looking at nature, saying, "Well, how does nature build soil? How does nature heal land?" So we saw some specific principles. One is, animals are always involved. And animals move. They're not caged up; they're not confined; they're not in factory houses. They move. So that means we have to have mobile infrastructure, mobile control, mobile water, mobile shelter. And that then pushed us into all this mobile infrastructure that we use today, moving animals around. And then nature is primarily perennials,

not annuals. So we've never plowed, we've never disked, we've never planted anything. We just let the perennials come on, what would grow, essentially letting the native prairie come back.

And the fertility comes from carbon, it doesn't come from bags of chemical fertilizer. So one of the first kind of significant machines we bought besides some hay equipment was a commercial chipper, so we could chip wood chips as a carbon base. So we began doing that and having a large compost pile. The other thing is that in nature animals do the work. There's no machinery. And so we looked at the tight relationships. We follow cows with the chickens, the chickens mimic what the egret does on the rhino's nose, chickens sanitize behind the cows. Pigs build the compost, they turn it. And they love to do that; we call them "Pigaerators." And so everywhere we could, we tried to let animals do the work rather than us and machinery. And this fundamentally changes the profit potential and the ecological nuances of the farm.

Another one is simply that we noticed that most economies start local. Nature doesn't move stuff very far. Plants are harvested on-site and decomposed or eaten and digested pretty close to the point of origin. And so we really jumped into this local direct marketing, created a brand. Dad was an accountant; Mom was a schoolteacher. We basically grew up with this experimental glorified homestead through the '60s. By the time I became a teenager in the early '70s, my heart was set to be here. I started a batch of chickens when I was ten and raised these chickens throughout high school. Had a big garden; sold it at the local curb market, which was a Depression-era holdover, kind of a precursor to today's farmers' markets. And so I cut my teeth on this direct marketing and realize the potential that could be had when the farmer wears the middleman hats of, not only producer, but also processor, distributor, and marketer. And that's a game-changer. And for us it certainly opened a lot of doors so we didn't have to chase the scale, the commodity low-margin economic model.

Over the years, the farm developed customers. And we sold, we developed the beef, pork, chicken, turkey, eggs. Our son then came on and he started raising rabbits; we added those. Now our grandchildren are in, and they're adding sheep and ducks for duck eggs. So now we have lamb. And now we have about 25 salaries coming off the farm, and we service about 8000 families. We ship nationally; we service numerous institutions, restaurants, a VA hospital—all sorts of clients. And we didn't aspire to this, but this is where it is, and we're excited to be here. (7:13)

AA: Great! Thank you very much for sharing all that. You talked a little about your methods of raising beef cattle, hogs, and poultry, on pasture, which have also been successfully used by many farmers around the country. And you already touched on this a little bit, but is there anything else you want to share about how you developed those methods, and which books—you mentioned that whole bookshelf, and I'm just curious if there's any particular titles that were the most influential in helping you design your farming methods.

JS: Probably one of the most influential books was *The Complete Book of Composting* by the Rodale staff. It's a thousand-page compendium, but it really drills down the whole carbon idea, that there's this integrated carbon. So that was influential. Our farming methods, we realized if you're going to move the animals around, you need water everywhere. So permaculture certainly, Bill Mollison and David Holmgren, when they wrote the *Permaculture Designer's Manual*, that was extremely influential in thinking about stacking, symbiotic complex relationships, animals following animals. And it just built on this basic carbon economy concept. So we began fencing out forest areas, fencing out riparian areas, so that wildlife could run

through those areas and the carnivores would have plenty to eat without having to eat the chickens in the pasture. All about trying to build a balanced ecosystem.

Certainly the work, *Out of the Earth, Malabar Farm*, written by Louis Bromfield, were heavy influences. And probably the number one influence of all was André Voisin's *Grass Productivity*. In the early '60s Dad got ahold of some of Voisin's material, which of course were written in the 1950s and was being translated into English from French. And even in the early '60s, not soon after we got here, he got ahold of some of André Voisin's material and began experimenting with rudimentary electric fence. It was very rudimentary at that time. The electric fence energizers scavenged points out of cars. And they actually moved in there. And I still have the first Sears & Roebuck solid-state energizer out on the shop wall. We need to put it in a museum. We don't use it anymore. But energizers, of course, have come a long way. And so this electric fencing control mechanism to give us, the electric fence becomes brakes, accelerator, and steering wheel on the animals. We're able to steer them around the pastures the way we want them to be steered. The development, the technology of the electric fencing innovation has been critical.

As has plastic pipe. So we now, taking kind of the permaculture concept, we've built fifteen ponds, many of them up on high ground, so that now we have an eight-mile network of gravity-fed waterline over the farm. No pumps, no electricity, gravity-fed to give us nice, clean water under pressure around all the fields of the farm. It's probably the most unseen and expensive project on the farm, but to give us gravity water whenever we want it anywhere we want it is quite a game-changer, to be able to move these animals around.

And so those were some of the influencers. Early on, too—and *Acres U.S.A. Primer*, which is now I think re-titled *Eco-Farm* by Charles Fenzau and Charles Walters, the founder of *Acres U.S.A.* magazine. That was one of my very early iconic books. As was the work of Wendell Berry, *The Unsettling of America*. Those came a little bit later. But those early ones were foundational in shaping how we thought. What we do is an offspring of how we think. And how we think has philosophical underpinnings.

And so I always start discussions with philosophy, because that's what's at your gut level that then determines how you see things. So when a cow gets sick, do you see a lack of the right pharmaceutical, or do you see a breakdown in the immunological function that you caused? So our belief is that nature is fundamentally well. And this, of course, was very much Louis Bromfield's position, that nature is fundamentally well, and we just need to massage nature in the right places, and it will get better. In other words, nature is not fundamentally ill or nature is not fundamentally sick. If we don't have soil, it's because we let the soil erode. If the soil's not healthy, it's because we didn't care for it. So these underpinning philosophies are what drive practice. (13:13)

AA: Going off of that, is there anything else you want to share about your philosophies, how you developed them and how they've changed over time?

JS: Well you know, Dad was an accountant. And I think he came to this ecological idea primarily from an economic standpoint, that the chemical approach is essentially like a drug addiction. You've got to get more powerful stuff, more toxic stuff, it costs more. And so you're on this treadmill of trying to stay ahead of the increasing costs for this addiction. And that's what most farmers are on. They're on this incredible treadmill that they just can't get ahead of it. And he came to this primarily from an economic standpoint, with a smattering of ecology.

I think that I come to it with a little more aggressive ecological bent. And one of the things that's happened in my lifetime, that Dad was not dealing with as much, is the breakdown of nutrition. In the '60s and '70s—Dad died in 1988—so during the '60s and '70s, we didn't hear about *Salmonella* or *E. coli*, *Campylobacter*. Those words came in pretty much in late '80s, early '90s we started hearing those. And by 2000 they were common usage. And, of course, the diabetes, heart disease epidemic, obesity, autism—all of these things. And so I think one of the things that has changed my thinking as much as anything is just the chronic illness and the deficiencies of the chemical system that were not as obvious in the '60s and early '70s. They've become more and more obvious in recent years. So adding to the economic reasons and the ecological reasons, now we have these nutritional, these basic human health reasons for it.

And so that begs the question as we go into, “what's the overall thing?” And the overall thing is that yes, anybody that knows me knows that I've taken this Christian-libertarian-environmentalist-capitalist-lunatic farmer handle, if you will. And we are Christians. And so we do believe in the platform that God owns it all. We actually don't. We are just pilgrims. Yeah, the court says we own this, but actually God owns it. And the question is, “What's His return on investment?” Does He like gullies and rocks? He made this beautiful place, and then we make a dead zone the size of Rhode Island in the Gulf of Mexico, we silt up the bays and destroy the soil. If I owned it, that would not make me very happy. So one of the things that impresses us in our practice is stewardship. We are stewards of this, and how do we, with our footprint and our life investment, how do we leave it with more soil, more water, more breathable air, more cultural equity and ecological equity than it had before we came? That should be the mandate and the mission for all of us who have the privilege to caretake a piece of God's creation. (17:23)

AA: Thank you so much for sharing that. That's really good. So I'm curious, Polyface Farm was featured in Michael Pollan's bestselling 2007 book *The Omnivore's Dilemma*. Is there anything you want to share about your experience with that, or how that publicity affected your farm?

JS: Michael Pollan is such a wonderful guy. When people ask me, “What's he like?” I'll say, “He's like a curious eight-year-old.” He just has this childish truth-seeking, no agenda demeanor. We still stay in touch; we really grew to appreciate him. And so when that book came out, we had already been in ten or a dozen books, it was a pretty good number. But it was always a cameo. You've got half a page or a paragraph of mention, this is an example of whatever. And so when he came and wanted to do this, we thought, “Oh, that's fine, it will be another little mention.” And we got the book and realized we were like a third of the book. And then of course the book sold up the Wazoo. A runaway New York Times bestseller. We were already in a position of leadership in the integrity farming movement, and that book was definitely a step. Life is not just a linear line on a graph. It's ragged. It's a jagged edge, step-step-step. And so that book took where we were, and it was a pretty vertical step there for a year or two, both in terms of giving us a bigger platform to share our message and also simply bringing more customers, growing the business and just the awareness of what we were doing. (19:31)

AA: And so how many people visit Polyface each year? And how has that number changed over time?

JS: Right now we have about 15,000 visitors a year. And obviously it has grown over time, and continues to grow. One of the things that we're realizing is that we need to be—so what has

happened is that we have spruced up a little bit. I'm functional. We don't have Swiss bank accounts. We're not money people. Our money has come from the farm. We don't have off-farm jobs. Teresa and I lived for seven years in the attic, we drove a \$50 car. We were married 20 years before we'd even spent a total of \$10,000 on automobiles. If we didn't grow it, we didn't eat it. We bought clothes at the thrift store. I'm not trying to give you a whine tale, but Teresa canned six to eight hundred quarts of stuff a summer. We had our own firewood. We lived on three hundred bucks a month. We were frugal.

And the farm, my mentor Allan Nation, founder of *Stockman Grass Farmer*, always said that a profitable farm has a threadbare look, because you're not putting money in pretty white fences and shiny green tractors and what we call "heavy metal disease." So the farm always had a bit of a threadbare look because we were putting our money in earthworms, soil, and plants, and customers growing the business. So now that we have all these visitors, they come, and you want to present your best foot forward, and their expectation is there. And so we've been able to gradually upgrade, spruce up some of my thrown-together structures. And now we have better structures. We have a sawmill so we can mill lumber instead of building things with poles out of the woods, with swerves and dips in them. So that's kind of how things have changed. But we're still very much in function over form.

And one of the biggest changes that's happened in the last year is with COVID, as you know, conferences and things kind of dried up. And we got to thinking and realized, "Well, you know, there are still groups of people that want to get together, but they just don't want to do it at a conference center or resort hotel. Could we offer the farm as a kind of outdoor, courteous, hospitable place to have a gathering?" And so we kind of threw that out as an idea in the winter of 2020, started talking about it in December there. And by 2021 we had six things, six gatherings sign up. And we've already got six planned for this year, and we're building a nice pavilion that can accommodate 300 to 350 people. We have the best food in the world, we can feed everybody memorable food. So we're realizing that what better place for people to be physically, emotionally, and mentally fed than on a farm? So let's open it up and encourage people to come here and, frankly, take some of those dollars that are swimming around at Sheraton, Marriot, and Hilton, and let's put some of them out here on our farms. (23:29)

AA: That's really cool. And so I'm also curious about your philosophy of educating beginning farmers who are interested in farming organically using the methods that you've developed. What is your philosophy on education? If you have a younger farmer who comes and wants to learn your methods, what is your philosophy on that?

JS: So we do run a formal apprenticeship program. It's a two-step program. We have stewards, it's a five-month, we call it the Polyface Boot Camp. And we run that May 1 to September 30 each year, it's five months. We take 11 young people a season for that. And then from that we come out with our apprentice program, which goes October 15 to October 15. The apprentices come out of the stewards of that previous season. And then the apprentices the following year become the first-level managers of the stewards. So you have this roll-over continuity. And we all know that you don't really know something until you teach it. And so that really solidifies the teaching part on the apprentices.

So that's one of the things we do here. We also do numerous seminars. We do the Polyface Intensive Discovery Seminar, which is a two-day, six-meal behind-the-scenes seminar where we basically cram about a week's worth of education into two days. No breaks. It is

intensive. We butcher chickens, we butcher rabbits, we compost guts, we cut trees, we mill logs, we move cows, move pigs, we do ponds, water, we do everything we possibly can crammed into those two days. It's probably as intense a program as anything I've ever seen on a farm.

We do lunatic tours. We do eight or nine of those a season where we do a two and a half hour hayride around the farm. And of course, I'm a lunatic, you know. I don't do every one of them; Daniel, our son, does a few of them now when I can't be here. But this is all to take people around and let them get a glimpse quickly into the farm with us touring them. We have a full-time tour guide, Heather, who runs her business. She's an independent contractor, and she runs the Grass Days tour. So those are individual tours, they're two hours. They started as school tours, but now she's doing a lot more one-on-one anniversaries, birthdays, different things that people want to do. And just coming to get behind the scenes and do a personalized tour. So we do that as well.

The farm is open 24/7/365. And so anyone is welcome to come from anywhere in the world anytime to see anything unannounced. And that's our commitment to transparency. Of course, I've written fifteen books, there's a tremendous amount of information in those books, as well as we've now launched the Farm Lunatic video curriculum series. And we're trying to get out about two of those courses a year, now, adding content as we can. And that's moving forward. I don't know what I've missed, but anyway, it's a broad spectrum of education. (27:23)

AA: Well, that's great. So something else I'm really curious about is, how have the demographics of visitors to Polyface changed over the years? I was reading an article in *Christianity Today* from October 2007, where you were saying that thirty years before that, eighty percent of the visitors to your farm were hippies, and then today, in 2007, eighty percent were Christian homeschoolers. And so I'm really curious to hear more about, is that still the case, or has it shifted again? And what's your perspective on the connection between the Christian homeschooling movement and organic farming?

JS: Yes. There's definitely a connection between homeschooling—and I'll bring this up to date—between homeschooling and homesteading. And a lot of it is driven by conservatives, some are Christians, but some are more libertarian-minded do-it-yourselfers. But there is definitely a connection between homeschooling and homesteading. What happens is when somebody takes the unorthodox, less-traveled road if you will—Robert Frost, “The Road Less Traveled”—when somebody does that and finds it emotionally, spiritually, physically satiating or enjoyable, they quickly start looking around and saying, “Well, what other paths less taken are there?” In whatever, recreation, food, investment, vocation, location.

And you're probably well aware that right now we are in literally a homestead tsunami of people as the culture goes through the kind of trauma, the upheaval of all that's happened in the last two years, from COVID to the looting and burning in the cities, to partisanship, to censorship in different things. There's a kind of a spasm. And what always happens historically is that when things look like they're going down, people in the cities want to get to the hills. You flee to the hills, right? You don't flee to the middle of the city. You flee to the hills, where you can drink out of a stream, and you can trap a squirrel to eat, you can get some blackberries, whatever. And so that's what's happening right now.

And so we've certainly seen a shift in the demographics, the kind of interest that is here is a very do-it-yourself, self-reliant, family-oriented homestead type. Which a lot of people would like to grow into a commercial farm if they can, and that's one of the things that we're trying to

help people do, is okay, you're home-scale, you're growing your own food, let's see what we can do. So there is a growing, I think a desire. It's interesting. Some of it's funneled by fear, of supply chain problems, empty store shelves, dysfunction within the cities. So that's a little bit of fear. But also now, mingled with faith. So you have the negative, "I'm running away," but then you have, "I'm running to." And so we accentuate the running to. We want to accentuate, come out, not primarily fearful, but embracing, by faith, a more resilient lifestyle, a more resilient way to live. And so that's kind of what we're after.

The goal is to offer hope and help when the culture becomes hopeless and helpless. And we see that shared by many, many, many of the people who come here now. They're much more serious, practical, and directed than just kind of earth muffin tree huggers who came in the early '90s that were more just kind of fantasizing and looking for meaning through whatever, telling other people what they ought to do. They're pretty much now, not telling other people what to do, "Let's tell us. Let's tell me what I ought to do, and if I can be successful at that, maybe it will draw somebody else." (32:13)

AA: Thank you for sharing that. That is really interesting to hear about how that shifted. So I'm curious, have you been involved in organic or sustainable agriculture organizations over the years? And then if so, is there anything you want to share about that?

JS: Well, I have been, but I tell you, Anneliese, I'm a starter. I don't function well in committee meetings and the minutia. That's why I'd never be a politician. I just can't, I'm too much of an entrepreneur maverick. Let's go get something done; let's not sit here and have a big focus group. And so I've helped start some things, like the Virginia Independent Consumers and Farmers Association. And I served as president for a while. I was very heavily involved in the Virginia Association for Biological Farming, was the president and editor of the newsletter. And what I find is I just was always heading off kind of doing the next thing. And I just was never really content to plod through the committee things. And man, bless the people who stay there and get it done. And I'm very, very friendly with all these things. We still host the Virginia Independent Consumers and Farmers Association annual meeting here at the farm. We have it every year here in June at the farm.

So what I found was that my leadership roles were conflicting with things we wanted to do with the farm, writing I wanted to do, the speaking that was being asked. I just couldn't get it all done. So I kind of had to step away from some of those leadership things.

Now that being said, it's important I think to say that I have been asked over the years to be on countless advisory boards and board members of this outfit and that outfit. And I have one standard answer. The answer is, "No, and here's why." Part of my brand is independence. Independent thing, independent action. And I don't want to be speaking somewhere and somebody says, "Hey, I saw your name on the letterhead of this outfit. Do you know what they did?" And then I'm suddenly stuck trying to defend what an outfit is doing that I'm on some sort of a board letterhead for. So does that mean that I'm enemies? No, I'm the biggest cheerleader of anybody for Weston A. Price Foundation, for Farm to Consumer Legal Defense Fund. I am friends with all of these. But I'm not on the letterhead by strategic design simply so that I can continue to be an independent voice where I don't have to walk on eggshells, who am I going to offend here, I wonder what they would say if I said this, and defending it out there. It's just part of my credibility and authenticity. I think one of the reasons that people appreciate my voice is because they know I'm my own guy. And I hold onto that almost religiously. (36:07)

AA: Thank you for sharing that. I'm also curious, you've been farming organically since before there was any kind of organic certification. And going back to your family farming, even before that and all of the historic books and everything. So I'm curious to hear your perspective about the USDA organic certification standards, and how you feel about those.

JS: Well, anybody who is reading my material knows that I'm not a friend of organic certification. In fact, I'm not a friend of much of government anything. But people don't know that back whenever it was, 35 years ago, I put forth the first motion in the Virginia Association for Biological Farming, to start an organic certification program. This was before the federal program. It was just starting to be bandied about, "Hey, we need some certification." And the movement was just in its very elementary state. So I was very opposed to it. So I put in the motion to do it with a one-year sunset clause. I was confident that within one year, it would tear the organization apart, it would pit people against each other, and within a year everybody would say, "This was a bad idea." It did do all that, but it wasn't bad enough to not re-up it with the sunset clause.

And so my opposition to it, there's several reasons to oppose it. One was that it's a pass/fail. And pass/fail never encourages people to do their best. It only encourages people to reach a minimum. I sat on the certification committee—I mean, I put the motion in, right? So I sat on the certification committee initially. And immediately people that were kind of mad at the organization, boy, they just got run through the mill and were almost harassed by the committee. People that were big wheels, big names, big personalities, well, they just passed with flying colors. And I saw the political elements of this pass/fail. And a person that, for example, got a 74 was failed, and a person that got a 75 was passed. And the difference was pass and fail, which is a huge difference, but it was only a difference between 74 and 75. It's not enough to quibble about.

And so I actually wrote about this initially and said, "If we're going to certify, what we need is sort of a subjective system." Kind of like the gymnastics in the Olympics, where you have your minimum levels of benchmarks, and then how close a person gets to that is pointed." So we have a hundred-point system, and you have four basic areas that are judged at 25 percent each, and everybody gets a number. That means even a factory house that goes to GMO-free grain could be, maybe they'd be a 2 instead of just a nothing. So this would reward all steps up and down the path. And it didn't go anywhere. But that was me trying to offer something that would recognize that. It bothered me that our chickens on pasture getting uncertified organic feed, GMO-free from local farmers, could not be certified organic, but chickens in a factory house getting organic certified feed from Uzbekistan through Istanbul, Turkey, those could be certified organic. So there's a lot of complexity and nuance to this that the certification program does not recognize.

And of course, all of my predictions, that it would be co-opted by the marketplace, and the USDA would not be a good partner in this, has come true. So that now we're the only country in the world that certified organic hydroponics, soilless systems. We have all sorts of loopholes for chemical usage and different things, and confinement housing, confinement dairies. It's just become a mockery. So I don't participate in it and don't play that game. (41:07)

AA: Thanks for sharing all that. I'm also curious to hear if there's anything you want to share about your perspective on the relationship between agricultural universities, especially the land

grant universities, and organic and sustainable agriculture. And how have you seen that relationship change over the years?

JS: The land grant universities, I have not done much of anything with them over the years agriculturally. Where I have had great success is with the liberal arts universities and their environmental sciences programs. So here in Virginia, my joke is that Virginia Tech figures out how to kill the bug, and University of Virginia environmental sciences figures out the externalized ramifications of the chemical that killed the bug. And so we kind of have this great dichotomy between the two things.

Now, that said, our closest land grant here in Virginia, of course, is Virginia Tech. And I've spoken down there once or twice to ag classes. I've had a couple trials, sustainable ag things come up here. I'm very friendly if someone wants to come. But I am not at all interested in whatever, poking around, trying to curry favor at the university. We're just on different wavelengths. I mean, here in Virginia, I've been much more accepted and done more things with Virginia State University, which is the historically black college, land grant here in the state. Much, much smaller, but much more interested. They've had some great people, we've had some great workshops, done some things with Virginia State University over the years. And that's been good.

But generally, I just find the university setting fairly impractical and focus-group oriented as opposed to really solving problems. Now, of course, we have all this political correctness and partisanship that changes the dialogue a lot. So I do my thing, I'm always friendly to anyone who wants to come, but I don't trip over myself trying to get a spot at that trough. It's not worth it; there's just too big a world out there and too many people that aren't agenda-driven and unencumbered to talk with and enjoy. So that's where my emphasis is. (44:10)

AA: Thank you for sharing that. So I'm curious, as you look back on your farming career, what strikes you most as having changed in organic farming over the years? And then what has stayed the same? And are there any overall trends that you find interesting or want to comment on?

JS: Well, certainly what has changed in organic farming over the years is just the public awareness of it. I mean, the size that we get, you look at the size of some of the organic labels, and they're pretty significant. There's a lot of market share. Now, it's industrial organics, it's factory organics. It's not what I would consider, or certainly what the originators of the term "organic" had in mind. But there is certainly a greater awareness about it than there ever has been.

There is also a tremendous increase in understanding of the soil. I think we need to realize that 90 percent of the microorganisms in soil are still not named or functionally known. So we're only 10 percent in on our knowledge of soil. What we have learned in the last 30 or 40 years about soil and its relationship to the microbiome, the human microbiome, the whole human element, I think has really changed this. Starting to connect the dots between the soil and the microbiome. In fact, in Finland now they're encouraging city people to get bags of dirt from farms and put them in their house that they can punch and touch frequently to build their immune systems, to exercise their immune systems. It's pretty amazing what all the research now microbially has done in this space.

And so I think that the infrastructure on the microbial level, compost teas, Elaine Ingham's work, *The Soil Food Web*, the work of Christine Jones in Australia with the soil

biology. There's definitely a bigger understanding now that the soil is fundamentally biological and not mechanical. Now, the greater agri-industrial complex hasn't signed onto that yet. But in the organic community, I think those of us who have been it for awhile feel far more comfortable now. We feel like we're armed much more with the science of it to defend it, to defend our position, than we were maybe 40 years ago when it was a little more philosophical—we do this because we just love the earth and don't want to kill earthworms, that sort of thing. It's a lot more, our knowledge is a lot more sophisticated now on the biological end of it.

One of the things that's happening now is the Bionutrient Food Association, they're developing a hand-held tester to be able to test something like 150 minerals and elements, enzymes, in foods, to actually create an empirical test. And I'm hoping that by the time they get this to market that this will actually shut down the whole organic certification thing, because now we'll have an empirical test. You can want a T-bone steak, you can want a tomato, and it will just tell you whether it's good or not. That seems like a good approach.

One final thing that has bothered me about the organic movement is that it has not so far recognized or embraced the entire human element of this, from processing and distribution. In my lifetime I've watched many, many organic outfits come and go, go bankrupt, leave people like us with unpaid bills. It's been devastating in some cases. And so I've not seen the heart desire to take care of earthworms translate to ethical business practice or that sort of thing. And that's extremely bothering. But see, that's not certified, so it doesn't matter. These are some of the things I think that have changed over the years. (49:38)

AA: Thank you very much for sharing that. And what do you think are the most important aspects of the history to preserve and to teach to the younger generations?

JS: Probably the most important thing historically is just to appreciate how Sir Albert Howard's *Agricultural Testament* in 1943, which for the first time brought a scientific aerobic composting recipe to the planet—which was obviously, 1943, preoccupied with some other things going on. But how that changed the possibility of a carbon-based fertility system. I think from a historical perspective we have to appreciate that the chemical approach got a tremendous amount of free innovative help from wars. Ammonium nitrate, potassium, phosphorus were all used in ammunition and explosives. And it wasn't until Sir Albert Howard brought aerobic composting in a significant big way to the world in 1943 that we really had a good, workable formula.

But the problem was, we didn't have the things that would make it compete with a bag of chemicals. We didn't have front-end loaders. We didn't have PTO shafts on tractors to have PTO-powered manure spreaders. We didn't have black plastic pipe to send water over places. We didn't even have cheap concrete to make a pad to turn compost. We didn't have electric fence to be able to handle the pastures like they needed to be handled. And so, as is the case with any innovation, it took about 20 years for chainsaws, front-end loaders, four wheel-drive tractors, chippers, plastic pipe, and all to bring a carbon-based fertility program to a place where it was efficient enough to compete with chemicals. It took about 20 years for that to happen. Well, by that time, the chemical approach was entrenched well in our land grant system and the USDA and Wall Street, in the food system. It was embedded, it was entrenched there. And when you get something that big entrenched and embedded at that scale, it's pretty hard to weed out. It's a pretty big weed to pull, if we look at it as a weed.

So historically, here's the bottom line. If we had had a Manhattan Project for compost, not only would we have fed the world, we would have done it without three-legged salamanders,

infertile frogs, and a dead zone in the Gulf the size of Rhode Island in the Gulf of Mexico. So historically, the great lie that the Green Revolution saved all these lives, and oh my, we just couldn't have fed ourselves without all that—it's not true. It's just not true at all. And now, as we see the disease and the nutrient deficiency and the chickens coming home to roost in the chemical approach, the soil erosion, aquifer depletion, water pollution, dead zones—as we see those chickens come home to roost, the biological approach is gaining credibility and authenticity by the day. But the mechanical direction on the other side is so well entrenched it's just going to take some time to weed it out. They don't know yet that they've lost, but they actually have. Nature bats last, and you can't cheat nature forever. Eventually nature's balance sheet will be balanced. (54:04)

AA: Thank you. Is there anything else you want to share about your perspective or experiences before we wrap up?

JS: The only thing I'd like to share is kind of my sign-off thing, and that is, healing the land, healing our food supply, creating food choice in the marketplace—these things seem so big and so intimidating. And it's easy to just step back and throw up your hands and say, “Oh, I'm one person, what can I do? Forget it.” And my encouragement to people when meeting, when people ask me, “What floats your boat? What gets you up in the morning?” It's that I can step out on a back porch and know that my hands and my heart and my head are caretakers, are actually a masseuse that can viscerally affect the landscape my grandchildren will inherit. It's that real.

And when you sit down to eat at a plate of food, squint your eyes and look through that plate to the farm on the other side of that food. Maybe it's got a pork chop on it. Maybe it's got pasta. Maybe it's got spaghetti balls. Whatever it is. But when you squint your eyes, look through that plate, imagine the landscape that grew that food on the other side. And every day when we eat, we get to patronize a landscape that our children will inherit. And my question is, is the landscape that appears on the other side of the plate, is that a better place than today or a worse place than today? Now, I'm not a cultist on this, okay, it's 80-20. You can go eat cake, you can have a Snickers bar once a month. It's all right. But 80 percent of the time this intentional patronage of participatory, daily, incremental, stay with it, stay with it, stay with it patronage of the landscape we want our children and grandchildren to inherit. That will eventually create that landscape.

It won't happen from the top down. It won't happen quickly. And it won't happen if just one person makes a change. No. It happens one decision, one choice at a time. And you and I have the privilege, the *privilege*, the honor, and the responsibility of participating with our ecological womb, this great umbilical. We have the privilege of choosing how we're going to interact with that every day.

AA: Thank you so much, Joel! Is there anything else you want to say before we wrap up, or is that it?

JS: Nope, I'm as happy as a clam.

AA: All right. Well thank you so much for doing this interview! (57:21)