

# Organic Agriculture:

## A Special Interview with Will Allen

By Dr. Joseph Mercola and Ronnie Cummins

**DM: Dr. Joseph Mercola**

**RC: Ronnie Cummins**

**WA: Will Allen**

**DM:** Welcome, everyone. This is Dr. Mercola. I'm here with Ronnie Cummins. We were on our way to a biochar conference, but we decided that we would visit Willie Nelson. No, this is not Willie Nelson. This is Will Allen. He happens to know Willie Nelson. He has a farm (we're here in Vermont), the Cedar Circle Farm. He's been here for 14 years.

We're actually at a time now where he's having his 22<sup>nd</sup> festival. It's actually a pumpkin festival. He's been pioneering this whole process of a relatively small farming community that feeds lots of people, teaching them how to do it (getting back to the basics because there's a movement now more toward urban agriculture), really inspiring people, and giving them the tools and the resources to participate in this.

Thank you for having us and for allowing us to come and visit. We really appreciate it. I'm wondering if you could share with us how you started this whole operation and what some of your passions are.

**WA:** Yeah. Thank you for coming. It's really an honor to have you here. We tried to open up the farm to everybody. The idea is that very few people get to go on a farm. Our idea was, "Let's make the farm a destination." When we first started out, we decided that it's going to be an educational farm, because most of the farmers right now are not producing young farmers. Most of the farmers are coming out of their desire to farm, not because they grew up on a farm. We're trying to train the next generation of farmers and trying to change farming by training that generation of farmers to be organic and to be community-focused.

This farm was designed to sell within a 50-mile radius. We try not to do any wholesale, except wholesale to local restaurants, coops, and markets, and focus mostly on feeding this community. We've been able to do that for the last 14 years partly because the community has bought into the idea that they want to be on a farm and that they want their kids to have a farm experience. Just like the way they changed tobacco, we're trying to change farming through kids. They went to the kids and said, "Get your folks to stop smoking." [And then] "Let's stop using tobacco in the house to start with and in our general lives."

It's the same thing with food. We're trying to get to the parents through their kids. What happens is we have over a thousand kids come on to the farm every year. You see this event today: it's face-painting. It's like jugglers. It's like an enchanted forest. All of this stuff is designed to get the kids to feel like this is an experience they want to go to often and that they want to convince their folks that they need to change the way they eat.

We do a lot of education of kids. We have a farm-to-school program with the local grammar school and high school. And then we have a backyard garden program; we have classes where we teach gardeners.

We also do a lot of support work for the local community gardens, because we feel like this is one of the solutions to the food system. We can get more people to grow their own food and depend on us for the stuff that they can't grow, like artichokes, dried beans, sunflower oil, and all those different things that we grow, and wheat, rye, and those things that take more acreage and take more infrastructure.

**DM:** You don't really have a large operation here; you only have 40 acres.

**WA:** Absolutely.

**DM:** But you're producing food for how many people?

**WA:** Thousands of people. I mean, today there will be over 1,500 people at this festival. We have a CSA, which is community-supported agriculture. It's like a subscription agriculture. We have 200 people who are on that program in the summer. And then we have another...

**RC:** Those are households, right?

**WA:** Right. We have another hundred households that are on that program for the fall. Our farm is open from April 1<sup>st</sup> until the end of October full-time. And then from November until the end of December, it's open every weekend. The CSA pickups are on the weekends.

We've had a lot of success training young farmers. We have several young people and middle-aged people who got trained here and who are now running their own farms. We put them through a program where they have to be here two or three years. But they get paid a regular salary; it's not like an apprentice program. A lot of the apprentice programs are really like... They're like rip-offs in a sense that their wage is ripped off. You get somebody to come there, you feed them, you give them housing, and then you give them a very small stipend.

We give them a regular salary. We pay people really well. This is hard work. All the people that we have here are locals. They all came from the area, except my grandson who lives with us and works on the farm. He's from California, but he has now moved to Vermont. He's going to school here. All of the people who have worked pretty much are from the local area. We don't have trouble getting labor. In fact, we have a big waiting line.

**DM:** You've been doing this for a long time. You've been in this movement for 40 years or so.

**WA:** Right.

**DM:** Can you tell us a bit about your journey and how it progressed to the point where you are now?

**WA:** When we started growing, we were the first organic farm in the San Joaquin Valley.

**RC:** California.

**WA:** In the San Joaquin Valley of California in the '70s. The San Joaquin Valley is where we get an enormous amount of our food. All the almonds, a lot of cotton, all the salad mixes, garlic, onions, beets, turnips – you name it, it's growing in the San Joaquin Valley. It probably produces a third of the fresh food in the United States.

People say, "Well, you can't do organic there." But we found a spot in the San Joaquin Valley. It was up against the hills. We didn't have a lot of drift coming on us. We had a lot of beneficial insects, which is the way we take care of a lot of our pests. We release beneficial insects. But we also try to grow areas where there are already a lot of beneficial insects. We were very successful there as farmers, and grew from once acre to 25 acres there. And then we farmed in Santa Barbara for a while. We ran Fairview

Farms, which is in Goleta. I moved back up North, and we were farming in Patterson, again in the San Joaquin Valley.

I became director of the Rural Toxics Program for the California Institute for Rural Studies. We started doing outreach to mostly the cotton growers, because cotton is the most toxic crop worldwide. This is grown in 85 countries, 55 countries are shipping it, and over half of all the pesticides are used on cotton in the world. We figured this is a crop that we really want to have an impact on. We were able to teach cotton growers how to grow organic cotton, and we did an outreach to 62 clothing companies. Because they had their own market; there's no sense growing organic cotton if you don't have a market.

**DM:** You get a combination of both of those strategies.

**WA:** Right. We did it kind of in the same way the chemical companies do. See, they're drug dealers. I mean, the chemical companies are the old dye companies out of the 1800s, and then they became the pharmaceutical companies.

**DM:** Most people don't realize that. But that transition occurred over a hundred years ago.

**WA:** Right. They're the pharmaceutical companies, and they're basically drug dealers. The way drug dealers sell stuff is they give it away at first, right, until you get hooked. Well, they do. What they do in the San Joaquin Valley is they come out, and they say, "Okay, we've got this new pesticide," or "We have this new fertilizer. You try that for three years on 30 acres or 50 acres." After that time, they're hooked, right? They got that free drug for three years.

We did exactly the same thing with cotton. We got foundations and CALFED Bay-Delta Program, which is a California federal grant program. We were able to give 150 growers 30 acres of cotton that we monitored, and we released the beneficial insects on there the same way that the chemical guys did exactly, you know.

**DM:** Successful model.

**WA:** It's a totally good model. There's no sense reinventing the wheel. That wheel already existed. We just used it, and it was very successful.

**RC:** To produce organic cotton.

**WA:** To produce organic cotton. We got like 15,000 acres in California growing organic cotton before North American Free Trade Agreement (NAFTA) and General Agreement on Tariffs and Trade (GATT) were passed. Once that happened, a lot of the cotton went offshore because it was cheaper to produce it offshore. They used to produce 1.5 million acres of cotton in California; now they produce 750,000 – half of that acreage.

**DM:** Is that even organic?

**WA:** Very little is organic. They went to offshore because we made organic cheaper.

**DM:** Okay. What was the trick to make the transition so you didn't have to rely on the chemicals? Was it the beneficial insects?

**WA:** Beneficial insects were a big part of it, yeah. See, the Integrated Pest Management (IPM) Program was developed at the University of California, the Division of Biological Control. They finally phased it out in 2001. But it was an incredible program that had taught people how to use biological integrative pest management. We were lucky that there were still people who had developed those strategies and who were still living in California when we were doing those projects.

[----- 10:00 -----]

We got [inaudible 10:19] on that program as a young man. He was in his 80s. He would come out and give seminars to farmers, [saying] “Look, all you have to do is grow beneficial insects in your fields. Release certain beneficial insects.”

The adult insects are looking for nectar. They’re looking for nectar so they can have sex, because they have to have this sweetness when they have sex. The nymphs that they produce are looking for meat and chorion. Chorion is the shell of an insect, the outer shell. They need that for their metamorphosis.

The adults need nectar and water to have sex. They’re freaked out looking for nectar. What we do on our farm is try to keep a lot of plants around to provide that nectar. If you look over here at this pea cover crop, it’s full of flowers, which all those insects are eating off of right now and building up that nectar, so they can have sex and they can lay more critters or have more nymphs. The nymphs are what do most of the pest control. What we try to do with cotton growers is teach them that one thing.

The other thing we tell them is close cultivation. See, before they came out with a lot of herbicides after the Second World War, they didn’t have a lot of herbicides except for arsenic, cyanide, and sodium chlorate. Those were the three herbicides that they used before the Second World War. But after the Second World War, they had all these phenoxy toxic herbicides that were related to DDT. Then they started using a lot of those herbicides.

But since they didn’t have a lot of herbicides, they developed a whole bunch of tractor equipment that was effective in taking care of weeds – close-cultivating implements that people had developed. We went back and found those implements and then showed farmers how to use them, so that they can do close cultivation on their cotton.

**DM:** As an alternative to using all these toxic herbicides.

**WA:** And then we showed them how to defoliate cottonseed, because in the ‘50s, they developed the cotton picker. In order to use the cotton picker, you have to defoliate the cotton; you have to knock all the leaves off. What they do is they used these highly toxic nerve poisons, arsenic, and paraquat to knock the leaves off. Five days later, they harvest. The most toxic chemicals are on cotton when it’s harvested. The most toxic fibers from cotton go into the most delicate products – Q tips, tampons, cotton swabs, cotton balls...

**DM:** Underwear.

**WA:** Underwear, the worst.

**RC:** Cattle feed, right?

**WA:** And it goes into cattle feed.

**RC:** Can you explain the connection? The government says that they will allow the use of extremely toxic herbicides on cotton that they won’t even allow on food crops because they say, “Well, cotton is not a food crop.”

**WA:** I know.

**RC:** Can you explain that, how it is?

**WA:** They developed that strategy. But in fact, only 30 percent of the yield of a cotton field is fiber, 60 percent of the yield is seed, and about 10 percent is gin trash. That's the trash that comes off when they cut the fiber off the seed. The seed, 80 of that cottonseed goes immediately into dairy cows because the name of the game in dairy is butterfat content. You have to have high butterfat content, and cotton is high [in] butterfat oil.

**DM:** It's high oil. It helps them make butter.

**WA:** Anyway, what happens is 80 percent of that seed goes right into the dairy cows. The other 20 percent is used to make low-quality oils. Those oils are in junk food, or they're industrial oils.

What we tried to do throughout the whole cotton project is we did show-and-tell bus tours, where we would take the CEOs of clothing companies, university professors, university presidents, and politicians on bus tours every cotton harvest. We start right around now. We give cotton tours through the San Joaquin Valley for a month.

Nike paid for those tours. Patagonia paid for those tours – and Esprit. A whole bunch of clothing companies bought into the idea that they wanted to have a line of organic cotton clothes. Patagonia has switched over completely. They don't use anything but organic cotton. Nike started switching about three percent at first and then 10 percent. Now, I think, 18 percent of the fiber in all of their clothes is organic cotton just to try to create a market. But now, most of that cotton...

**DM:** And you were responsible for catalyzing that movement, weren't you?

**WA:** Well, I was... I helped. I helped, yeah.

**DM:** We appreciate those efforts. Now, one of the other things you teach here is that... Your operation is really designed for more of a small farm. It's an alternative to thousand-acre farms where they are just producing these monocrops. One of the tools that you teach people is that you don't have to buy all these new expensive equipment and that you could purchase older equipment and renovate it. Can you describe how you're implementing that process?

**WA:** Because so many of the tools that people used to take care of weeds... Weeds are the biggest problem in agriculture. I believe about 70 percent of all the pesticides used are herbicides. Since all of these inventors had developed all of these tools in the '30s, '40s, and '50s to take care of weeds, we went back and found all of those old tractors. We have an Allis-Chalmers jeep that was built in 1948. It's mostly just a frame with an engine on it and cultivating equipment. Cultivating equipment is weeding (that's what they call weeding in farming). What we did is we adapted that tractor. We have to switch that tractor over to electric. That's what we're doing with a bunch of the small tractors.

**RC:** It's a solar electric.

**WA:** It's a solar electric, yeah. We have photovoltaic panels and then we switched that tractor over. It's the favorite tractor of all of my staff. Everybody fights to use that tractor. I said, instead of fighting, let's switch over more tractors.

**DM:** What's the reason? Because of less noise, less pollution, or less problems for the crops?

**WA:** They're really efficient.

**DM:** Okay.

**WA:** You can use it for five straight hours of cultivating, which is about as much cultivating as you want to do that day.

**DM:** Wow.

**WA:** You just plug it in, and in five more hours it's ready to go again. Our strategy is to switch over more tractors to electric because they have more torque than a gas engine or a diesel engine. They're really quiet. You don't have exhaust coming in your face all the time you're driving the tractor. You don't have that noise. I mean, when you're driving other tractors, you have to wear earphones because they're so noisy.

**DM:** Is this conversion process hard to do?

**WA:** You know what, it isn't. Really most of the stuff is off the shelf.

**DM:** Okay.

**WA:** It's mostly golf cart. They have this company called Aurora, which makes a lot of these intermediate-sized utility vehicles. They're like pickups and stuff. Those things are 72-volt engines. The one we have right now is 48 volts, and it's plenty. But the bigger tractors we'll switch over with the bigger motors.

**DM:** Do you have any recommendations for someone who has a smaller farm of 10, 20, 30 acres or maybe a bit larger, and who is interested in using these techniques as an alternative to the use of herbicides?

**WA:** Yeah. We make available all the stuff that we do. If somebody wants to learn how to do something, we would be glad to go there and help them within, you know, we'd go 200 miles. We don't want to go much further than that because there are other people in their area who know that.

**DM:** Sure.

**WA:** We try to keep it fairly local. But we meet with a lot of farmers and try to help them make the transition.

**DM:** But you're open to people coming to visit you and your farm?

**WA:** Oh, yeah. We've started giving more and more workshops on actually tractor maintenance, tractor management, and how you manage weeds in this field. That's the same thing that we do on the cotton project, except that we're doing it here for mostly vegetable growers.

**DM:** Terrific.

**WA:** We're kind of not opposed to meat, but we want people to cut down dramatically on their meat. They need to cut their meat in half because right now, in this country, we eat around 12 to 14 ounces of meat a day, which is really a lot of meat.

**DM:** It's about three times the amount of meat that you really need to stay healthy. And actually if you have too much of any nutrient, meat being just one example, you're going to run into physical complications.

**WA:** Yeah.

**DM:** I'm not a believer of the vegan diet. I think we need some animal protein. But I think most people are consuming far too much.

**RC:** Can you talk about the difference between factory-farmed meat and grass-fed meat?

**DM:** Oh, yeah. Or pastured meat.

**RC:** Pastured meat. I mean, that's been a big subject in Mercola over the years, to say that factory farming is bad for you, period.

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**DM:** You can probably talk about this Ronnie. You're probably more expert at it. In fact, as you were explaining to me in the car today... You and I have been working on this GMO labeling to eliminate or to certainly get people the choice whether or not they want to consume it. But the reality is that's only 20 percent of the use of GMO. Eighty percent of the GMO plants that are being used are actually used not for agriculture, but for animals.

In fact, it's even worse because 40 percent or 43 percent of the corn that's being used is going to make ethanol. I mean, it's not even a human food product. It's a ridiculous use of trying to have a biofuel. It's just a perversion of what is a wise stewardship of the resources that we have. I think that it's an even more important concern and a reason why we have to pay attention to these issues and have practical options that can eliminate this, like [what] you're developing here.

**WA:** I built this chart for an article that Ronnie and I wrote on climate chaos and agriculture.

**DM:** You're actually writing a book on that, too, aren't you?

**WA:** I am writing a book on that. On this chart, you'll see that 92.5 percent of our acreage is devoted to animals or food for animals. Only 7.5 percent of our acreage is devoted to food that goes directly to humans. We're completely out of phase. We're completely out of kilter with the environment in terms of what we're producing and what we're eating. I mean, we're eating all the wrong things. That isn't to say that some of those things couldn't be right if we're eating them in moderation. It's not like you got to give up meat; it's just like, "Wait a minute, can your body take this? Can the planet take this?"

**RC:** We need to cook organic, not the planet. Part of this is we have to stop eating factory-farmed meat and animal products, period. Factory-farmed meat and animal products: (1) they're not good for you. (2) The animals are treated horribly. (3) The farm workers or feedlot workers are generally exploited. (4) It produces methane. (5) The feed for the animals, it's unnatural – grain being fed to cows. (6) It's genetically engineered. (7) It's chemical-intensive. (8) It's nitrogen fertilizer. It's an abomination, and yet over 90 percent of the time, when people buy food – meat, dairy products, or eggs – in the grocery store and 95 percent of the time they eat in a restaurant, you're eating factory-farmed meat and animal products.

When people ask me, "What should I do about the climate," I feel helpless. It's like I can't as an individual stop the coal industry from operating. I can't stop that XL pipeline by myself and so on. The number one thing people should do is boycott all factory-farmed meat and animal products, boycott all genetically-engineered processed foods, and eat organic every chance you get.

**WA:** We're exposing ourselves to such a disease problem because 80 percent of all the antibiotics that are used in this country are used on factory-farmed animals, right? What we're finding is that the farmers, the farm workers, and the animals are becoming antibiotic-resistant – and so are parts of the population. My sister just died from antibiotic resistance. They could not control five major infections in her system because she had eaten this crappy meat for most of her life, and it was full of antibiotics.

It's been full of antibiotics since the '60s. I mean, this is an old problem in agriculture. It has finally come to a head where people are starting to realize, "Look, we're getting antibiotic-resistant." The same

antibiotics that we would normally use as medicine in a crisis are now not effective. They're no longer effective.

**DM:** I agree. A big and important part of this for the people watching this is education: to know about this, to learn about it, and to apply these principles yourself. But a few years ago, I realized that education was only a small part of it. We connected with Ronnie. We were active in catalyzing the projects for labeling GMOs. We took the next step: political activism. We haven't really taken that step with confined animal feeding operations (CAFOs) yet. Maybe you can discuss that because that is the next step after we get this GMO process underway and because it is massively important.

As we're filming this, yesterday was the second March Against Monsanto. Shockingly, the people there, where there were marches, were approaching people in their cars. And for a lot of the communities, 90 percent of the people that they approached didn't know what a GMO was. There's a massive education problem. Yes, if you're enlightened, you're aware of this and you're conscious. But most people are just completely ignorant. There's an important need, a desperate need, to go beyond education.

**RC:** Once people regain their right to know whether their food has been genetically engineered or not... If we can force the labeling of genetically engineered meat and animal products or animals that were fed genetically engineered feed, you know, the CAFO life in general, if something has to declare whether it's from a factory farm or not, consumers, not all of them are going to stop buying these products, but a lot of them are going to start to think.

The five percent market share for grass-fed meat and animal product (it's a little higher than five percent for dairy and eggs now) is going to grow. People are going to end up eating 75 to 80 percent less meat and animal products. They're going to start choosing raw meat and dairy – pastured eggs and pastured pork. Environmentally, it's going to have a tremendous impact, too, because once animals can get back on the land and graze, it's going to cause a change in the grasses, the environment, the root structure, the sequestration of carbon, and we can hopefully bring back the climate back into balance.

**DM:** Yeah, because it'll remove the deserts, too. It'll convert the deserts back to grasslands.

**RC:** Exactly.

**WA:** Ronnie and I have been talking about this CAFO thing and have been trying to dramatize it for some time now. One of the ways we dramatize things, as I said in the cotton project, was bus tours, like a bus tour to CAFOs in Vermont. See, they don't have a disparagement law in Vermont. Disparagement law says that you can't say anything negative about agriculture in that state that has passed that law. But we don't have a disparagement law in this state. You can go to these dairies.

**DM:** You can't get fined and maybe even arrested for telling the truth.

**WA:** That's exactly right. The thing is once you go to those dairies ... See, so many people in this country are animal lovers. We spend more on dog food than we spend on welfare. Here, people who are really concerned about their animals, if those people go to one of these CAFOs or if they see a video of one of these CAFOs, it completely blows their minds because the animal abuse there is enormous.

**DM:** Haven't they made it illegal to film those?

**WA:** They have made it illegal in certain states.

**DM:** Okay, not all states.

**WA:** Not all states.



**DM:** Okay.

**WA:** We have this time period where we can get into these states. That's what we do in California. We would drive right into the dairies. You would see like 50 animals laying dead along the side of the dairy. They're just factory prisons. I mean, you see the animals, they pace back and forth in front of the door of their cage just like prisoners do. That's what the animals do. They could see. These guys, they know that they're prisoners. They know they can't get out of there.

The way they treat them, they prod them with electric shocks. They beat them. They push them onto the slaughter line. If they're down (the cows), they're still pushing them onto the slaughter line to kill them. It's against the law to kill a cow that can't walk. It's against the law to kill any animal that can't walk. They are so greedy for the money, they're not afraid of pushing them onto the slaughter line. They don't know what's wrong with them. They just know that this is 500 pounds of meat.

One of the really interesting things is that the Food and Drug Administration just sped up the chicken inspection line from six seconds to three seconds. You get three seconds to look at that chicken. Well, now, what can you see in three seconds? I can tell you, the chickens get 600 diseases, right?

The Consumers Union did a study on chickens two years ago. They did 500 chickens. Of those 500 chickens from all kinds of different processing plant, only 17 out of 100 chickens didn't have *Campylobacter*, *Listeria*, or *E.coli*. Here, all of those chickens were not edible really. I mean, you put those on your drainboard, that *E.coli*, that *Campylobacter*, [and] that salmonella are going to be on your drainboard.

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Here we are in a situation where most of the meat that you're eating is toxic. Most of the meat that you're eating could be deadly. For some reason, the Food and Drug Administration and the United States Department of Agriculture decided over a hundred years ago that they were not going to penalize farmers for bad practices. Upton Sinclair wrote *The Jungle* to bring out that issue in the meat packing industry. But it's continued.

The Consumers Union showed this in the '30s in *One Hundred Million Guinea Pigs: Dangers in Everyday Foods, Drugs, & Cosmetics*, which was the first book they wrote. In that book, they found that arsenic and lead poisoning was common in the culture. Almost everybody had arsenic and lead poisoning from pesticides because those are the first pesticides that they used. They tried to use arsenic in 1867 and lead in the 1890s to take care of the gypsy moth. These chemicals are old in the toolbox.

**DM:** Now it's fluoride. Fluoride is the new kid on the block. Not only do they put it in the drinking water, but it's in many of these chemicals that are being used in agriculture that wind up in the foods.

**WA:** Right. It's a terrible poison.

**DM:** All right. One of the reasons I'm so interested in agriculture is that I view this as kind of like a third career choice for me. Because I've always been interested in health – I went to med school, I [became] a physician, and then I transitioned into educating people. But now I'm realizing that there's this massive connection. I've always known it for a while, but to be intimately involved with the production of your food, going into high-performance agriculture and the relationship between the food that you eat and the health that you enjoy.

I mean, we have obesity just being recently classified as a disease. That is just crazy nonsense. It's just really a reflection of the food that you're eating. The majority of the typical commercial agriculture today is directed toward producing high crops like corn and soy that are really being used for industrial food

operations and food processing, and then being fed to the animals. I'm wondering if you could address that or comment on that approach.

**WA:** The food companies have hit on several clever advertisements. They hit on them early on. The farm magazines used to be all owned by populous up until the 1880s.

**DM:** Populous is a company?

**WA:** "Populous" is more like...

**RC:** "Populous" is small farmer groups.

**WA:** Small farmer groups, right.

**DM:** Okay.

**WA:** All of those first farm magazines from about the 1819 until 1880, those were all populous magazines that were looking for ways to improve infrastructure and improve social roads, bridges, canals, and so forth. Those magazines focused on developing a better agriculture. In the 1880s, the publishers around the country decided, "Farm magazines are a great area for us to expand on." They bought up those populous magazines. Right away, they started putting in chemical ads. The populous eschewed the chemical ads up until the 1880s.

When the magazines got taken over, the magazines decided they were going to give the magazines away. The publisher said, "Let's give the magazines away, so we could have higher subscription rates, and then we could get higher dollar ads." That's what their strategy was since the 1880s. They decided to go into bed with the chemical companies and so did the United States Department of Agriculture. In 1906, the Food and Drug Administration was created, and it was placed under the Department of Agriculture.

In 1894, the Department of Agriculture wrote a paper called "Bulletin 127." In that bulletin, they suggested that farmers use arsenic, lead, and sulfuric acid as pesticides. When the Food and Drug Administration was put under the Department of Agriculture, the Department of Agriculture said, "Don't regulate arsenic, lead, sulfuric acid, or any of the other chemicals that farmers were using, because we don't want to penalize farmers." They became an advocate for farmers, and so did the Food and Drug Administration. They refused to outlaw arsenic until 1976.

**DM:** Two generations.

**WA:** Here we are, 109 years...

**RC:** Still being fed the chickens to this day.

**WA:** Still being fed the chickens. The FDA just gave a variance to cotton growers because they found out that the only thing that would control palmer pigweed, which is a pigweed that developed after they started using Roundup Ready crops (these genetically modified crops), could not be controlled by any of the other herbicides. They started using 2,4-D. They started using paraquat again. They started using all of these chemicals that they've used previously that have finally been outlawed. But they gave a variance. The Food and Drug Administration, the Department of Agriculture, and the Environmental Protection Agency (EPA) have given variances on all of these chemicals.

The public is not protected by their agencies. I mean, the regulators refuse to regulate. Here we are with the problem. The people that are going to take care of this are us. It's really up to us.

A lot of the publicity you get from all of the chemical companies and Big Agriculture is that we have the safest and cheapest food on the planet. They give you all these figures. We're only spending 10 or 12 percent of our food or our disposable income on food.

**DM:** Right. Or even less! I think it's close to seven percent.

**WA:** The thing is people think, "Oh, yeah, I've got cheap food." But my argument is this: look, organic food is the cheapest food on the planet. It is because you only pay for it once. You pay for chemical and genetically modified food at least five times:

(1) The first payment you make for is at the supermarket; I call that the downpayment.

(2) The second payment is at tax time, and it costs the same as the first one. Eighty percent of our food in this country these days is processed food. Processed food is corn, cotton, soy, canola, rice, wheat, and sugar. They eat up 98 percent of all the subsidies. Those subsidies are paid for on tax day. You pay for those subsidies on tax day. You effectively pay the same price that you paid for all of those products when you pay the first downpayment.

(3) The third time you pay for it is when you go to the doctor. In the last 20 years, an average of 60 million people have gotten food-borne illness in this country. About 200,000 over that 20-year period have gone to the hospital. Now you're talking about some real cost for food, right? As soon as you go to the hospital, prices soar. You know that; you're a doctor. You're paying for that when you go to the doctor. About 5,000 to 6,000 people a year die from food-borne illness. It's a serious national problem that we can't ignore.

(4) The fourth payment is the illnesses that you get from it. Heart disease, diabetes, stroke, cancer, obesity – all of those are food-borne illnesses. They're also exercise-borne illnesses. But they're also food-borne illnesses first. It's what you eat that is making you sick.

(5) The fifth thing is who's going to clean up that farmland when the farmer leaves? Those guys are going to go bankrupt as soon as you tell them to clean it up, just like they went bankrupt on Wall Street, just like they went bankrupt in the J.P. Morgan industry. We're going to clean that up. We're going to pay for...

**DM:** Yeah. The half-life of these chemicals is in the decades.

**WA:** I know. It's insane. It's totally insane. We've been trying to say this for a long time. We've been trying to show... You can't just say it; you have to show it. That's what this farm is about. Look, all the food that you get here is organic. When we first switched this farm over, it took us about three years to get over the "hangover," I call it, the chemical hangover that the land has. What that hangover does is it kills all of your beneficial organisms. It kills earthworms. It kills soil microorganisms.

For us, organic is all about increasing the organic matter in the soil because the organic matter in the soil is what feeds the soil microorganisms. The organic matter in the soil, which is what we have to increase on all of our land, is what enables us to sequester carbon. We need to bring that carbon that's in the atmosphere back into the soil. There are five soil pools in the world: farmland, forest, atmosphere, ocean, and fossil deposits. Those are the only...

**RC:** Carbon sinks.

**WA:** Carbon sinks that we have. The carbon sinks for agriculture and the forest are bankrupt because we've overcut our forest, and we've farmed badly for the last 150 years. We have to correct that, and we can correct that quickly. When we first had this piece of ground, we had organic matter just below one percent.

**DM:** Which is pretty typical for a typical commercial agricultural project.

**WA:** Yeah. Now it's at four [percent].

**DM:** Okay.

**WA:** And if you have four percent organic matter, you get a hundred pounds of nitrogen just from the critters that are in your soil, the soil microorganisms. Those soil microorganisms are the best farm laborers in the world because they work 24/7. They have no days off and no vacations.

[----- 40:00 -----]

**DM:** No benefits.

**WA:** No benefits – they give us all the benefits.

**DM:** Yeah. That's great.

**RC:** But you know, a lot of us don't realize that, all right, we've got to stop putting greenhouse gas pollution up in the atmosphere, because if we don't, we're going to see some runaway global warming, these problems. But even if we stop putting greenhouse gas pollution up there, we still have a hundred billion tons too much carbon; we're 367 billion tons of CO<sub>2</sub> too much. How are you going to get it from the atmosphere back to where it used to be – in the plants, in the trees, and in the ground?

We're going to do this by exponentially increasing plant photosynthesis, because plants suck down CO<sub>2</sub>, release oxygen, and secure a considerable amount of carbon through their roots into the soil. Organic agriculture, rotational grazing of animals, taking care of the forests we have, you know, reforestation, and restoring the wetlands – we can suck down that hundred billion tons of carbon from the atmosphere and put it where it belongs naturally. If we do that, we can restabilize overtime the climate, and we will also have much more fertile land, healthier food, healthier animals, and healthier people.

**DM:** If we enlighten people and make them aware of this, and overcome the media deception and fraud that's similar to what the tobacco industry was doing back in the last century, we can make it change, we can make a positive difference. But this is all about becoming enlightened and conscious of what's going on.

**WA:** Yeah, I think that's totally true. I think that people are not aware of how dangerous their food system is. They just aren't. Because you don't hear it on the media; it's not discussed in the media. The media has a blackout really on criticizing food. The Left has got probably a bigger problem as the Right. I mean, if you read *The Nation*... I mean, I read *The Nation* every time it comes out from cover to cover, and I hardly ever see a food article. It's like, "Don't these people eat?" Almost everybody does three meals a day. Couldn't you even have three articles a year on food? It's not discussed.

The public doesn't realize that 51 percent of our greenhouse gasses come from agriculture. They think it's a coal problem. They think it's a car problem. They think it's an industry problem. Those three things only make up 49 percent of greenhouse gasses. I mean, agriculture [inaudible 42:58] all three of them. You know what I mean? We're always talking about it. It's up to us to talk about it and to tell people, "Look, you can fix this quickly."

On this piece of ground that we are farming right now and on other pieces of ground, in three years, you can bring the organic matter. You can triple it in three years. It's just by adding cover crops with your fertilizer crops that we plough into the ground. Take advantage of those fertilizer crops that produce all of our fertilizing materials.

**DM:** I want to conclude this by thanking both of you. You're both legends in what you do, and you've been major pioneers. Ronnie Cummins, of course, with the Organic Consumers Association (OCA), a really inspiring political activist to get things done and really one of the main leaders in the GMO labeling movement and the CAFO labeling movement to come. And then of course, Will, with your farm here, the Cedar...

**WA:** Cedar Circle Farm.

**DM:** Cedar Circle Farm in East Thetford, Vermont. How can people get in touch with you if they want to learn more information?

**WA:** We have a website. It's [www.CedarCircleFarm.org](http://www.CedarCircleFarm.org) and we're in the Lonely Planet travel guide for this area. They'll tell you how to get here. The train stops right at our farm on Thursdays, Saturdays, and Sundays. Today it brought 300 people to our festival. You can get to the farm pretty easily. Most people in this know where it is. Come here and shop.

**DM:** All right. Thank you for all that you've done. You're real inspirations and models to all of us. We're looking forward to your continued work in this area.

**WA:** We really appreciate you.

*[END]*