

The Gospel of Seed and Soil: Liz Garst

Interviewee: Elizabeth Garst

Interviewer: Brian Campbell

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LG: I think one of the sad things about rural America now is the decline of the better educated and more worldly people. In my grandparents' day, discussion club met once a week or something like that and read books and discussed the great issues of the day. They had educational peers. A lot of them. And culturally experienced people. In today's world, there are less well-educated people in little towns. Less worldly people. The poverty level is much higher than when I was growing up. That makes it harder than in my grandparents' day. The towns have declined intellectually, frankly. There aren't jobs for people here with advanced degrees like there used to be, or career opportunities.

BC: Liz Garst comes from a family of educated, worldly people, who from the little western Iowa town of Coon Rapids have helped shape the nature of farming in the Midwest and beyond. She is the granddaughter of Elizabeth and Roswell Garst, the hybrid seed corn salesman famous for hosting Soviet Premier Nikita Khrushchev at their farm at the height of the cold war. And now, she helps manage that same farmland as Whiterock Conservancy, a land trust that is modeling how ecological restoration, outdoor recreation, and sustainable agriculture can coexist to support a thriving rural landscape and economy.

Like others we've interviewed on this season of the podcast, Liz left the Midwest for a while, pursuing advanced degrees and career opportunities that took her to the east coast and west coast, South American and Southeast Asia. But she always knew she'd come back to the homeplace one day, and she did, in the 1980s, to help her family deal with farm debt that was threatening their farms and others. This is her story of coming home, and the story of generations of agricultural transformations.

Liz was gracious to welcome me into her home and she generously treated me to lunch at the local bowling alley... the best burger in town, and really the only places to eat in Coon Rapids. It's not always easy for her, being back. It's not always easy being so close to family, and back in each other's business. But Liz has embraced small town life, grateful for the innovative, hardworking agricultural pioneers who came before her, and passionate about finding a sustainable future for rural farms and communities.

I'm Brian Campbell, and this is Mid-Americana: Stories from a Changing Midwest

EG: The home farm in Coon Rapids, the original farm of our family, was always known as the apple farm because they planted a lot of apples. They also invested in property in Roswell, New Mexico. They started an apple orchard there. There was an apple boom briefly because the climate is not long-term good for apples in Roswell but it was fairly warm and wet and wet for a while. So, they had an apple farm in Roswell, New Mexico and they learned that the railroad was coming through their property on the day that Roswell Garst was born. So, he is named after Roswell, New Mexico not because of UFOs but apples.

My great grandfather really wasn't a farmer but Roswell, my grandfather was intensely interested in Agriculture even as a kid. And in fact, he moved on to the farm as a teenager. He moved out of his parents' home and started farming very young. Both his parents, my great grandparents had graduated from college. They sent Roswell to college five different times but he never made it. He always was dropping out to get back to do the experiments on his own farm.

BC: He started a dairy operation and took an interest in chicken and cattle genetics, but soon, he took even more of an interest in a girl, named Elizabeth, whom he met on a blind date.

EG: When they married, they'd only met each other in person like four times. She'd never been to the farm. She married him, came to the farm. Word was she cried for like a week straight. She did that, she had married a farmer which she'd vowed she'd never do. She wanted a city life and here she was on a farm in Coon Rapids. 11:04 So she started nagging Roswell, "Let's go to the city." He finally agreed. They moved to Des Moines in the mid-20s to start a residential real estate project. He still owned the farm though and Roswell kept sneaking back to the farm on weekends using hired hands to run it 11:25 ~~in the interludes~~. In 1929 their housing project went broke. 11:31

Fortunately, they had not mortgaged the farm and Roswell put down his foot and said, "If we are going to be broke, let's be peasants, not poppers," and insisted they move back to the farm."

BC: During their time in Des Moines, the couple was in the same social circles with Henry Wallace. One of the most prominent Iowans of the era, he served under Franklin Roosevelt as Secretary of Agriculture, Secretary of Commerce, and Vice President. He even ran for president in 1948.

EG: 13:32

But his real claim to fame in Iowa had nothing to do with Roosevelt or politics. It had to do with development of the transformative new technology in agriculture, hybrid seed corn.

The science of hybrids had been understood for 10, 15 years but Wallace applied it to corn which is unusually responsive to hybridization and he understood it was a business that you could sell hybrid seeds. And hybrid seeds had great business because you have to remake the product every single year.

14:08

Farmers can't save seeds and call it a hybrid. That's not hybrid. 14:12 You have to start over every time so 14:15 it's a wonderful business that farmers have to buy the seeds every year. 14:18 He started pioneer, what became pioneer hybrid seed corn in 1926. Roswell knew Henry Wallace socially and so immediately got his hands on some of this new product; tried it on the farm and when they moved back to the farm in 29, Roswell said to Henry Wallace, "I want to produce and sell your product, hybrid seed corn in the Western corn belt. Your product is great." 14:47

EG: So Roswell was one of the very early people to be involved in hybrid seed corn and hybrid seed corn is absolutely transformative in US agriculture. It doubled yields overnight. It just instantly made corn a much, much more productive plant. And in addition to just having that doubling of yield, hybrids permitted mechanization, we were still handpicking corn in 1929 because they couldn't invent a harvest machine to harvest open-pollinated corn. Open-pollinated corn could be 10-foot tall and 2-foot tall, three ears on the stalk, no ears on the stalk, ears higher on the stalk or lower on the stalk and because it had bad roots and stalks, it just often fell down before harvest. It lodged, in farmer words. And they hadn't been able to invent a machine smart enough to get this corn way high, way low on the ground. It was just too uneven.

And we weren't mechanized at all because harvest was the labor bottleneck. No point mechanizing unless they'd figured out harvest. An innate feature of hybrids is that they are uniform. Every plant is the same height. There is the same number of ears on the stalk which might be one or two but always in the same spot. The plants were naturally more vigorous because of the heterosis of hybrid seed corn.

And the first thing they bred into hybrid seed corn other than the genetics of hybrids itself was the stiff stalk gene out of Iowa state. And once they invented that then they could invent the corn picker. Once they had the tractor for the corn picker, they had the tractor to plant and cultivate too. But we didn't really mechanise corn production until we had hybrids. So, Roswell was an evangelist for hybrids and then for mechanization.

BC: He partnered with the Thomas family, also from Coon Rapids, to launch Garst and Thomas Seed Company. Roswell traveled across the country promoting hybrids and mechanization. He was also one of the first to apply large amounts of fertilizer. After WWII, he helped create a huge new market for nitrogen, which had previously been used to make bombs. He had a knack for this kind of innovation - using whatever was available to maximize agricultural yields.

EG: A byproduct of the seed company was corn cobs. Even today, seed companies harvest seed corn on the cob. It helps protect the germination during the drying process. And then after it's dried, it's shelled out. So there is a big corn cob pile by every seed corn plant. The Coon Rapids town plant was the world's largest seed corn plant. Not the largest company but the largest plant and therefore, Coon Rapids has long sported the world's largest corn cob pile, a

great asset when I was a kid, sliding down the corn cob pile with all the other kids in town on sheets of cardboard.

BC: How big is this corn cob pile? I mean, give me a sense. What does the world's largest corn cob pile look like?

EG: It was huge. We, of course, don't have it anymore. It's not the world's largest now. But it would be multiple stories high. It would be...I'm not good at distance but it would be 10 stories high maybe.

BC: And you would climb up it with your cardboard?

EG: Yes. You would climb up it on the backside of it always parents all knew that the cobs could rot and that there would be air pockets that you could fall into in this cob pile and so parents and people at the plant always wildly disapproved of kids climbing up it. So we would just go around to the railroad trackside where no one would see us. It was big enough. Like you could get the other side and no grown-ups would see you.

And it was great. It was fun to go up there and slide down. Once, I was doing it with my brother and we always just before school started, we did our big trip to Des Moines every year. We went to Des Moines shopping once a year to get new school shoes. I had flat feet, so I had to buy orthopedic shoes and so did my brother. And shortly after that, after school we were doing the cob pile and my brother, in fact, falls in the air pocket which was the one and only time it ever happened.

And I'm there and I drag him out, you know, he is up to his elbows in cobs and I drag him out of the cob pile and he is fine except one of his brand new school shoes is missing. We rustled around. I mean, it's a cob pile so cobs are just falling on top of you. So we go home and my mom immediately notices that we are missing a school shoe and orders us back to find it and it's like, "Mom, it's dangerous." She is like, "I don't care. Go back and get your school shoe," which we couldn't do and had to go back to Des Moines for a second time in a year to get him new school shoes.

BC: To Roswell, the cob pile was another problem with a creative, and potentially profitable solution.

EG: At first it was no problem to us because the cobs were sold every fall to local people to heat their houses. Corn cobs were the fuel. It's how we stayed warm every winter and all over the midwest for a long, long time. But in the mid-40s, late-40s, a crisis started developing because we got fuel oil and fuel oil was so cheap and so much easier to handle, so much cleaner than corn cobs that rather quickly, everybody converted their cob furnaces into fuel oil furnaces and the demand for corn cobs just disappeared.

Nobody knew what to do with them. There were jokes about outhouses, but they were rough and dusty and people had Sears and Roebuck catalogs - much better than corn cobs in an outhouse. And they could be put on muddy roads but that didn't work. They could be used as livestock bedding but really very rough and dusty, not good livestock bedding. So Roswell was seeking a solution about what do you do with corn cobs and started fooling around with you can feed them to a cow. They are cellulose. And he figured out that properly supplemented with urea, which is nitrogen which ruminant bugs can make into protein basically, the ruminant bugs are protein basically. They could be cattle feed and animals on this diet wouldn't get fat. There is no carbohydrate in this diet but that they could survive. And from there, he went to the idea that midwest farmers had lots of cheap feed and we should have our own cows right here in the midwest, feeding the offal or the cellulose of the plant which is the stalk, the leaves, the cob to cows and then the yellow stuff, the grain itself to the calves to get them fat.

So that was another real big passion of his.

BC: Innovators like Roswell Garst helped create the Midwest we know today, the corn belt with intensive, highly mechanized agriculture, mainly geared toward producing feed for livestock. And Garst was also a key player in selling hybrid seed and this model of agriculture beyond the region, even behind the iron curtain.

BC: So, your Grandparents are obviously known, especially for this citizen-diplomat role that they came to play. How did they first make connections with the Soviet Union? What do you remember about that? What stories have you heard about that?

EG: Well, I think the first comment is that it is important to remember the role of Henry Wallace who didn't have a direct involvement in Roswell's connection to Khrushchev, but provided that the philosophical underpinnings that made it possible from Roswell's side. Henry Wallace ran on the Progressive ticket, the third party ticket, in 1948. The Progressive party had 2 main planks. The first was racial equality in America, which I think is very interesting, and that because Henry Wallace, one of his professors at Iowa State and a person who actually lived in his house, his parents house, George Washington Carver, who became the famous peanut breeder, but started out at Iowa State, and was a very important person in Henry Wallace's life. Out of that, I think, he got very interested in racial equality in America. The other and even bigger plank of this party was the idea of how should we deal with the scary Soviet Union wasn't that we should be building more nuclear bombs, but that we should be reaching out to them by having cultural and educational exchanges. He even advocated that we should share technology with our enemy. That we should bring them to our bosom. So, Roswell was 10 years younger, 11 years younger than Henry Wallace, but a business partner. I'm sure that Roswell got his basic philosophy right from Henry Wallace as kind of a background piece.

How the Khrushchev story happened. The first part of it was that Khrushchev clearly got the reins of the Soviet Union by 1955 and shortly after he became the clear boss, he said the Soviet Union needs an Iowa Corn Belt and he named Iowa by name. That we needed an Iowa Corn

Belt. He named Iowa, not just because of his ability explosion and productivity in growing corn, but also Iowa was famous for our ability to feed the corn to livestock. We were the Kings and Queens of meat, milk, and egg production. That is what attracted Khrushchev's attention. He was desperate for meat, milk, and eggs for a better diet for his people. Somehow, I don't know how, but he knew that Iowa was the center for this ability to grow corn and feed it to livestock. That comment got a lot of press around the world cause no Soviet had said anything nice about the U.S. since before World War II. And here this new Soviet leader was complimenting us. So that comment got a lot of press. And out of that, a man out of the Des Moines Register, a man named Lauren Soth wrote an op-ed in the Des Moines Register. It won the Pulitzer Prize. It was written as an open letter to Khrushchev, through no letter was mailed to Khrushchev, it was an op-ed for Iowans. What is said was you're right, we have great agriculture here and Mr. Khrushchev, you should send a delegation to Iowa to learn how to grow food so we can compete economically instead of by this stupid arms race. Although no letter was mailed, the Soviet spies read the Des Moines Register because they were interested in U.S. agriculture and the Des Moines Register was the agricultural newspaper of the United States. They noticed this op-ed, translated it, gave it to Khrushchev, Khrushchev picked up the phone, called the U.S. State Department, and accepted the invitation to send a delegation to Iowa. The State Department had no idea what he was talking about because they did read the Des Moines Register.

BC: It was controversial, but Iowa's governor and congressmen supported the idea, and eventually the State Department allowed for a Soviet visit to the Heartland. Roswell followed the news, but was frustrated to hear that Iowa State University and the Farm Bureau was only showing the delegation small-scale family farms without mechanization or hired labor, as opposed to farms like his incorporating new technology. He arranged to sneak one of the group to his farm, Soviet Deputy Secretary of Agriculture Vladimir Matskevich, stealing him away from the rest of the group to show him demonstration plots of hybrid corn with different fertilizer applications, demonstration pens of cattle on different kinds of feed. Like the countless Midwest farmers who had visited the Garst farm in Coon Rapids, Matskevich was sold.

EG: Shortly after the delegation returned to the Soviet Union, a letter came from Khrushchev directly to Roswell inviting him to go to the Soviet Union in order to sell them hybrid corn seed. There was a delay because Roswell wanted to make sure he could in fact export the corn to the Soviet Union and so he went to Washington and asked the State Department to give him clearance for export license. The State Department at first said nothing. They had no policy on trade with the Soviet Union. There had been no trade since World War II. So, there was no policy. They got around to saying no that that would be a sharing technology with our enemy. Roswell brought into gear the Iowa lobby, the Governor, the Congressional Delegation, he hired a lobbyist in Washington, D.C. to press the case. Finally, the State Department gave clearance for export licenses.

BC: And so Roswell travelled to the Soviet Union and met with officials there, including Khrushchev. He sold them on hybrid seed, but also tried to sell them on farm machinery and

buildings, grain storage, fertilizers, and investment in agriculture as opposed to the arms race. But according to Liz, it was not just these policy conversations but the personal connection that was important. Khrushchev had never really met ordinary Americans before the Garsts.

EG: It was my Grandmother who invited the Khrushchevs to come here. She had travelled with Roswell, had always travelled with Roswell. Together they had met the Khrushchev family. Stalin and Lenin were too tough to have family. They did have families, but they were never introduced to the world because these were iron men. But Khrushchev was really interested in the word we now have 'detente'. That was not a word then, but was wanting to lower the heat. He didn't want to have World War III. One of his campaigns to that effect was to let the world know he was a family man, which he was, and his first step in that campaign was to introduce his family to my grandparents.

My Granddad was not refined enough to say please come visit us, but my Grandmother knew her manners. "It's been so nice to meet you and your family. We loved being entertained in your home. Please won't you come visit us. We would love to have you meet our family." She was a lady. She never thought in a million years, that the head of the Soviet family would show up in Coon Rapids in the dead center of the Cold War, but she invited him and they accepted.

BC: This Iowa nice invitation meant something to Khrushchev, and not just personally but also politically. He saw the friendship as an opportunity to send a message at home and in the U.S.

EG: He liked Roswell. In turn, trusted Roswell. Nina Khrushchev liked my Grandma. Those two ladies were very much alike as well. Both well educated, much better educated than their husbands, devoted to their family, but the kind of ladies who read the paper every day and knew what was going on. Both of these ladies, working their entire married lives on taking some of the rougher edges off their husbands and both of them being very unsuccessful at that effort of trying to make their husbands refined. But the real reason we think he came here, was that he sent delegation after delegation to our farm and other agriculture institutions around the midwest between '55 and '59 and very little was happening. The problem was all good communists would be politically terrified to be seen talking to a known capitalist that could ruin your career over there just like it was the kiss of death in this country to be consorting with known communists. Furthermore, all good communists knew that any idea coming from a running dog capitalist was not only evil, but it was stupid. Just like we knew that every single one of their ideas was profoundly stupid. And not all of their ideas were profoundly stupid, obviously.

So, we think Khrushchev came to send a message to his own people that it is okay for good communists to look to the west for agriculture technology. He was a really good communist. He really believed in it, so he could get away with it like Nixon and China. Doesn't mean he was a capitalist by paying attention to us, he was a solid communist. But he had a visit to our farm made into books, magazines, movies, school textbooks. Garst was a family name for a long time after the visit cause Khrushchev was sending the message, "It is okay to look to the west for agriculture technology." He came here to lead by example.

BC: What do you remember about that visit?

EG: I remember getting out of school for the whole day. That was the most significant fact of the Khrushchev visit to America that I got out of school for the whole day. My younger sisters were judged too young to come, I only had to put up with my brother Ed and that was alright because I liked him. Big fight with my mother about how I would be dressed. I was a tom-boy and she won. I'm wearing a lacy dress and the scratchy petticoat and the heaviest of hair ribbons and the horrible white anklet socks and the really horrible black patent leather shoes. I looked simply adorable which was not my plan. My brother, cousin, and I, we ran as a gang for the whole day. The men were out on ag tour and then would come back for lunch. We spent the day in the house and yard with my Grandma. I have lots of memories. The three of us spent lots of time strolling in front of the TV cameras thinking they were movie cameras. We had no idea the difference between movie and TV. We didn't understand that distinction. So, we spent most of the day devoted to becoming movie stars. Coming to the attention of someone, then we would become movie stars. Driving the camera men nuts.

We already knew all about Russians because there had been a lot on the farms. So separately to maximize our yield, we hit up every Russian on the place for the medals they had on their chests and their pockets. The nice ones we asked more than once for medals. I remember Mrs. Khrushchev. There is a picture of me sitting on her lap and I remember that. I liked her. She spoke good English. She didn't hold me too tight. She smelled good. But she did yell at me later in the day. Another kid came out, one of the Thomas kids and we fell into a big fight underneath my Grandma's apple tree and Mrs. Khrushchev was just walking through the yard and caught us fighting and separated us and shook her finger right in our faces, "Little brothers and sisters mustn't fight, mustn't fight." Which we thought was really quite amusing because we weren't a brother and sister.

As one of the real highlights of the day, they had one Soviet and one American food taster taste each dish and hour before lunch to make sure it wasn't poisoned. The three of us trailed these food tasters the entire hour before lunch praying they would die of food poisoning. We were choking ourselves and falling on the ground behind them demonstrating what it would be like when they died of food poisoning. They didn't, but the thought that that was even possible was beyond exciting. That is what I remember.

BC: Liz enjoyed her small town childhood, fishing, catching frogs, and helping on the farm. She had a deep connection to the land, but she was also aware that opportunities were limited if she stayed in Coon Rapids. And so as an adolescent, she left home, first for school, then for work, which would take her all over the world.

EG: When I got a little older, things got a little tougher. I was ostracized by girls my age in my older years like junior high. I was extremely bored in school. I was not a good cultural fit with the girls in my town and our school was on probation for disaccreditation. So, my parents sent me to

boarding school for my last two years in high school. That was, in some ways, not a great experience. I didn't have Liberty scarves and Pappagallo shoes like some girls on the east coast did. There was sort of an east coast yuppy culture and then there were a few of us midwestern girls who didn't fit in quite so well into that culture.

The marks of rank surprised me a lot on the east coast. You know, like how much your clothes cost made a difference. I hadn't understood anything like that. I don't even know if it is midwestern or if it is small town. I always figured one of the great advantages of my upbringing was I knew my garbage man and my garbage man's kids. I knew the drunk and I knew the drunk's kids. In a small town, even though we are all fairly homogeneous, there were very few people of color in my life. I knew all kinds of people while I went to the east coast, I am not sure if it is just the east coast or people from bigger places, they tended to think how they did it was right instead of the drunk has good stories or the garbage man is an important guy. In many ways, I felt like I had a more diverse understanding about the differences of people that were all in it as opposed to just a class of people. Class was more important in that world than I was used to by a lot.

BC: When it came time to choose a college, she decided to leave this east coast yuppy culture behind, instead joining the wave of hippies heading to California.

EG: I had gone to Stanford University and majored in the Pacific Ocean and the Grateful Dead and English literature. I got more serious about the school part of it the longer I was there. When I was a freshman, I had been in this boarding school. Very restrictive. Before that a very small town. My freshman year, I didn't go to class very much. I devoted myself to having a lot of fun and I did. I made some great friends and plugged into music for the first time and I had a bunch of off-campus jobs just for the heck of it. But each semester I got more and more devoted to actually learning something. So, by the time I graduated, I was a pretty serious student. I learned a lot at Stanford.

BC: She dabbled in lots of subjects, but knew all along she wanted a career related to agriculture, and especially international agriculture. Liz had experienced a lot more of the world than most Midwest farm kids, with international visitors coming to Coon Rapids, and her own opportunities to travel.

EG: We traveled a lot. My parents made us work and we got paid for that. They paid for my college education and it was strongly suggested that we used our earnings on travel. So I had been to Europe, I hadn't been way over seas, but I was in Europe in high school and I had been to visit cousins in the east coast and west coast. I was a pretty experienced traveller for my age at the instigation and support of my family.

BC: Her experience abroad and her experience on the farm were a big asset when she started grad school.

EG: So, I went to Michigan State University for a masters degree in Agricultural Economics and I was quite successful there. In part, because I was one of the few people who actually knew about agriculture. I knew what a disk, a drill, and a harrow were. I knew in detail, because I worked on the farm growing up.

Although my family was well-to-do and privileged in comparison to anybody around here, my parents were very determined that we not be spoiled rich kids. So, we were made to work which was okay with me. When I was younger, we had a shoppers news route. A penny a paper for delivery on every Wednesday. As soon as I was 14, I started working on the farm. A lot on the farm. My main duties, over the years, was the heat detector of cattle which meant I was a cowboy. I was in the saddle at dawn and in the saddle at dusk. Three periods during the day we got breaks. One in the morning and one in the middle of the afternoon. Looking for cows in heat and cutting them out of the herd helping our insemination technician inseminate them. When I got to be a little older, I rode shotgun for our insemination technician. I kept the records and opened the gates and travelled with him. I rouged corn and mowed weeds. I later went to Harvard, I will get to that. In Harvard Business School, on the first day we were to report what we had been doing. Of course, they were real hot shots. I reported that I had mowed down 800 acres of weeds that summer.

BC: Liz thought about a career as a professor of Ag Economics, but this was virtually unheard of for a woman in the field. After her name Elizabeth seemed to keep her from getting job interviews at an academic conference, she creatively maneuvered her way around the problem, but that proved hopeless.

The first day I put in my name in for ten interviews and I got zero interviews. I was the top person academically in my department. I had the most prestigious major professor in the department, but no interviews. So, the second day, I do it again and I put in requests for E. Garst instead of Elizabeth Garst and I get quite a few interviews. But you could see faces change to shock when I came in for the interviews. I got no job offers at all. I made a stink about it. I complained to the Association of Agricultural Economists about the incredible sexual discrimination. Then, kinda by default because I didn't have any other job offers, I thought about the Peace Corps. That also proved to be a huge problem.

There was a poster in Ag. Hall at Michigan State saying that the Peace Corps wants Ag Economists with a background in livestock for Colombia, South America.

BC: When the Peace Corps also rejected her, she was curious. Why, when she fit the position so well?

EG: I called up the desk officer at Peace Corps and said what's going on.

BC: And as she suspected, it was once again, she was told, because she was a woman.

EG: The director in Colombia who doesn't accept women in non-traditional roles. I was like, do you mean that an employee of the federal government of the United States is discriminating... what's your name? I went through my Congressman and made a huge stink about it and then I got assigned to Colombia, South America where the Peace Corps director does not accept women in non-traditional roles which was a little awkward. But he got caught embezzling automobiles not too much later from the federal government. So, that problem went away.

BC: Liz says she entered the Peace Corps a "young idealist" armed with theoretical knowledge. In Colombia, she saw right away how much global development ultimately depended on practical experience in business administration, being able to establish systems to grow agriculture beyond subsistence scale family farms. And so she decided to get an MBA, and went to Harvard, where the concept of agri-business was just beginning to take shape. This led to a job at the World Bank, overseeing development projects in Malaysia and managing the Bank's investment portfolio, the largest in the world. She enjoyed the global nature of the work and imagined a long tenure there, but the early 80s were a tough time for Iowa farmers and a tough time for the family's business. When they asked her to help manage things through the crisis, she knew it was time to go, to leave her cosmopolitan life and head back to the Midwest.

EG: By this time, I'm enjoying Washington, DC. I'm enjoying my job. I had just had a wonderful job with wonderful coworkers. The Bolivian, the Iraqi, the Brit, etc. I had to go home. If I was ever gonna go home, I had to go home when they needed me. So, I did. It was kind of shocking to move back to Coon Rapids in some ways, back to my world. I remember I had a shed and all my possessions are in garbage bags. I'm still sorting through stuff. I'd been home about two weeks, and my mom comes to me very concerned, and says, "It's all over town. I've heard it at both my bridge clubs and the book club and at the grocery store that you're a garbage hoarder," my mom says with great concern. "Pete Oliver saw all these garbage bags and they're still there! It really doesn't do to be a garbage hoarder." I said, "Mom, those aren't garbage sacks. Those are the winter clothes I haven't unpacked yet." Like, welcome back home. Where my garbage hoarding is the main topic of conversation all over Coon Rapids. They're all talking about me.

BC: Yeah, you're back in that small town world that in some ways you love, but.

LG: But there's also sobering factors of having moved back here. You give up a lot of privacy when you live in a little town. You really do.

BC: Liz moved back home in 1982 and spent the first few years trying to figure out how to save, then how to sell the family business. They had separated from both the Thomas family and from Pioneer, and were at the time the largest hybrid corn breeder in the country, with sales over \$60 million a year. But they were in a precarious position financially, and then the farm crisis really intensified. They suffered an early freeze and a drought the following year. Selling was the only real option. Liz helped negotiate the sale, which was complicated legally, financially, and emotionally. It was exhausting work, but also gave her a chance to travel again. She took 20

grand and spent the next year seeing the world, then came back to help her uncle run the family bank. Again, she was in the thick of the farm crisis as friends, neighbors, and her own father had to sell their land under the burden of debt.

There were foreclosures. I kept lists of customers who might want to get out their guns and shoot me, so I could disappear appropriately or have other people around me when dangerous customers came by. It was a horrible time. An absolutely horrible time to be a banker.

BC: Your family was farming but also banking, which was probably... yeah --

LG: It was really tough, tough time. It was really a hard time. In terms of my family, my dad, who had never been scared of debt, he almost didn't survive the farm crisis. I got very involved in his business during this era. I was sort of a consultant to him, and my mom too. He usually blew us off, but we worked on him hard on what reforms he had to make to survive. Eventually, he did what he needed to do to survive, including, he sold a lot of land. A lot of the land he sold, my sisters and I used our trust fund money to buy that land, which helped make it palatable to him. That acquisition we made in the farm crisis is the heart and soul of Whiterock Conservancy now. And even then, we were like, "Why are we buying this land?" Other than to bail him out, and we like this land. Well, maybe we should make a park out of it someday. That was the discussion then. My dad's fears were particularly hard because of his personality and his business. Banking was really hard because farmers were committing suicide, shooting their bankers, and going to farm auctions and watching the parents of my friends cry as their life is sold away. It was a terrible time.

BC: Over time, Liz and her sisters did realize this dream, donating over 5,000 acres of family land and forming the non-profit Whiterock Conservancy to manage it. With a mission to balance conservation and recreation, Whiterock has nature programs, trails, campgrounds, and the Middle Raccoon River running right through it all. It's a special place to Liz, and ecologically significant too.

EG: Plants, dragonflies, breeding birds, we are a really biodiverse area for Iowa. One reason why is we're in two landforms in Iowa in the southern drift plane and in the prairie pothole region of Iowa. And also we have sand prairies based on our sandstone which means we have very dry prairies in some places and the closest dry prairies are the Less hills. So we're sort of a hundred mile, bringing western species east that hundred miles our dry sand prairies. We also have here cause of the geology of the very porous sandstone, we have wetland seeps. And those are our best a rarest plant communities because they are so wet, they have never been farmed. Not even the cows like to hang out on these wet seeps. So our species list in those wetlands are really long and we've been told we have some of the best wet prairie in the state.

We are also the western outpost for oak forest in the state. We're very close to the M&M divide right here. Mississippi-Missouri divide. And there were never trees on west of that divide and we're only in like 4 miles from there right here. We are the furthest western outpost of oak forest

in the state. And one of our debates is should we be oak forest or should we be oak savanna and we're big enough to be both is my answer.

BC: Whiterock also serves as a model of how sustainable agriculture can be integrated alongside native ecosystems of oak savanna and prairie. Liz is proud the farmland continues to be a place for research and innovation, and for demonstrating how Midwest agriculture can continue to evolve to meet the challenges of the day.

My family has always been interested in sustainable ag. My grandfathers hobby was to buy trashed out highly eroded, gullied, south of town farms. And fix them up. He did that a lot. He'd buy a junk farm and he'd grate out the ditches and seed down the farm to pasture. Did that a lot. And loved that. My dad was an ardent hunter and fisherman and it took him a little while but sort of in middle age, he figured out that draining all these wetlands meant he didn't have as good of duck hunting as he used to. And he sort of got interested in habitat, for hunting. But, habitat and that he loved beautiful land like we're looking at right here. So he did a lot of habitat work, he built 60 ponds in his life, he loved ponds. He made the ponds free and open to the public from the day were built on the grounds that if he tried to kick people off his ponds, they would disrespect it, but if he let them on, they'd help take care of it. So, he was always generous in his fishing ponds. We went on picnics everyday of my childhood. Not in the dead of winter but every Sunday, Spring, Summer, and Fall picnics on this land, in these woods. That was outdoor experience they were really intent we have.

BC: So right along with agriculture or sort of intensely increasing yields, they were also practicing these sustainability conservation practices going way back and continue to do that in Whiterock.

EG: One that surprises some people is that my dad started no tilling in the 70's and most of our land has not been tilled for 45 years. That was a huge part of what he was interested in, was no till.

BC: And Whiterock has been especially experimenting with cover crops.

EG: Since the idea of cover crops we've been on it. And we're now 100% cover crop both in Whiterock and Garst for like 8 years, 10 years, we've been kind of the beginning on the subject of cover crops.

And now our kind of new big problem that we've been working on and don't have a solution to it is although cover crops are really helping our soil structure and weed control and water management. Cover crops are giving us real benefits and I am sure cover crops pay, we are not sinking carbon and we are not making our soil better. We're just holding our own. And that's because of biodiversity. Those bugs need a balanced diet and cereal rye, our number one cover crop, is just equivalent of feeding our bugs carbohydrates with nothing else. We need to have biodiverse cover crops. And we are stymied in that, that's easy to say but we can't do it. The

problem is we are pretty far north in the corn belt here. And there is just not enough time behind corn or soybeans to make the cover crops. Multi species cover crops pay. The clovers, the radishes, turnips, they don't amount to anything in the short window between our harvest and frost. And we've tried over and over, it just doesn't pay.

Maybe we could become a cover crop seed producer and get it more that way but that market is about to get flooded pretty quickly so that's not necessarily a great idea. I tell everyone I know to drink more beer and whisky to give a market for small grains so we can grow multispecies cover crops behind.

BC: All that rye. Yeah I mean how fascinating to think of your family as going from hybrid seeding family to a cover crop seed company I mean that's such a statement on the evolution of what agriculture has been and could be.

EG: Well, a nice historian asked me when we took me when we took off the black hat and put on the white hat. When we decide to stop being evil and start becoming virtuous and the question really offended me. My granddad didn't have on a black hat, he lived in his time and his time was different. His problem was nobody used any fertilizer. Period. And yields sucked, and the output per hour of labor was horrible. Factor prices were completely different. He tried to make the world a better place he didn't have a black hat on. Things change.

Even now we're gonna use fertilizer. I mean fertilizer's still part of our world. It's just how much. He had the problem of not enough. I have the problem of too much. Things change.

BC: Do you feel that sense now though? That you wear the white hat? That this is really important...

EG: Of course I wear the white hat, I always try to wear the white hat!

BC: Yeah

EG: I never want to wear a black hat, I think agriculture is really going to have to change and very quickly right now. I think we are in a profound crisis. Iowa, I only know statistics about Iowa, in Iowa we have already lost half our topsoil. We have lost half the organic matter in the soil we have left. So we're down to a quarter of the world's filter we started with, and a quarter of the basic fertility we started with. We've also lost about 40% of the nitrogen that's in our soil. The nitrogen is just leaking out of our soil. So we've already lost a huge amount but what's really scary is we're going to lose the other half, it took us 150 years to lose the first half and USDA's chief soil scientist in Iowa, Jerry Hatfield, of the soil tilth lab, though it has a fancier name now, Jerry Hatfield says we're going to have no topsoil in the Loess hills in 35 years. He says we're going to have no soil top soil in the flat black Iowa in 80-100 years. So we have a huge ways to go if we're going to have any topsoil at all.

And I am passionate about this in part because a few years ago Darwin and I went on vacation to Portugal. And I had been super busy so did no research on a trip to Portugal and envisioned lying on the beach on either the Atlantic or the Mediterranean or both. But Portugal is owned by condo associations, the coasts, they have a few tiny posted stamp public beaches but you really can't touch the water in Portugal. So in frustration we pointed our rental car towards the Roman castles in eastern Portugal. River systems in Western Spain and Eastern Portugal going down to the Mediterranean. All through there are castles built to protect the Roman Empire's food supply, which came out of Eastern Portugal and Western Spain. It was their bread basket and these castles were all for protecting the grain. And we were driving there and we went through a 100 kilometers of nothing but rock thistles. There was one road and it went to the tourists castle there were no villages there was no agriculture of any kind except the few eucalyptus groves. Everything else was rock thistles, there were not people, there was nothing. In what was the Roman Empire's bread basket. The topsoil was gone. And to see that in person was just shocking beyond all imagination. I saw our future.

BC: Together with her partner Darwin Pierce, the Farm Manager at Whiterock, Liz is working toward a different future for Midwest agriculture, but the challenges are immense. Topsoil loss is increasing as climate change produces heavier rains. Now climate activists and sustainable ag advocates tout the role farmers can play, restoring carbon to the soil to combat the climate crisis, but Liz knows it's not so easy in practice, and for this to happen at a meaningful scale will take significant investment in research and significant changes to ag policy..

EG: There are farmers who sink carbon. But people are being way too simple about it. I'm here to tell you as a farmer myself, no till for 40 plus years and cover crops religiously for 10 years, and I haven't increased my soil organic matter .1% in 10 years. I'm not sinking carbon, and I'm the most virtuous farmer I know other than these wonderful examples we've got. Maybe I'm doing a little better on sinking the soil organic matter in the rotational grazing systems. A little better, but not great. We have a lot to learn to really sink carbon.

I think there's hope that climate change issues might bring some money back in to agriculture to sink carbon. If someone said here's 200 dollars in acres to sink carbon, I can do it, but nobody's hanging around offering me 200 dollars in acres to sink carbon. But eventually I think that economics will bring some money back into ag at least if we're reasonably smart about it, it will. Because sinking carbon is huge, it's way better than driving volts around to actually take carbon out of the air opposed to stop putting carbon up in the air. It's an order of magnitude to actually know how to take it out of the air. Carbon sequester through forestry, through putting it in the ground, there's real potential we could do that. I think another really exciting one that we could look into is biochar I think that would be really cool. And we could do that, better agriculture and better environment there's win-wins if we get the will to make it happen, if we know what we have right now.

Maybe people are waking up to the climate change problem right now, I know their not waking up to the soil loss problem. I've been going to visit presidential candidates lately and here's my

question which is really a question for the audiences because the presidential candidates don't have a clue.

We've lost half our topsoil. And we're going to lose the rest of it in less than 100 years, what are we going to do different about the farm bill? Presidential candidates go blah blah blah I don't know! But the public doesn't know that. The public doesn't know the facts of where we're at. No presidential candidate talks about this existential threat, our extension agency doesn't talk about it, nobody talks about it. So, I find myself being louder and louder and shriller and shriller, we've got to pay attention to it is the first step in solving it.

BC: Well and you said you come from a family of evangelists, sales people who knew how to get people's attention, and people who know how to change the culture and the practices in agriculture. And sometimes that meant talking to neighbors or getting on a train and go to Washington, to make that noise that people will wake up. Yeah, that's hard work. You know that. You've learned that from others in your family and in your own life.

EG: Yeah I think of myself very much in Roswell's tradition. An evangelist.

BC: Thanks to Liz Garst for sharing her story, and thanks to all of you out there for joining us for Season One of Mid-Americana.

We'll be back in your podcast feed with Season Two in the fall. In the meantime, we'd love to hear from you. Go to our website, midamericana.com, to let us know what you think of the podcast and to share your ideas as we work on next season. What do *you* think are the most important changes shaping the Midwest? Whose stories do *you* think we should feature? If you think you'd be a good fit for our show, or if you know of someone else who might be a good guest, please let us know.

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