



**Sarah Sorci:** I was so excited to learn that adding organic matter like compost makes many contaminants less bioavailable to plants, and what a win-win because we're already supposed to be adding all this organic matter to our soils.

### **Rosalee de la Forêt:**

Hello and welcome to the Herbs with Rosalee Podcast, a show exploring how herbs heal as medicine, as food and through nature connection. I'm your host, Rosalee de la Forêt. I created this YouTube Channel to share trusted herbal wisdom so that you can get the best results when relying on herbs for your health. I love offering up practical knowledge to help you dive deeper into the world of medicinal plants and seasonal living.

Each episode of the Herbs with Rosalee Podcast is shared on YouTube, as well as your favorite podcast app. Transcripts and recipes for each episode can be found at [herbswithrosaleepodcast.com](http://herbswithrosaleepodcast.com) or through the link in the video description. Also, in the video description you'll find other helpful resources. For example, to get my best herbal tips as well as fun bonuses, be sure to sign up for my weekly herbal newsletter. Okay, grab your cup of tea and let's dive in.

If you've been following my herbal offerings for even a short time, you'll know that I'm not about focusing on fear. While some alternative health practitioners rally around toxins and pollutants, I would rather focus on joy and the things that I do have control over. But unfortunately, environmental contaminants do exist and we can't simply ignore them away. That's why I'm especially grateful to Sarah Sorci for coming on the show. She has taken it on to research important contamination issues for gardeners and foragers, and then shares that information away that's based on empowerment rather than fear.

For those of you who don't know Sarah, she's an herbal educator, writer and the founder of Sweet Flag Herbs. She loves supporting folks who seek meaning, empowerment and environmental sustainability by connecting with plants. Through her writing project, A Nourishing Harvest, Sarah explores environmental contamination issues that affect gardeners and foragers translating scientific data into practical and approachable free articles. She also creates beautiful educational boxes that facilitate ancestral connection by the way of the plant world. Sarah has offered hundreds of classes and plant walks through Western New York and beyond. Sarah came to herbalism by way of an Environmental Studies degree farm work and offering therapeutic gardening programming. She's a 2014 graduate of the Blue Ridge School of Herbal Medicine's Holistic Herbalism program, and she's taken clinical herbalism classes with the Eclectic School of Herbal Medicine.

Sarah is grateful to the unnamed elders, foragers and tenders who have contributed to our collective herbal knowledge. She lives and gardens with her partner in Chautauqua County, New York, homeland of the Seneca Nation of Indians.

Welcome to the show, Sarah.

**Sarah Sorci:**

Thanks so much for having me here, Rosalee. I'm really excited to be here.

**Rosalee de la Forêt:**

I am so excited to have you here and you're coming on for a special topic, which I don't always do. Most of the time, we talk about one herb, which I love, but occasionally something catches my eye as something that would be really important to share, and that is this episode. I'm excited to dive in!

**Sarah Sorci:**

Awesome. Thank you.

**Rosalee de la Forêt:**

I would love to hear more about your plant path and what's brought you here to us today.

**Sarah Sorci:**

I grew up in a family—my family didn't use herbal medicine when I was a child or really alternative medicine, but I do have really strong memories of ways that herbs found their way into our house, like smelling my dad's coffee every morning. I remember just the smell of lilacs and marigolds, apple mint from my parent's garden. Even though I did not really take to garden work as a child, but those smells certainly were meaningful to me.

I remember my grandma's tea ritual. Anytime she came to visit at a certain time in the afternoon, she had her cup of black tea. I remember the way she wound a string around the tea bag to squeeze out the liquid and she added a little milk. Didn't really understand what she was doing at that time, but I just remembered being captivated by it. Clearly, I had something to learn because here I am, drinking tea everyday. Things like the first time my mom asked me to use—she asked me to chop garlic for her to make a meal. I had no—she handed me this bulb. It was like paper hard bulb and I was like, "What the heck do I do with this?" Just that memory.

I was probably older than I care to admit. I was probably a freshman in college. I really did not cook growing up. Just that vivid memory of learning how to peel the paper, and that feeling of this sticky liquid on your fingers when you're chopping garlic and that wonderful smell. Just a little empowering memories like that too.

I'm grateful that my family—my parents prioritize getting out in nature as a family when we could. We would spend maybe one week in the year at Letchworth State Park in Upstate New York where I'm from. We would get to the beach to, to Lake Erie when we could. I grew up not too far from Lake Erie in Western New York and that definitely was formative for me.

I think as far as steering me specifically towards herbalism, sustainable agriculture and my work in sustainable farming really had a big impact on me. One memory that comes to mind is when I was a sophomore in college at Denison University. I was an Environmental Studies major and didn't really know what my focus was at that point in my major. I had a professor in my department approach me and ask if I'd be interested in doing an internship at the Rodale Institute that summer. I'm still kind of amazed that my tiny, little Liberal Arts College had this relationship with Rodale.

Rodale is a pretty well-known institution that does regenerative agriculture research and also is really intentional about sharing that information with farmers in practical ways. Our college didn't even have an agriculture program. I don't know how this relationship happened but it sounded interesting so I went that summer. It was just a really incredible opportunity to get to see how sustainable farming research is done, but I think even more importantly, seeing how those researchers took that information and made sure it didn't just sit in academic journals somewhere. They had demonstration gardens and they invited farmers to their fields for workshops to show their techniques. They have a press of their own, the Rodale Press, and their own organic gardening magazine. They have all these different ways to make sure this information gets out in the world.

I think later as an herbal teacher, herbal education is really what excites me. As a writer, that lesson just really stuck with me. What's the point of having knowledge and scientific information if it's not getting into the hands of people who really need it?

After college, I spent a few years working on organic farms. I have memories of—I remember weeding a lettuce field one day. The farmer I was working with said, "The dandelions and the

amaranth we're weeding out are a lot more nutritious than the lettuce we're working so hard to save here." I think probably many of us herbal people can have that moment of realizing plants are so much more than—as much as I love annual vegetables and I'll always have a vegetable garden—it's just amazing to realize how much more there was to learn about edible plants and how much opportunity there was just right in my neighborhood and right in my community, how many different plants were there and that there are even medicinal properties to explore too.

I learned through that time that education and connecting people with plants is more my thing than production agriculture, so I had steered myself towards a Horticultural Therapy certificate in an herbal medicine program. I studied at the Blue Ridge School of Herbal Medicine in 2014 and started my business, Sweet Flag Herbs, soon after that and haven't looked back.

**Rosalee de la Forêt:**

Do you remember what helped you make that jump from—to start with Blue Ridge or to start with your herbal studies?

**Sarah Sorci:**

To jump from into that study?

**Rosalee de la Forêt:**

It sounds like things were poking up a little bit here and there, but when was that moment you were like, "No, I'm going to go to school for this?"

**Sarah Sorci:**

I was actually working. I lived in western North Carolina at the time. I had moved there to do an internship in Horticultural Therapy in 2013. My supervisor was actually in an herbal program. Maybe it was a weekend program at the time. On Monday she would come in and was excited to share what she learned. I discovered that I had a farm job lined up for the next season and my work days were exactly opposite the Blue Ridge School class schedule. The Blue Ridge School is a few full days a week and my work schedule is the exact opposite of that. I was like, "This would work perfectly." I think my supervisor really gave me that nudge to maybe consider going further with it.

**Rosalee de la Forêt:**

I love that because it really is the more excitement that we spread and share about herbalism, the more people join in so I like that.

**Sarah Sorci:**

Absolutely.

**Rosalee de la Forêt:**

Sarah, I'm really excited to talk about your project, A Nourishing Harvest. I'm wondering if you can start with that and tell us what that is.

**Sarah Sorci:**

This project came about—the idea for it happened when I was teaching classes here in Western New York. I teach a lot of classes on herb gardening and foraging. Maybe once a class or pretty regularly, people will ask things like, “When I’m buying potting soil, which potting soil brands should I maybe steer clear of as far as contaminants?” “How do I know a potting soil brand is safe?” “Is it safe to grow in plastic containers?” “How long do lawn chemicals stay in the soil? I’m renting an apartment where it hasn’t been sprayed in two years. Is that long enough?” As foragers, we maybe have this vague idea that we shouldn’t harvest right along the road. People would ask, “How far from the road do I have to be? Is there data on this?” You know, I would love to know if there’s data on this.

There are questions like—I get especially excited about questions where we’re getting more familiar about our local communities and practices there, our local history. Sometimes people ask me, “I have permission to harvest at this local park,” or estate forest, but do you know anything about the land use history? Was it ever a landfill? Was it ever a farm? “I know that my community used to be home to this industry. Do you know anything about—is that an environmental contamination risk?” Just this wide range of questions that I certainly didn’t have answers for, but I was also asking myself the same questions.

It stirred the environmental justice kind of passion in me for my college education of feeling like—it feels like a right. We should all have access to being able to harvest clean and safe food and medicine, whether from our gardens or from our local communities. I just wanted to maybe create a location where people—where gardeners and foragers could find some answers to these questions in one easy location where maybe scientific data and government resources.

I'm also trying to do some interviews with experts where that information can be distilled into a more user friendly format. That's the goal with the project.

**Rosalee de la Forêt:**

I love this so much. When I came across your work, I was immediately like, "These are all the questions I get asked and don't know the answers to, so I will selflessly have Sarah on the podcast to ask them.

I have been perusing A Nourishing Harvest website and so much fantastic information there, so I'm excited for folks to go and check you out, but before they do, we've got—I've got questions.

**Sarah Sorci:**

Yeah.

**Rosalee de la Forêt:**

Now, my mind is just opening up to all these different questions. I guess what I'll first ask, who is the person that you are doing this work for? What are the concerns? Because we could say "gardeners" but not every gardener might not have the same concerns, so who would this work impact? Who is going to be rubbing their hands together excited to check it out?

**Sarah Sorci:**

Great question. I think your question also makes me realize maybe my scope needs to be focused a little bit more because I just get so excited about I want to offer resources for urban gardeners, world gardeners and suburban gardeners. One thought that comes to mind—I think what gets me excited about environmental health and the health of our communities as a whole is that things like water quality or the effects on soil from industrial activity—these are things that tend to affect larger swaths of the community regardless of—certainly, income level does matter sometimes. Folks who are lower income and folks of color, traditionally marginalized people, are much more likely to have issues as far as contamination concerns. But there are also plenty of instances where we're all impacted by poor water quality. I recently did a series on PFAS which are—it's a group of contaminants that's getting a lot of attention right now because it's quite ubiquitous in the US water supply. It's hard to find a water supply in our country that doesn't have detectable levels of PFAS in them.

**Rosalee de la Forêt:**

These are sometimes called "forever chemicals."

**Sarah Sorci:**

Exactly. It's in a lot of products that are water-resistant, stain resistant. It's used in firefighting foams. Communities of every income level might have a fire where a firefighting foam was used at some point. As much as it's a bummer to hear that these chemicals are so ubiquitous, part of me feels hope knowing that because it affects everybody, it also affects people with more power and more maybe impact. I hope that those folks will use their power to make changes that really help everybody.

Other than that very broad thought to your question, I guess I will also say I feel interested in making gardening and foraging as easy and straightforward as possible. I think in general, these are activities that aren't really encouraged in our culture. For me, I didn't grow up gardening. I didn't grow up foraging so it doesn't feel—it's not an innate part of how I was conditioned or brought up. I think that's true for a lot of us in the United States. If I can maybe answer some questions from folks who are just trying to get into gardening or foraging, I hope to maybe remove barriers for folks who might find these questions as just one more barrier that may be stopping them from getting into it.

**Rosalee de la Forêt:**

The question of contaminants can be scary, can be overwhelming. It can also be something that we just want to duck our heads in the sand in the garden bed and not think about. I know for a lot of us, we can just assume that our gardens are safe, that our soils are safe, that the water is safe. With that, let's talk about safety a little bit. One thing that you addressed on your website was how "EPA approved" doesn't necessarily mean safe. This is specifically in regards to thinking about pesticides and herbicides. I wonder if you could speak to that a little bit.

**Sarah Sorci:**

Ideally, the EPA, the US Environmental Protection Agency, we would be using a precautionary principle. I've heard writers or read books by writers like Sandra Steingraber and Norah MacKendrick on this topic. I highly recommend them. This precautionary principle would be if a chemical would need to be proven safe before it's allowed to be produced and used widely. That's what we would do if we were valuing human health and the health of our environment over corporate ease and profit. Unfortunately, in the US, this isn't the way toxic chemicals are regulated. New chemicals do come onto the market without assurance that they're safe. This applies both to chemicals that are intentionally added to our soils and plants, like lawn and

agricultural chemicals, but it also applies to chemicals that just end up there from water pollution or air pollution and things like that, like automobile activity.

Because of that, what happens is that that burden to prove that a chemical is harmful in some way then it's falling on us as community members. That might be noticing an unusually high rate of a health issue in our communities or in wildlife. It's really hard to prove that. Once a chemical is out in the environment and out in the world being used, there are all these other variables that it's interacting with, all these other chemicals in the environment, all these other variables in our lives that maybe can also cause cancer or whatever. It's a tough burden to place on our communities. It's a shame that we haven't quite transitioned to that precautionary principle in our regulations.

There is—one law in the books, we have a Federal Insecticide, Fungicide, and Rodenticide Act that was passed in the '40s. In theory, it requires all pesticides to be registered with the EPA. They're supposed to be tested before they're sold, but something Norah MacKendrick writes about, she notes that the EPA is really limited in their power to actually put that into practice because industries often challenge the EPA in court when they try to limit pesticide use. Companies end up doing a lot of their own research on the safety of their chemicals because the EPA hasn't had a budget. They're going to have to actually do their own testing.

When companies do their research, it's often not made public. It's not peer reviewed, which having a peer reviewed study is pretty standard for quality scientific research. Companies can say that they're protecting a confidential formula, a trade secret kind of thing, and then got data that the companies collect themselves is then what the EPA is using for approval.

There's definitely room for growth as far as—I think a main issue I pinpoint with what I just shared is I think we need a larger budget for the EPA. I know it was cut in recent years--the last ten years and it sounds like we need more money going towards this agency.

### **Rosalee de la Forêt:**

Thank you for including a solution there, which I can extrapolate to be contacting representatives, showing interest in this increased budget to the EPA. I know we have some other very practical things we're going to talk about in terms of what we can do. I want to offer that as reassurance because this can be scary and fear-based. Anybody who knows me knows I don't like to stay in that place, but we do have to be informed so I'm really grateful that you're



here informing us in a non—it's scary and not great—but in a non-alarmist way as we find solutions to these problems.

**Sarah Sorci:**

Absolutely. I will have some uplifting things to share to you, so stay tuned.

**Rosalee de la Forêt:**

If we think about contamination, especially in regards to somebody who has a garden, whether they're a homeowner or maybe they're working in a community garden, or somebody who maybe is foraging in parks, what are some big concerns there big picture?

**Sarah Sorci:**

I think the main concern that comes to my mind with that question—when I've been in garden centers, just out of curiosity sometimes I'll pick up a bottle of some herbicide and just look at the label to see, "What's in here?" whether I'm doing a little research on it or what. Something I've noticed is that the active ingredient takes up less than half of the whole formula. The label will say something like, "Other ingredients 63%" or inner ingredients I've seen as high as 93%. That means that most of that formula just isn't disclosed on the label so I wondered what's in there. When I've done a little research on it, I learned that pesticide and herbicide formulations often include a group of compounds called "adjuvants." These are compound chemicals that help the pesticide do what they're supposed to do. It might be an emulsifier-

**Rosalee de la Forêt:**

Can I interrupt for a second, Sarah? That's kind of funny because in herbalism we do formulations and we... that a word for ... that comes from.... So we add herbs to a formula to help it do what it does. So, anyway, sorry to interrupt, but that was just... Continue.

**Sarah Sorci:**

It's a pruning herb. It's a pruning chemical.

**Rosalee de la Forêt:**

It's a pruning chemical. Just never heard it in that context before.

**Sarah Sorci:**

That's a really good way to think about it. In this case, sometimes the adjuvant will keep the pesticide—the active ingredient from being degraded in the sun. With our chemistry minds as

herbalists, some adjuvants are like emulsifiers so they'll prevent the active ingredient from beating up on the leaf surface, so that it'll spread out evenly on the leaf. There are carriers. There are artificial fragrances in pesticides. I don't know why we need our herbicides to smell beautiful.

As I'm reading about this category, I just wanted to learn more about what the rules are around these chemicals. If they're not listed on the back of the label, what do we know about them? What I learned was that those "inert ingredients" have to be registered with the EPA if they're in the formulation itself, that they're in that bottle with the pesticide. But if an adjuvant is purchased in a separate bottle, what commonly happens is lawn chemical applicators will mix separate adjuvant product with their pesticide at application time, so rather than buying it altogether, they mix it separately. When that happens, when the adjuvants are mixed later, they don't need to be registered and approved by the FDA if they're not going to be applied to food crops.

This is something that foragers, in particular, should really just be aware of. It's an empowering piece of information. In general, foragers are harvesting—were open to foraging our food in places that aren't farm fields, whether it be a lawn or maybe a forest or park where we have approval. You name it. If we have permission then maybe it's on the table.

Really, to me, this just means maybe now we know a few more questions to ask in addition to just asking permission at our park. Okay, now we know that we need a little more information. We should find out, know what is there or what other practices for managing invasives or weeds, other areas at the park to avoid as far as foraging. I hope that knowing this, knowing that lawn chemicals aren't regulated in this way as far as the adjuvants go, I hope we just feel empowered to gather more information to feel even more secure in our foraging practice.

### **Rosalee de la Forêt:**

They're making me think of this situation where—I don't know how to describe it really. I used to walk along this trail and it was like a trail but it's like an ATV trail. It was like a road but it wasn't like a road where people would drive on unless maybe an ATV, which I never see ATVs there. Anyway, it was a road that on the sides had wild rose bushes, had elders. It had a lot of things that I love to harvest. It was out in the hills. It's far from people. I often never saw people there and it just seemed like the best place to harvest them. I did for a long time.

One spring I went there just to go on a walk and I smelt that smell, that chemical smell of the—I think of it as Roundup, but I don't know if it's always is but it's that smell. Sure enough, the plants were recently sprayed because I could smell it, but they were also becoming twisted and yellowed all along this pathway where I was harvesting plants. I was just devastated. Wanted to think that I might have been harvesting plants in a place that was getting treated like that. Too that somebody thought they needed to come spray this area, that in my mind clearly did not need it, which is a whole other subject of how counties are often paid to use so much of these chemicals and so they have an incentive to do it.

Anyway, it was just devastating and I think you're right to say that it's nice to have—it's empowering to ask those questions and find out that information before instead of after. It's important to understand what it looks like if an area is being sprayed--those yellow plants. Right when it's happening or recently you can see that plants are changing. They're twisted. They're yellow. After, you might not have that smell but you'll see a strip of dead plants that's just totally not natural. It really is just once you have that awareness it jumps out of the landscape at you.

**Sarah Sorci:**

Absolutely, for sure. I'm sorry to hear about that special spot. Something else that—what that brings to mind is I just think there's so much potential for partnership with our public spaces, park and forests. The most likely plants to be treated with herbicides are invasive species and how many wonderful invasive—wonderful in terms of food and medicine. I've harvested Japanese knotweed, garlic mustard and multiflora rose in public spaces. We can really—there's this potential for mutually beneficial relationship.

I think another perk of communicating with somebody who's in charge of that space is—I guess they know that maybe there's a group of maybe three or four foragers who want to come take all that garlic mustard. Not only do they—they're safe to work. That space is saved the chemicals if the person applying it knows it's going to happen. They know that the garlic mustard, at least some amount of it will be gone. They know that people are going to be eating from there so they might think about the space differently. I just think there's so much potential when we start communicating in that way. Still learning, but...

**Rosalee de la Forêt:**

That makes me think of something, Sarah. I live in a very small community. One of my neighbors got the heads up that the US Forest Service was going to spray an invasive plant in

the forest. They were friends with the person so there's this conversation that happened and they worked it out. They put it out to the whole neighborhood. We're talking a couple of miles long because we're pretty remote here. They put it out to all of us like, "Would anyone be interested in coming to hand weed this plant?" It wasn't a plant that you would forage, but it was a plant that needed to be removed. They asked and 12 people went up there and removed that by hand. They put out there is they're going to spray or "We can put some work in and remove it ourselves," and they did. That's totally a possibility. In this situation, it was a small community and the person knew the person.

That's one thing I really love about your project, A Nourishing Harvest. You talk about how you reach out and have this empowering sense of you're looking for those answers and how surprised you are how often those answers and those resources are available out there if we just know where to look. I appreciate that aspect of your site as well because it is empowering for all of us to know.

**Sarah Sorci:**

For sure.

**Rosalee de la Forêt:**

The next question I want to ask is the question--the question that everybody asks. I bet you know what it's going to be.

**Sarah Sorci:**

I think I do. The million dollar question?

**Rosalee de la Forêt:**

Million dollar question. How long does someone need to wait to harvest an area that's been sprayed with chemicals?

**Sarah Sorci:**

Ding, ding, ding! That's the question. Rosalee, I want so badly to give you a hard and fast answer.

**Rosalee de la Forêt:**

I wanted you to give me a hard and fast answer.

**Sarah Sorci:**

As you can imagine, it's complicated, but I'm going to share five general understanding so far in where I've come to personally, as far as how long I like to wait. Different people will have different levels of comfort with this based on just the limit of our knowledge. The good news is, in general, since the 1960s, we've moved away from pesticides and herbicides that are really persistent in the environment, things that resist breaking down once we apply them. DDT was the poster child for persistent pesticides. It was super popular in the 1960s, but it was banned partly because it was shown to bioaccumulate in animals and cause various health problems in humans and wildlife. Rachel Carson wrote her book, *Silent Spring*, about this chemical or partly inspired by this chemical. These days, the lawn chemicals we use tend to break down more quickly and are often more water soluble. There's the potential for them to get flushed out of our gardens, our lawns and into the water table more quickly.

**Rosalee de la Forêt:**

Great!

**Sarah Sorci:**

That sounds maybe better for our gardens, maybe not so good for our ecosystems and our water supply. One question I want to explore more this year is—when I've looked into—when I've been doing a little research about other chemicals like PFAS, I learned that more water soluble chemicals tend to get taken up into plants more easily up into the aerial parts. I would like to do a little more research to find out to what extent that's also true of today's herbicides compared to something like DDT. So stay tuned. I want to learn a little bit more about that.

I guess one thing besides feeling like I have to learn more about that question, something else that I guess an area where I see more research needed is we often do—"we" as in chemical companies, whoever is doing the research—testing often happens when it does on the original chemical. We often aren't testing the metabolites, the thing that that chemical then breaks down to in the environment. We certainly aren't testing. We're not necessarily looking at how the original chemical interacts with the other chemicals that might be there from other environmental contamination or heavy metals or the other metabolites from other things. There's just so much complexity to how things interact with each other in the environment.

Of course, this is all impacted by the composition of our soil--our pH. Is it sandy? Is it clay? How much organic matter is in there? These things all have an impact too on how quickly things might breakdown or move out of our soil. That is why my easy answer is not here with us.

Given all of those variables and uncertainties, I'll just share a few things that I guess, yeah, where I have come with it. The USDA, when they're certifying a farm to be organic, they require that the land—let's say that the land had previously been used for conventional farming, with conventional chemicals applied to it. The organic operation has to wait three years before they can sell an organic crop from that land. That's I guess one—if you're looking for some sort of ballpark amount of time, if a piece of property had been sprayed regularly for years, I like the idea of waiting three years. Maybe I like it because it's just something to work with.

Do I really think that every little metabolite and every little sign of every herbicide is absolutely gone after three years? Probably not. I try to—I feel like beyond that three-year point, it's pretty hard to find soil in our country that is just 100% pristine. At that point, I feel like what I want to bring is just gratitude for the space, gratitude for the plants rather than really still feeling—rather than coming to the space with fear of what might still be there. That's just where I come from.

I will also share a few optimistic things, things we can do with our spaces to actually make toxins less accessible to our plants. Some concrete To Dos. I was so excited to learn that adding organic matter like compost makes many contaminants less bioavailable to plants. What a win-win because we're already supposed to be adding all this organic matter to our soils. The contaminants—many contaminants sort of get bound up in the organic matter. They absorb to the carbon or the organic matter there. Just one more great reason to do what we're already doing maybe if we're making compost from our kitchens or buying compost to add to our gardens.

I found this study recently that they looked at the effect of—they had a wheat field and they wanted to see what effect it had to add compost to pig manure to the system. They found that when composted manure was added, an herbicide called “prometryn” accumulated significantly less in the plant than when there wasn't compost added. Just really great news for us.

### **Rosalee de la Forêt:**

That's wonderful.

### **Sarah Sorci:**

This is also true in addition to just maybe reducing how much of our herbicides might get taken up into our plants. This is also true for lead and some other heavy metals. Some heavy metals like lead are more likely to be taken up into plants when the soil is really acidic, like under a pH of 5, which is relevant for my husband and I because when we moved to our property, some parts of the soil tested 4.5. It's really acidic here. A perk of adding that organic matter, that compost is that composted stuff, generally, makes the pH go closer to neutral, so it kind of achieves that too. Also, the microbial activity in compost can help to break down certain contaminants more. Of course, heavy metals aren't getting broken down. It's just an element. It's not going to get broken down any further, but some of our other contaminants might be broken down more quickly when we have that nice, healthy soil with good compost and microbial activity. I think I'll pause there.

### **Rosalee de la Forêt:**

This could be a whole other topic, but I am curious if you looked into plant remediation and how plants can help with that. If that is a really huge topic, you could just say yes in a couple of sentences.

### **Sarah Sorci:**

I did look at—a friend of mine directed me to a book called *Earth Repair*. I believe Leila Darwish is the author. It's a practical hands-on book for folks who maybe are trying to remediate land that they know is contaminated with a certain contaminant. It's very helpful to do some soil testing first to know what is there so we know maybe which plants to plant that happen to be good at pulling lead or zinc or aluminum or whatever out of the soil. I found the book really exciting and interesting.

The sense I got—the sense I've gotten from some resources is that it may not be practical. For example, sunflowers are known for being pretty good at pulling certain contaminants out of the soil. We need to—once that happens, after the sunflowers have been there for a year, we need to find somewhere else to dispose of the sunflowers, unfortunately, because now they contain the contaminant that was in the soil. I think about that issue. Do we designate a compost pile on our property too? We're not going to be using that compost, but it's just kind of a disposal spot. I am not sure.

I think so far my approach if I were gardening somewhere where I knew there was a history of contamination from industrial activity or heavy metals—I think my approach at this point

would probably be to use raised beds. I'm not sure how many cycles it would take to—how many years of planting sunflowers we would need to do in order to pull out all of that contaminant. I guess maybe at this point because I don't have the expertise around it, I think my approach is usually more of just plant on top of it, put down a barrier and then put on some new soil.

**Rosalee de la Forêt:**

Thanks for confirming that one for me. We had planted out our garden and then we came very suspicious of the soils for certain reasons and now we have all raised garden beds. That was also the approach that I took.

**Sarah Sorci:**

For sure.

**Rosalee de la Forêt:**

Sarah, I assume that a lot of people listening—maybe not all—but a lot of people are not really keen on having contaminated soils and growing or harvesting herbs in contaminated soil, and are not wanting to contribute to that by using things like Roundup, which are very popular for folks to use around where they live. I'm curious. This is something that comes up a lot, especially with my Rooted Medicine Circle students. They don't want that on there. They want to eat the plantain or work with the plantain and the dandelions and the chickweed that's in their yard, but they live in places that have Homeowners' Associations, which will have things in place like you can't have a certain amount of weeds. Basically, they're an island surrounded by people who are pretty excited about Roundup and who just don't have that same value of not wanting to contaminate the soils. It's hard for me to wrap my mind around that, honestly.

I'm curious what advice you might have for folks who are trying their best to not have contaminated soils, but who might be surrounded by others who don't have those same prerogatives.

**Sarah Sorci:**

That's a great question. There's a resource offered by a non-profit called "Beyond Pesticides," and it's called, *Pesticide-Free Zone Owner's Manual*. Beyond Pesticides offers a pesticide-free zone sign that you can purchase on their website to put on your property, which for some people might be a nice way to promote this way of managing land without conventional pesticides, maybe even inviting some conversation about it. The non-profit also acknowledges



that putting a sign like that out might stir some conversation, questions, maybe even a little bit of tension depending on who your neighbors are. I love that in this *Owner's Manual*, they not only give reasons why to go pesticide-free, but they also give tips for navigating these conversations with neighbors. For people who want to look further beyond this talk now, that's a really nice resource.

One thing they suggest is keeping it personal, whether we initiate the conversation or someone approaches us, "Why no pesticides?" we often respond better to someone sharing a personal story or maybe a reason involving our children or our pets or our herb and veggie gardens that we want to keep clean for our food, being vulnerable and bring in a little bit of our personal story into it rather than just rattling off a bunch of data.

I guess something else that comes to mind with these conversations is maybe things I've heard about navigating conflict, in general. I feel like for me, when I'm going into a conversation expecting it not to go well, maybe I come feeling already a little bit defensive or a little guarded or briskly or something—something I try to practice is going into a conversation assuming we're on the same team with a neighbor. That might mean assuming that we both want the best for our neighborhoods and for our yards and our property. We both have that same goal, so if we have this conversation, we're really just sharing intel. We're both trying to get to the same place.

**Rosalee de la Forêt:**

I love that.

**Sarah Sorci:**

I guess one more thing I'll just note from that resource, they recommend we don't have to feel like we need to be experts when we have these conversations. We can really just keep it practical. Again, this touches on the "keep it personal" point, but maybe we don't want to use pesticides partly because it's expensive. We can use that money to buy some native plants. Maybe our sister has cancer and that really got us looking more into some things we can do in our daily lives to just to keep our homes and our neighborhoods healthy and change that trajectory. Those are a few thoughts.

**Rosalee de la Forêt:**

Thank you, Sarah. Again, [anourishingharvest.com](http://anourishingharvest.com) is a fabulous place to get more resources about this. The last topic that I'd love to touch on before we go, Sarah, is something that you've

helped open my eyes about, which is when you think of contaminants being in the soils maybe because of like what you've been saying, industrial use or it was an orchard that was sprayed or maybe even we sprayed Roundup there. Whatever it is, but it's something that happened to the soils but there's another sneaky way that contaminants can get in and that's through our garden hoses.

### **Sarah Sorci:**

I really enjoy writing about this topic because as I noted before, the complexity that can come into these questions. Sometimes it's nice to just think about something that's just a little bit more straightforward. It's easier for me to write about. I hope it also just—sometimes it's nice to have very straightforward, practical stuff that we can take to maybe make a change today around these topics.

What I learned about garden hose safety is we don't necessarily need to buy a new hose in order to reduce the amount of contamination getting into the water from the hose. Some hoses are made out of materials that might leach into the water. A couple of things we can do are store the hose out of direct sunlight, and also flush the water out before using the hose if we have water sitting in the hose for a little while in between use.

This touches on what we know as herbalists. We know that water is a pretty decent solvent and when we add heat, like boiling a cup of tea, that can improve our extraction. So when we store the hose out of direct sunlight, we're taking away that variable. UV rays are also such a powerful force to break down materials. I like to flush the water out suggestion because I'm not perfect about this. Especially early in the spring, we have little seedlings out in the garden. I do not put my hose away every single time I use it. Just knowing that when I have left the hose out for a day and it's been sitting in the sun, knowing that I can flush out that water. I feel it when it changes from lukewarm to cool or cold water. That's usually when you got the fresh water and I'll start watering plants then.

If folks are ready to buy a new hose, there are also some things you can keep in mind when you're looking at labels. The Ecology Center in Michigan had a really helpful study in 2016. They looked at 32 different hoses and what they contained and how much of different contaminants ended up in the water for some of these hoses.

Just a few simple tips that came from that study. In general, it's a nice idea to avoid PVC or vinyl hoses if we can. They found that the only hoses they tested that contained lead, bromine,

antimony and phthalates, which are all potentially harmful contaminants. PVC hoses were the only ones that had those contaminants in them. If we can find a rubber hose or a polyurethane hose that is labeled “drinking water safe” that looks like a better option. If we do go with the rubber hose, the Ecology Center didn’t turn up these contaminants of concern in rubber hoses.

I’ve also read that there’s a difference between a natural rubber hose and one that is synthetic or recycled rubber. A lot of synthetic rubber hoses are made out of old automobile tires. As we can imagine, tires weren’t designed for food production. They were totally different intention when they were made, so it just isn’t really the best material to be using because it does contain a range of contaminants--our car tires. A natural rubber hose is a better option there too.

### **Rosalee de la Forêt:**

These are great tips and I appreciate them because we don’t like to be fearful of everything around us that it’s like, “Oh, my gosh! Even our garden hose can create contaminants!” But with just by empowering us with a little bit of information, we can make better choices. I like how you said more simple, straightforward and we can take very practical steps in that way. I want to thank you for supplying us with a handout on garden hose safety. Everyone can download that at [herbswithrosaleepodcast.com](http://herbswithrosaleepodcast.com) with those tips to help figure all of that out.

Thank you so much for sharing such crucial information, empowering information. I really appreciate how you do share it in an empowering way versus an alarmist way because as herbalists and gardeners and foragers, we need to know this in a way that we can move forward. Before we go, I’d love to hear about any projects that you’re working on, Sarah.

### **Sarah Sorci:**

Well, I guess since we’re on the topic of A Nourishing Harvest, I guess I can share that beyond my—[anourishingharvest.com](http://anourishingharvest.com) is where I post free articles every month, one free article a month. I’m excited to just have a place to put additional resources for folks who want to learn more, so that might be like—I’m hoping this year to do a few more interviews with experts. If people want to check out specific studies that I might reference or even plant walks or garden talks that I’m able to record, I’ve been posting those on Patreon. If folks are interested in that, it’s [patreon.com/anourishingharvest](http://patreon.com/anourishingharvest).

### **Rosalee de la Forêt:**

Wonderful. That’s something well-worth supporting--a critical topic that affects us all.

**Sarah Sorci:**

Thank you.

**Rosalee de la Forêt:**

Before we go, one last question that I'm asking everyone in Season 8, which is, "What has been your most important herbal mistake?"

**Sarah Sorci:**

It's such a great question. There are so many to choose from, but the one that I felt called to share is more like a chronic issue or a tendency, and that is I tend to be a bookish person. I could probably be, for the rest of my life, just reading about herbs and reading about herbs stories and accounts, history of plants without actually ever going outside. Every time—I'm a gardener and I like to hike. Every time I get out there, I feel so much better but my little controlling mind doesn't really love to surrender control for a little bit and be in a different mode. It's like meditation. I feel so much better when I meditate, but it takes that actual little gumption to drop my computer work or whatever and actually change modes and get outside. I think I'm sharing this for accountability, Rosalee.

I found—I think many herbalists—I think most of the medicine in my experience is really from spending that time from actually getting out in nature and having that connection and getting to work with the plants and have that experiential time. I'll do my best to make as much of it as I can this year.

**Rosalee de la Forêt:**

I love that. I can relate to it as well. Thank you so much for sharing your most important herbal mistake and thanks for being on the show and being here with us, and again, sharing such valuable information.

**Sarah Sorci:**

Thanks so much for having me. It's an honor.

**Rosalee de la Forêt:**

Thanks for being here. Don't forget to head over to the show notes at [herbswithrosaleepodcast.com](http://herbswithrosaleepodcast.com) to download your important handout on garden hose safety. There you'll also be able to sign up for my weekly newsletter, which is the best way to stay in touch. You can also visit Sarah directly at [anourishingharvest.com](http://anourishingharvest.com). If you'd like more herbal

episodes to come your way, then one of the best ways to support this podcast is by subscribing on YouTube or your favorite podcast app.

I deeply believe that this world needs more herbalists and plant-centered folks and I'm so glad that you're here as part of this herbal community.

Also, a big round of thanks to the people all over the world who make this podcast happen week to week.

Nicole Paull is the Project Manager who oversees the whole operation from guest outreach, to writing show notes, to actually uploading each episode and so many other things I don't even know. She really holds this whole thing together.

Francesca is our fabulous video and audio editor. She not only makes listening more pleasant. She also adds beauty to the YouTube videos with plant images and video overlays. Tatiana Rusakova is the botanical illustrator who creates gorgeous plant and recipe illustrations for us. I love them. I know that you do too. Kristy edits the recipe cards and then Jenny creates them as well as the thumbnail images for YouTube. Michele is the tech wizard behind the scenes and Karin is our Student Services Coordinator and Customer Support. For those of you who like to read along, Jennifer is who creates the transcripts each week. Xavier, my handsome French husband, is the cameraman and website IT guy.

It takes an herbal village to make it all happen including you. One of the best ways to retain and fully understand something you've just learned is to share it in your own words. With that in mind, I invite you to share your takeaways with me and the entire Herbs with Rosalee Community. You can leave comments on my YouTube Channel on the [herbswithrosaleepodcast.com](http://herbswithrosaleepodcast.com) show notes page or simply hit "Reply" to my Wednesday email. I read every comment that comes in and I'm excited to hear your thoughts whether it's about gardening, environmental contamination, garden hoses or whatever.

Okay, you've lasted to the very end of the show which means you get a gold star and this herbal tidbit:

Sarah's parting words about the importance of putting down books and going outside to be with the plants made me think of something I officially call, "Mary Oliver Moments." As many of you probably know, Mary Oliver is a naturalist poet who has inspired many with her straightforward, heart opening poetry. I love that by reading her poetry, I'm inspired to go

outside and cherish all there is to find there. The reason why I have a proper official name for this is because I literally write it in my To Do Lists. I'll write "M.O.M" for Mary Oliver Moments.

In parting, I'll leave you with one of my favorite poems by Mary Oliver:

*How I Go to the Wood*

Ordinarily, I go to the woods alone, with not a single friend, for they are all smilers and talkers and therefore unsuitable.

I don't really want to be witnessed talking with the catbirds or hugging the old black oak tree. I have my way of praying, as you no doubt have yours.

Besides, when I am alone I can become invisible. I can sit on the top of a dune as motionless as an uprise of weeds, until the foxes run by unconcerned. I can hear the almost unhearable sound of the roses singing.

If you have ever gone to the woods with me, I must love you very much.