

Podcast Series: Holistic Nature of Us

Episode # 50 Meet Kimberly Kresevic, founder of InSoil Health

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Hi I'm Judith Dreyer,

Thank you for joining me for this pod cast series "The Holistic Nature of Us".

My intent is to take us, you and I, into a better understanding of the concepts behind our holistic nature and how that ties directly to the holistic nature of the world around us. How can we connect the dots in practical ways that we are nature and nature is in us?

I will be featuring authors and educators, practitioners and others whose passion for this earth helps us create bridges. We'll see what's trending, what's relevant to our world today, not just for land use, but to connect the dots between nature and ourselves. It's time for practical action and profound inner change so our natural world is valued once again.

Today I'm delighted to introduce you to Kimberly Kresevic, who is the president and founder of InSoil Health, a data analytics and educational consultancy based out of Northeast Ohio. With diverse experience in both healthcare and biological cultivation Kim brings a unique systems based approach to current food production challenges, driven by the principle that nutrition is the foundation of human health and vitality Kim works with growers in all walks of life and at all scales to improve food quality using natural, biological techniques. By focusing on soil production data, systems improvement and the human health value proposition, Kim helps growers invigorate the soil food web, reduce input costs and eliminate the toxic environmental efforts of synthetic fertilizers, herbicides and pesticides.

Kim, welcome to the Holistic Nature of us.

KIM: Thank you so much. It's a pleasure to be here.

JUDITH: Kim, I'd like to start out with you telling us something a little bit about your company, what inspired you to found it, that's correct I think, and explain to my listeners a little bit about how that was born and what dots you're trying to connect with your business.

KIM: Sure, so, I'm actually a registered nurse by training and background with a huge passion for growing fruits and vegetables. I have about 1,000 square feet of vegetable growing space and orchard with approximately 50 trees, and so forth, and over the past several years I've been sort of straddling the health care arena with my own personal passion for growing. Eventually it occurred to me that I had an opportunity to combine these in a meaningful way.

So, I'd like to just start out by saying that it's my personal belief that soil health is a vital factor in human health and vitality equation. And we know this from our own history dating back to the dustbowl and through the study of failed civilizations where soil degradation and then the subsequent inability to grow food proceeded collapse. There's been a tremendous amount of progress on the human nutrition side and people that I follow, like T. Collin Campbell, Ann Popper, as well as on the medical research side, Dr. Esselstyn, Dr. Michael Greger, Dr. Dean Ornish and Neal Barnard to name a few. The common theme among this elite group of health practitioners is that nutrition will minimize your risk of disease and in many cases, like diabetes and heart disease for example, nutrition can be a curative self-regulated intervention. The literature is convincing and it's actionable. It basically says change your diet and health benefits will come. So what's curiously missing from the discussion are the growers; the hardworking men and women who are actually bringing food to our table; the farmer's, the market growers, the home gardeners, all of the folks that can and do impact the quality of food in significant ways. Their growing techniques, their use or avoidance of synthetic fertilizers, toxins or herbicides and pesticides have a big impact on food quality and parenthetically on nutrition.

And so, the work that I'm doing is to connect the dots between the medical community and the actual growers, between human health and soil health, between nutrient dense fruits and vegetables and living soil. The work of the company is to start at the beginning, which is to bring an important tool to growers with just a microscope. Just to be able to visualize the soil/food web and all of the actors that play a role in that web and help people

understand how to make corrections that are microscopically indicated based on those biological assays.

JUDITH: Wow that's interesting. I don't know of too many people that are actually doing that. And as we talked about earlier, you're at the beginning stages of connecting these dots so that instead of being symptom based medical care we're looking at what creates health literally from the ground up, the soil up and then apply different models of healing based on that basic principle. I think this is exciting.

KIM: Well thank you. I agree with you. And you know something, nature has been growing plants much longer than people have so when you talk about soil health, what we're really talking about is the facilitation of natural processes. And the basic question we should be asking ourselves as growers is not, what do I need to apply to my plants to make them grow and to produce but rather who are the key players that nature has meticulously trained over many, many years. How can I help those players succeed? And it's this type of thinking that actually requires the mentality of a coach, not as a commander, a true gardener, and that's a big shift for many people.

JUDITH: I like that because I think we've been living in general, as a society, under the model of command, conquer and control and now we're trying to shift into a more sustainable model where there's regeneration and regenerative practices in the model. And, as you said, there are key players in nature and we've forgotten to consult with them, basically.

KIM: Absolutely. And not only have we forgotten to consult with them, many of the practices that we've grown accustomed to utilizing actually has a negative impact on them. When you start to step aside and really work, collaborate with nature, it's amazing what you can accomplish. And it's amazing how you can do it and we'll get into this in a lit bit here, at far less cost and human invest in terms of time.

JUDITH: Well I think those are key points and that's why the model will succeed. If we can reduce the cost and reduce some of the labor, why wouldn't you do it, right?

KIM: That's...absolutely. A lot of it is the science behind changing human behavior and convincing people that there is a better way, and so hence the education component of the business that I've built here and the work that I'm trying to do. It's a big shift to try to convince people to add a tool as

common and yet as innovative in growing as the microscope and so I think that this is an area of opportunity. It's also an area that has a complexity to it because you have to be able to assess soil and it's living condition. I mean soil is a vital, living, ecosystem. It has the functional capacity to sustain plants and animals and humans autonomously without our intervention. It's alive. It's diverse. It has architectural structure with channels and tunnels that allow for efficient gas exchange, water exchange. And it naturally contains all the chemical nutrients that plants need to thrive. We don't need to be adding nutrients to the soil. The job of nutrient provision in plant available forms has already been taken and that job belongs to the microorganisms responsible for nutrient cycling. What we as growers need to be doing is provide the proper conditions for the biology to thrive.

JUDITH: Yeah, I think that's an important point and that something that we're not easily taught, especially for the urban farmer who wants to take maybe a 10x10 space or put pots on a deck because that's all the space that they have, or even a roof top grower has to start bringing soil in and what do they do to thrive in those different types of environments. And people are expanding and doing that because our urban environments have increased, so this is not just for the backyard gardener who might have 100 sq. feet or 1,000 sq. feet like you do to work with.

KIM: Absolutely, and what's so magical about working symbiotically with biology is that it's completely scaleable, so regardless of whether you're growing in pots or you're growing in a large field, the biology, if it's present in the proper balance, it will maintain a symbiotic relationship with the plants and it will naturally enhance plant growth, plant health and protect against pathogens and pests. The system is completely scaleable.

JUDITH: Hmm, interesting. Okay, let's talk a little bit more about restoring soil health.

KIM: So, in terms of soil health I think it's important to mention that the soil has the fundamental capacity to perform for you if you allow it to. Nutrient cycling is achieved by beneficial microorganisms, bacteria, the fungi, the protozoa, the nematodes. It has the capacity for water infiltration instead of runoff, making water available to plants when they need it. It has the capacity for filtering and buffering so that nutrients are retained and not leached into lakes, rivers and streams creating the algae blooms that we see in so many contaminated bodies of water these days. It provides the

physical stability and support for plants, so they don't flop over. It provides a habitat for biodiversity, not just the microorganisms but arthropods, worms, ants, spiders and all the other animals up the wildlife chain. And again, this is the way nature intended it. We as gardeners should be fulfilling our role to preserve and promote the systemic way that allows these organisms to work on plants.

JUDITH: Well I have to say I agree with you with one point. I think what the model that you and others are creating is going beyond just the organic model. It's really about a sustainable partnership model.

KIM: Absolutely and you know, as I say, it's really going beyond organic. Organic food production has become very popular but emerging approaches, what we call biodynamic or regenerative, go much further to promote health by growing with biology the way nature has done it for the past, oh I don't know, 33 or 34 billion years or so. Organic systems have been very focused on using minimally invasive techniques, primarily above ground, using a sort of "do no harm" approach. And to their credit organic growers have largely eliminated the use of synthetic fertilizers and toxic chemicals but there really hasn't been a rigorous focus on soil biology and there certainly hasn't been a focus on assessing soil and using a microscope to observe and understand the patterns of living biology. So many organic growers are still battling weeds, pests and diseases. They're just doing so in a least toxic way possible. But there's a better way.

JUDITH: Hmm, interesting. Well since we've talked about soil health in this manner, how do we connect the dots that what's in the soil is the same thing that's in our gut? That's another new science-based system that's emerging, as looking at our gut filled with microbes and bacteria and that has to be maintained as well and balanced for our health.

KIM: Absolutely and one of the things that we need to do to restore balance is to stop doing some things that actually disrupt balance and set us up for problems in terms of consumption of food. So, you know, stop killing unofficial biology with chemical fertilizers and put down compost and compost tea extract and feeding your soil, not your plants. We need to stop tilling our soil which destroys the biological habitat for beneficial organisms and use cover crops and mulches instead to maintain good conditions for plants so that they can thrive. We need to stop disturbing the development and maturation of natural pest and disease management systems by applying

pesticides and fungicides, both of which kill the good guys and the bad guys, leaving your plants totally exposed and resulting in the need for chemical residues on food that people eat. We need to stop applying herbicides to control weeds. Weeds are just a symptom that your microbiology is out of balance and that you're missing key functional groups. Herbicides actually just make things worse. You need to test your biology and figure out whose gone MIA and then take the steps to recruit them back to the soil. When you do this, you end up with cleaner food which is more conducive to human consumption and the healthy gut microbiome.

JUDITH: Yeah, it sure does but that's again, I don't know why there's such a reluctance in some of the media to connect this dot. There's always criticism when the organic field says our food really is healthier. But I think the science and the technology that we have is starting to change that.

You're talking about looking at a nutrition based model versus a symptom based model, is that correct?

KIM: Absolutely.

JUDITH: Go ahead.

KIM: Well when we look at the peel, the microbiology ecology, I think it's helpful to just have a sense of how we got here historically. So, when you think about it, you know you think back to the end of the 19th century for example, Louis Pasteur developed the concept that transmissible human diseases were caused by microbial infections. And with that he sort of framed the medical view that would persist for years on the prevention and treatment of epidemics. And while this was an important medical advancement at the time, it was also the beginning of an all out medical war on microbes. Now when you fast forward about 100 years to our current conceptual framework and in this view naturally occurring communities of microbes collectively called our microbiome, which live on and in the human body, are believed to be significantly involved in health and disease prevention, a complete shift in thinking.

JUDITH: Yes, it is. Go ahead, I just wanted to comment. You're absolutely right. There is...it is a huge shift in thinking. I also have a medical background so back in the day when I did active nursing, I mean there was no discussion about our gut.

KIM: Right. Although the medical community is beginning to really transition to this, we're still seeing a lot of bad practice. I mean unnecessary use and overuse of antibiotics and these things have devastating consequences. I mean many of the patients were actually battling drug resistant super bugs and this can actually be a serious life threatening infection that lands patients in the ICU with astronomical, economic and quality of life costs. We're just really beginning to understand the ecological processes that lead to the growth of stable and diverse human biome. One thing is clear though. I mean exposure to the natural environment, whether it's a hike in the park or the food that you consume from your garden, these are a vital part of the healthy life-style. And this is true because we require natural interactions with beneficial microbial communities in the environment.

JUDITH: That's true. And again, there's been a lot of press about going out in nature from a gardening point of view, the gardeners who have their hands in the soil actually can literally feel a change in mood. There's a peace and they've actually defined that and given it a name. It's called Geosmin, that component in the soil that affects our serotonin levels in the brain which gives us a feeling of more peacefulness.

Kim do you have any kind of story from your work in this field?

KIM: Well I mean I tell you I can, certainly, there's a plethora of examples and success stories that I can point to in terms of, especially related to plant based eating; significant weight loss, disease mitigation particularly reversal of and complete mitigation of prostate cancer and obesity. But that said, the biodynamic agriculture and human microbiome are still developing. I'm confident as we gain more experience and momentum the success stories will continue to emerge. It's already starting to happen. We just don't have a lot of hard data to show just yet.

JUDITH: What about the farmer on the growing end? Are you seeing an enthusiasm to embrace these principles? Or, is there still a reluctance?

KIM: I think there's a knowledge deficit, most importantly, and I think as we sort of address that knowledge deficit and help people understand what living soil really means and what healthy soil really means and how to assess it, I think we're going to see more and more option practices that help rebuild these living soils. I think there's also...so I don't necessarily think

there's a reduction, a resistance on the part of farmers but I do think there's going to be a lot of competing priorities that emerge, a lot of synthetically developed bacteria. There's a big push to develop plant hormones. I think people have to be careful and consider these options carefully because when you think about it, you have to think about whose producing it and why would they be producing it? There's an economic piece to this and the reality is that you can control a lot of this without paying a lot of money for these products because these are natural processes that are developed in nature. So, just like with chemical fertilizer and the industry that developed around that, there's going to be an industry that develops around the development of biological synthetics to improve plant performance. But the critical thinking will come in when the people decide whether or not they really need that or whether or not they really figure out how to support the microbiological communities that already exist.

JUDITH: That's very well put. I think in my work, especially with this podcast series, I am talking to people who really are promoting the fact that we can take care of the soil in very inexpensive ways and to utilize the nature that is around us. I happen to live on a property where I'm bordered by state forest, so I can easily get some of the forest floor and bring it into my garden and create some kind of compost heaps where I can add a compost tea to it. When we do our spring cleanup, I make teas out of all those weeds and dead structures and even the stuff that's in the way. I don't cut the roots out and that's something that I've learned this year. I don't cut my roots off of the weeds. I just simply keep some of the tops more trimmed in certain areas, but I use that plant material to create a compost tea and then it can be a foliar spray. It can be food for the plants indoors and out as I go along.

KIM: Yeah compost is one the THE most important skill sets in my opinion, that growers can have and whether you know you're making hot compost or using bird compost this is one of the key ways that you get the biology that's missing back into your soil. So, having a good knowledge base on how to make biologically complete compost is an extremely important skill set these days.

JUDITH: Yeah, I agree. And luckily with the internet we have many resources that can point us into a direction. I know I have my favorite areas that I like to look into. And, because of my guests, they've offered some great resources as well. I encourage my listeners to go back on You Tube or

into my website and look at some of the previous speakers, because there's a wealth of information starting to emerge and that's the dot I want to connect.

KIM: Absolutely. I mean once you figure out the recipe, and I do encourage people to develop a structured recipe for building compost so that you get predictable results. I mean if you're doing compost the correct way, it's a lot of work. It requires inputs from, you know to balance the woody grains etc. and so you want to perfect your recipe such that you get a predictable result, you get good colonization of beneficial microbes as a result of all those efforts.

JUDITH: I agree, and I have to say I think one of the organizations that I would really promote, based on this topic, would be the Bionutrient Food Association. They have a tremendous library on soil health amendments that you can do naturally. Some amendments you can find easily, etc. So, I think these are very, very good reminders.

Before we go, I would love you to give us 3 practical tips, something that our listeners can apply today.

KIM: Sure. So I think one of the most important things is that we need to change how we treat soil but **recognizing the importance of soil to human and environmental health.** 2) I think we need to **choose high quality food grown sustainably with biology, or better, consider growing yourself for the absolute health benefit that that provides.** 3) I think **embracing the whole food nutrition is a legitimate and practical health strategy.** What we feed ourselves is what we feed our microbiome, so foods that are high in fiber to feed the microbiome in our gut is an important consideration and one that I highly recommend.

JUDITH: Again, that's very practical and that's something that we can do today. We can easily look at our diet today. This is a time of New Year's resolutions and people are beginning to think about their gardening for spring. All the catalogues are coming in and we can just make some different choices or add something different to our diet, to our gardens that supports all the things, the beautiful points that you've mentioned today.

Is there anything else that you'd like to add before we sign off?

KIM: I think it's a great conversation and I really, really appreciate the opportunity to talk with you. I think it's a very exciting time to be

both...have some experience on the health care side as well as on the growing side, because I think these two areas are going to be coming together in an equal way to really improve not only the health of communities but the health of our environment. It's so important to sustain our ability to grow enough food for everybody.

JUDITH: Yes, and to grow enough healthy food for everybody, because I feel good health is our birthright. You know I don't think it should be something that we get only because we have a bazillion dollars. I think it's something that should be part of everyone as a human being's birthright. At the same time taking care of the nature around us, because the nature around us not only has the intelligence and the genius but it also has the solutions for us to exist here happily, joyfully, enjoying creating with nature, so forth and so on. So again, very good tips. How about your contact information?

KIM: I can be reached by e-mail at kim@insoilhealth.com I also have a website InSoilHealth.com and would love for people to stop by and visit. We have a blog there and we'll be posting a lot of pictures to help put some visual reality behind this mysterious microbial community that exists in soil, so people can actually see what we're talking about there.

JUDITH: Wonderful. I'm looking forward to visiting your site as well and looking at the photographs because a picture is worth a thousand words and it brings that really microscopic world into our world. So. thank you for doing that. That's great.

KIM: Absolutely, absolutely.

JUDITH: Alright...go ahead.

KIM: Yeah, I was just going to say visual images have an amazing ability to clarify things for people and so as part of our approach to soil biological testing, what we include with each report is a digital image of people's soil so they can actually see what we're talking about. They can actually visualize data, which I think is really important. It puts meaning behind what you're trying to do and then when you serially test over time you can see that the microbiology is increasing. You actually observe that through photographic images. It has a lot more value.

JUDITH: Wonderful. All right, well Kim all I can say is thank you again for joining us at Holistic Nature of Us. I know I'm inspired. You have a lot of

practical tips but you're also connecting the dots between emerging sciences from soil health to human health and everything in between. And I think it's timely and I'm so grateful that you could share that with us today.

KIM: Thank you. It was a pleasure talking with you.

JUDITH: Good. Well this is Judith Dreyer. I'm the author of "At the Garden's Gate", book and blog. My book is available through my website www.judithdreyer.com as well as several distribution arms such as Amazon, Nook, Goodreads and more. I'd like to remind all of you that a transcript is available for each podcast. And please like and share these podcasts. Let's get the word out and support each other.

And remember, **NOW** is the time for practical action and profound inner change, so we value our world again.

Enjoy your day.