International Ag Labs

Jon Frank Interview with Dan Kittredge

Nutrient Dense Foods

Mr. Jon Frank: My name is Jon Frank. I'm with International Ag Labs, and I'm happy to have Dan Kittredge on the phone line. And we'll be talking about nutrient dense foods and the significance of them and where are they.

And so, I'd like to just give a real quick background. I've been working on this area with International Ag Labs for a couple years, starting with the backyard gardens and now moving into the market gardens more. And I realize that this is the place where I really need to focus. And so, I have a real passion about it. And that's been my experience, working from the soil side and the consulting side.

And so, Dan, what's been your experience? And tell us just a little bit about yourself.

Mr. Dan Kittredge: Okay. My name is Dan Kittredge. I am an organic farmer in Massachusetts. I grew up on an organic farm. I've been doing it all my life.

I have served as the Executive Director of a non-profit called Remineralize the Earth based on North Hampton, Massachusetts, which is advocating and educating about the role of broad-spectrum trace elements, primarily in soil fertility.

And I got involved in that work due to my analysis as an organic farmer that there were some basic mineral--broad spectrum and general mineral deficiencies in our soils that were preventing crops from reaching maximum yields and flavor and vitality.

So, through my work at Remineralize the Earth, I became more and more enamored with the principles and teachings of Carey Reams and Arden Anderson and the people who understand the basic biological balancing of soil fertility, looking at life, looking at the soil from the perspective of the plants and biological activity.

And so, we have, at Remineralize the Earth, instituted a campaign called the Real Food Campaign, which is working to coordinate the different constituencies necessary to bring nutrient density as a food standard to the American food distribution system. So, it's a broad-spectrum project. But, yes, that's the basic introduction.

Mr. Jon Frank: Wow. Can you go in just a little bit more as an organic farmer and describe some of your experiences and what you've raised and where you've marketed and different things like that?

Mr. Dan Kittredge: Historically marketed as a CSA and farmers markets, health food stores, I think that's primarily it. CSA stands for “community supported agriculture” for those who don't know that. That's when consumers pay a fee at the

beginning of the season and get one or two bags of produce all season long. And farmers markets and health food stores.

I was just noticing that crops would not always thrive. And if, sort of coming at organic from a movement perspective as opposed to a scientific perspective, I always just assumed that organic meant that plants are better and would be healthier. But, it seems that there was not a lot of science and basic biological understanding that's applied in the organic movement.

Mr. Jon Frank: Right. And just as a comment in the organics, would you say that CSAs seem to be a movement of the future or are not necessarily the best way to do things?

Mr. Dan Kittredge: I think direct marketing of farmers with consumers is a pretty ideal situation. I think it's not always possible. But, you basically are getting rid of the middleman, so the farmer is getting pretty much the best price and the guaranteed market, and the consumers are getting absolute freshness. And they can search around for the farmers that produce the highest quality.

So the competitive edge is still there, but basically everyone's getting the best price and the best value.

Mr. Jon Frank: Well, excellent. I know that's not direct with this discussion we have, but I felt like it's important to introduce that or talk a little bit about that because the question that a lot of consumers are having is where can I find

good food? And to get something that they know the farmer or they know who raised it and their ethical standards is really important today.

And I think in light of the concerns we have for food safety, just the fact that you can find some clean food locally is a great thing for people.

Mr. Dan Kittredge: Right.

But, you should always be aware that just because a farm is local does not mean it's clean.

Mr. Jon Frank: That's true.

Mr. Dan Kittredge: We've got a farm here in Massachusetts that's marketing a CSA for meat, but they're really going to a slaughterhouse the next state over and buying diseased animals and selling them. So, you know, the scams will be perpetrated everywhere in all sort of marketing directions.

Mr. Jon Frank: So, you're saying buyer beware?

Mr. Dan Kittredge: Absolutely. You need to actually meet the farmer and look at the farm and ask questions. Just because someone says they're a CSA, don't assume them to be above the pale.

Mr. Jon Frank: Well, excellent.

I think that what we're seeing now is a big change or shift in the way people look at food. And this call is in the context

of a market garden seminar that International Ag Labs is hosting, and Dan will be speaking--you'll be speaking some on.

And so, we're seeing a shift, a tremendous increase in the number of people who want to grow their own produce or grow produce for sale, and I see that really growing. And it's interesting that even Wal-Mart has a program now where they're starting to buy a little bit more local just because they don't want to pay for shipping all the way from California.

So, it is a movement that's really starting to grow.

Mr. Dan Kittredge: Yes, absolutely.

Mr. Jon Frank: Dan, can you tell me just a little bit, what's your passion now? I know you kind of touched on it, but what really drives you now?

Mr. Dan Kittredge: Nutrient density, nutrition. The biological potential of plants is basically untouched with our current agricultural systems. So, the whole nature versus nurture conversation, that the nature of the DNA of our plants that feed us has amazing potential. But, the nurture of the soil that our plants are grown in is extremely denuded. And so the ramifications of that on our physical health, our emotional health, our psychological health, our planetary health, just on all these different levels is really immense.

When you can understand the basic principles of how to maximize the vitality, the nutrition, the yield, the quality of

crops, through basically empowering the biological system, it just seems like a really inspiring possibility for where we're going in this country.

And I think that all of the upheaval and things that are going on right now are symptomatic of the fact that we're not in a sustainable place. Solutions like nutrient density in crops are some of the real bedrock things that our culture needs to be implementing to move forward in a healthy fashion.

So, I've taken that passion and developed the Real Food Campaign, which is working with documenting who are the farmers who are currently producing nutrient dense crops, who are the consultants that understand the principles of how to produce nutrient dense crops, where can you buy the minerals, the amendments if you are a farmer and you want to produce nutrient dense crops.

And then once we get that, all those basic infrastructures, we can document who is out there doing it. Then, we start to educate the consumers and get PR out to all the allied consumer groups, organic farming groups, sustainable farming, people who are unaware of these principles and start to raise awareness.

And almost unequivocally, when people become aware of the concept, they intuitively resonate with it and want to buy the crops. And so, there’s the problem. It's because there are people doing it around the country right now, but not many. And

what is the standard and what are the principles of how to do it?

So, basically all this information is known and exists in various corners, but it's not available in a broad, open, collected fashion. So, that's my passion right now. How's that for an answer?

Mr. Jon Frank: That's a great answer. I share that same passion of seeing the soil restored. I like to look at soil in terms of, I like to consider the word “stewarding” the soil. That on behalf of the Creator, we're stewarding the soil to produce nutrition.

And what we see in our healthcare system has been very poor stewardship to date. We're really suffering from poor stewardship. And so, My passion is very similar, and it really starts, to me, in the soil. We've got to get back to the soil and meet the requirements of nature.

Mr. Dan Kittredge: Right.

Mr. Jon Frank: And then, it just works its way right up, even to the health of a larger region of things beyond people's health.

Mr. Dan Kittredge: And we need to understand the principles behind how do you facilitate soil health.

Mr. Jon Frank: That's true.

Mr. Dan Kittredge: And that's where the big block is, because very few people understand it from that biological perspective.

Mr. Jon Frank: That is true, and there's lots of voices out there talking about many different things. Minerals are important and this is important and that's important.

But we find, at least from my perspective, I find, like you say, it's very hard for a lot of people to incorporate those into a system that actually works, that they can actually bring to it and take it to the refractometer and say, "Wow, this is nutrient dense."

Mr. Dan Kittredge: Right. Exactly.

Mr. Jon Frank: Well, good.

You said you were with the Real Food Campaign. You're the Director. Are you still the Executive Director with Remineralize the Earth?

Mr. Dan Kittredge: No, I've stepped down from that position. I'm still on the Board of Directors.

Mr. Jon Frank: I see.

Mr. Dan Kittredge: I wanted to focus as much of my energy as possible on the Real Food Campaign.

Mr. Jon Frank: Excellent. I think that's good.

And so, you currently are farming right now, then?

Mr. Dan Kittredge: Yes.

Mr. Jon Frank: So, you're kind of busy, then.

Mr. Dan Kittredge: I'm a busy man, yes.

Mr. Jon Frank: Well, that's great.

Mr. Dan Kittredge: I have two young children as well.

Mr. Jon Frank: You have how many children?

Mr. Dan Kittredge: Two young children.

Mr. Jon Frank: Two young children, okay.

Mr. Dan Kittredge: Yes.

Mr. Jon Frank: Well, that's great. We've got four and the ages on our children range from five to 12 and almost 13.

So--and what are the ages on yours?

Mr. Dan Kittredge: Three months and 20 months.

Mr. Jon Frank: Three months and 20 months. Wow.

Mr. Dan Kittredge: Yes.

Mr. Jon Frank: Well, that's--always brings the really good added incentive of why we want to have good food for our children and families.

Mr. Dan Kittredge: Exactly.

Mr. Jon Frank: So, you're basically focusing your efforts now on the Campaign for Real Food.

Mr. Dan Kittredge: Yeah. We're having a little bit of a hard time getting paid to do it. That's part of why I'm farming.

Mr. Jon Frank: I certainly understand.

Mr. Dan Kittredge: It's hard to make it farming on the side, but I'm farming to pay my bills. This doesn't need to be covered on the conference call, necessarily, but yes, that's the focus of all my energy.

Mr. Jon Frank: Okay. So, just so I am clear on this, are you encouraging consumers, then, to join up with the Real Food Campaign?

Mr. Dan Kittredge: Yes.

Mr. Jon Frank: Or, are you mostly trying to coordinate, buyers and sellers and producers?

Mr. Dan Kittredge: At this point, we're just working to serve as an informational hub, trying to bring together the disparate pieces of information that show the picture of how to do this. So, there's books out there. There's workshops. There are specialists. There's tapes. There's all sorts of scientific data documenting the validation of all this process.

There's all this disparate pieces of information. And so, for someone who hears about the concept and wants to get involved, whether they're a farmer or a consumer, the purpose of the Real Food Campaign, initially at least, is to be an informational hub so people can find the basic information they need to move forward.

From that point, we have a strategy of being more overt as far as a consumer action campaign to document quality of produce

that's currently available in the markets, and then use that information to pressure producers and retailers to begin pressuring their farmers to grow more nutrient dense crops**Mr. Jon Frank:** Okay. That brings me to a question. Is the message of nutrient density--actually, two questions. I would like you to define what you mean by nutrient dense foods. But, before you do that, do you believe that the organic world will take hold of the concept of nutrient density or not? I'm just curious. What's your perspective on that?

Mr. Dan Kittredge: I think the organic world is quite a disparate community. The wing of the organic world that I come from are homesteading people, back to the land, small market gardening *wing* of people who are actually doing it for the soil health and for their physical health and community health. And I think for those people, they're very natural allies.

For the big business people that have gotten into it and sort of taken the control to a large degree, not entirely, but to a large degree, I think it may be a threat. Because organic is, at its essence, a process standard and it's not a quality standard. And so, what we're talking about with nutrient density is a quality standard.

I think that there probably will be some resistance. But as consumers become aware of the possibility of quality as a standard and begin to taste the flavor and have the experience

of nutrient dense crops, I think it's a moot point. What's really going to happen is that the consume pressure is going to be increased and increased. And it's in the interest of anyone who's producing crops, not just for consumer purposes, but because their yields will be increased, because their quality, their shelf life increases, because their insect and disease problems diminish.

It's an economically wise decision for the producer, be it large or small. That's what's so exciting about the campaign is that it's in the interest of very many constituencies. It's in the interest of consumers because they can actually be eating food that will make them healthy. It's in the interest of farmers because they can be producing more and better crops with a smaller cost. It's in the interest of retailers because they can say, "We have the best quality produce," and consumers will go to their stores.

Mr. Jon Frank: So you think the market pressure is going to force individual farmers to move in that direction whether the organic industry does or not?

Mr. Dan Kittredge: Will force farmers to?

Mr. Jon Frank: Eventually.

Mr. Dan Kittredge: I think it market pressure is how the world works. And so our vote is our dollar. We vote every day with our dollar, and when people understand what's good and that

this is out there, I think there'll be a large up swell of desire.

The biggest problem right now is that the quantity of food that is nutrient dense in the food supply is quite limited because this is still a relatively new concept.

So, that goes to your second question, which was phrased first, which is what is nutrient density. Part of what we would like to do through the campaign, not so overtly but sort of collaboratively, is bring together these specialists, the people who have been doing this for 20 and 30 years, and work to develop a standard.

There's Arden Anderson, one of the leading thinkers and specialists who has developed a standard he calls Beyond Organics. It's 125 percent of the mineral assays at USDA average in 1940. For people who have studied the literature, the USDA has been documenting mineral assays of crops for the last 60, 70 years. And they've been going down ever since they started documenting them.

What Arden Anderson is proposing is that first you have high brix by the Carey Reams charts, and if your crop doesn’t have high brix, then you don't consider it. And then there's basically either high or excellent. It's some question of where the standard is. And then, you do a mineral assay to determine if you are at that 125 percent of 1940 levels. And then, what

Arden Anderson's group in California is an ORAC, which is antioxidant levels as well, very high antioxidant levels.

So basically there's different people who are advocating different standards. But generally, the people who are on this wavelength agree with the brix as the basic standard. And then, it can move on from there depending on money and certification, etc. etc.

Mr. Jon Frank: Well, that's a very nice recap.

And I think just to look at it in the most basic terms, the way I would describe it as well is to say if you eat this food, you're getting more minerals and more vitamins, more enzymes, more phytonutrients per given amount than if you eat that food. And those are in a natural chelated food form that the body can assimilate that's far better than anything that you can get out of a bottle.

And so, that's what we're after. And the impact on human health is considerable.

Mr. Dan Kittredge: And we need to do the studies on human health. There have been studies done in farm animals, but the studies have not been done in humans that I'm aware of, except for some basic things on specific diseases, diabetes and things like that, showing nutrient dense crops do not raise sugar levels of diabetics and things like that.

But, we do need to document the quality. We need to document the phytonutrient increase. We need to document the ORAC, the antioxidant increase. We need to document the minerals.

And it's not just calcium and magnesium and boron. It's 40, 50, 60 different trace elements that aren't even present in most food. We're talking about all those trace elements that really facilitate the DNA's full replication and the full biological health that are used in your brain. And these minerals are critical for our health, and they're just not present in most food these days.

Mr. Jon Frank: That is important and I agree with you that I don't have access to the studies from human health that okay, here's the food that is nutrient dense by the standards that we know with the nutrient levels that we know is good, now here's the results specifically on human health, what we've seen. That, as far as I know, just hasn't been done.

Perhaps going way back, Dr. Northern did some of that work. But I don't see any research coming out of that. There was some hint that maybe it was done, but I can't think of any.

Mr. Dan Kittredge: I know Arden Anderson's got a PhD student that was working on diabetes and high brix crops and how they affect diabetics.

It's very disparate. So, this is part of what we need to do. When the organic movement was sort of haphazard and small groups of people around the country came together and said, "We're all on the same page," and “What is that page?” Initially there was just a smattering of groups around the country, around the world, who were trying to come up with “what is organic.”

And so part of the objective of the Real Food Campaign is to bring together the specialists around the country, if not around the world, early on in this movement to really set the stage and do the research and really coordinate the process because it's so valuable and a.) it can be facilitated so much more, and b.) we really want to maintain the quality standard. We don't want people to get in and say, “Oh, nutrient dense,” and just have it be another empty marketing phrase. We want it to mean something, and we want to be able to show what it means and how it affects people.

So, this is all work that needs to be done. And as usual, money is a limiting factor. That's what we're struggling with right now.

The idea is the more that we get these basic principles clearly explained and out there, the more people will understand the real value of this and the potential of this. We'll see how that evolves.

Mr. Jon Frank: Okay. Now I'm speaking on behalf of a housewife. She wants to cook, for her family, good food.

Mr. Dan Kittredge: Yes.

Mr. Jon Frank: What does she do today?

Mr. Dan Kittredge: What does she do today? This is part of what we're working with on the Real Food Campaign. We're actually about a couple weeks away from putting up a database online.

What you do today is you get a refractometer, which we will be selling as part of our membership for the Real Food Campaign, or you can just go on eBay or wherever to buy one. A refractometer is basically a prism.

So, what you do is you take your food, whatever it is, whether beans or carrots. And you need a garlic press or some sort of press, and you press out a couple of drops of liquid from that food. And you look at it through the prism, which is called the refractometer, and you see where that comes through and how much the light refracts. There's a little chart on the refractometer, and that gives you a number. And you correlate that number with the Carey Reams brix chart and you see where it stands.

So, you can basically organize your purchasing habits, if you’re buying your cropt, to find where you get the highest brix carrots or beans or squash or tomatoes or whatever it is you're

buying. So, that's what you can do in real-time. You need a refractometer and a garlic press, and if you wait a couple weeks you can get it through our website, realfoodcampaign.org.

And the other thing that we're trying to do through the campaign is have up online a list of the farmers around the country who are currently doing this. If you want to buy carrots for the winter or apples or potatoes or grains or things like that, we have a list of people across the country who have bulk supplies of these who are growing them in a nutrient dense fashion.

Mr. Jon Frank: Well, that brings to a point here. I got an e-mail from David Kelly, and he is a consultant in Canada. He mentions that he's checked mangoes that were imported out of Pakistan and they were brixing 26.

Mr. Dan Kittredge: Oh, gosh.

Mr. Jon Frank: Twenty-six. And then, he checked Mexican mangoes, and they were brixing 14.

And basically he says the brix chart says 14 is high for mangoes, and that's really an indicator that we've probably got to look carefully and work also, in addition to other research that we're doing, to revise that chart on occasion when we see that it needs revision.

Mr. Dan Kittredge: I think there's no question about that.

Mr. Jon Frank: And I've tasted some of those Mexican mangoes that are not too hot, and I can tell you they're not very appealing.

Mr. Dan Kittredge: The 14s?

Mr. Jon Frank: Yes.

Mr. Dan Kittredge: I think we're fairly clear on the major food crops that are grown in the 48 contiguous states. This is where this sort of research was initially done. I think a lot of these other crops have sort of been put on there and that due diligence has not yet been done.

I'm not sure if there's guavas on there or not.

If you look at broccoli or tomatoes or grapes or corn, those numbers are pretty good, pretty solid.

Mr. Jon Frank: Would you say, then, for the housewife, that she go to several different stores including maybe an organic store, and just go ahead and get a small quantity of a single vegetable from all these different locations, and come home and then just do a comparison on the brix reading?

Mr. Dan Kittredge: Or, one week go to one store, say you've got three grocery stores in your region in close proximity. If you don't have that, then you don't really have so many choices.

But, say you've got three grocery stores. One week do your shopping at one store and document the brix. And the next week,

do it at a different store. And the next week, do it at a different store. Generally these kinds of big stores have their supply chains lined up over extended periods of time. So, the numbers aren't going to change too frequently.

That's the other piece of what we're doing for the Real Food Campaign is that when you get a membership, you can upload your information. You can say, “I live in Sioux City and I shopped at (I don't know what the name of the stores are out there) Safeway or something, and I got the carrots that are branded under the bag Bunny Love carrots or whatever, and they were brixing at 10.”

And you can upload that information on our database, and then other consumers can go online and see what you have already done. We can have a collective consciousness of where the best produce is and what quality is out there right now. That's one of the major pieces necessary for building this consumer action campaign. Until we get the critical mass, it won't have a lot of value for consumers. It'll just be of value in really understanding what is the quality that's out there in the food supply right now.

But, if we can reach a critical mass, it'll be a very valuable tool for that housewife. She can just go online and see where the best stuff is this week.

You can do it for farmers, too, if you're looking at a CSA. If you've got five CSAs in your region and you don't know which one to go to, if we had the consumers documenting the brix of the crops that were bought at their CSAs, there is a real good quality management scheme and market pressure for the best CSAs to charge a premium price and always be sold out, because there's good documentation of the fact that their produce is the best.

Mr. Jon Frank: That brings us to another question here. What is a fair way for people who are producing nutrient dense foods to price their foods, in your opinion?

Mr. Dan Kittredge: Whoa. I don't…

Mr. Jon Frank: I can answer that. I'll answer it myself, if you want, but I wanted to hear what you say.

Mr. Dan Kittredge: I think the number I've heard thrown around is 125 percent of organic. What's your answer?

Mr. Jon Frank: Well, my answer was to do a basic mineral density analysis and look and really try to come up with what's the dry matter, and then compare that to the dry matter that you get from going to the grocery store and just buying run-of-the-mill, low-grade produce. And then buying some organic. Same, just run-of-the-mill organic.

Mr. Dan Kittredge: Like, say you're doing beans or something, right?

Mr. Jon Frank: Yep, doing green beans, let's say. And do the dry matter on what you're producing, assuming that's nutrient dense. What's the organic (that's not nutrient dense, probably), and then what's just the conventional.

Mr. Dan Kittredge: Right.

Mr. Jon Frank: And, you know, for example, I've found that the green beans I grew had 16 percent dry matter. And the green beans that I bought from the grocery store, just conventional, had 8 percent. Now, I never did carry this through and do this with the organics, but this could be done.

Then, what I did is I took the dollar value and I came up with what's the price based on the retail per percent of dry matter.

And I did that for organics, well, I'm suggesting doing it for organics and then doing it for conventional. So, your price per percent of organic matter.

And then you take that, and then you take and you average the value of those two together. And then, you take that times your 16 percent or your percentage, and you'll be quite a bit higher in value in price per unit than probably either, but you're also giving more value than either of them.

Mr. Dan Kittredge: If you look at it from a scientific perspective, the consumer is getting a lot more nutrition for the dollar value. But, the consumer is not looking at it with

such a dispassionate perspective. They're saying, “These beans over here at $1.50 a pound. These beans are $2.00 a pound and your beans are $4.00 a pound. And I love your beans, but I can't afford $4.00 a pound.”

So, I think it's an area that needs to be further delved into. This year I was marketing organic heirloom tomatoes at Whole Foods. And I had a 2,500 square foot greenhouse, just a hoop house. And my argument was if I can extend the season earlier because my plants are growing faster, if I can extend the season later because I have a higher brix and I've got more disease resistance and I've got more frost resistance, and I'm getting more production per square foot from my tomatoes because their biological system is maximized, I can at or slightly above the organic premium and still be getting a lot more dollar per hour per square foot, however you want to manage it, and not be so far above the market price.

Because working with people like Whole Foods, if you charge too much above what they're paying somewhere else, they won't buy from you. They don't care. So, it's a touchy subject and my experience is I'm getting more yield for less work. So, there's no real need, on my end, to charge a hell of a lot more. We'll see how that all plays out.

Mr. Jon Frank: Okay. Now, Dr. Reams said the cheapest production comes when you have the highest quality. It will be

the cheapest per unit and you'll get the most yield as well. So that's something that a lot of people may not realize is how much the yield increases.

Mr. Dan Kittredge: I would focus more on that point. You can still charge whatever you're charging for your cucumbers, $1.50 a pound, but you only need to plant those cucumbers once because they don't die. They don't turn brown and die off and you need to have two or three plantings. They just keep going and going and going, and they're producing more. That's the brilliance behind having the nurture, the biological system in place, for the plant to maximize its potential. Farmers have very little idea what the potential is of their crops in general.

Mr. Jon Frank: I would agree. That's very interesting.

I just want to highlight that you're going to be speaking on “Prepare Now for the Coming Market Standard,” which is nutrient density. And what are some of the things that you're going to be looking at when you present this?

Mr. Dan Kittredge: I think I'll be touching on a lot of the themes we've covered this evening. The basic concept is that this awareness is coming, this quality standard is coming. And it takes a little while for a farm to turn around. You can't just put down your new fertility regimen in the springtime

and all of a sudden everything's hunky-dory. You really are resetting the whole biological system.

It's the biological system that facilitates nutrient density, and it takes a lot of understanding and a lot of finesse to do it. So when you say three to five years to really get there, you'll see improvements in your first couple of years. But, depending on how rigorous the standard is and depending on how sophisticated your management techniques are in the first couple of years, it's going to take a while.

For farmers to get in on it now, it's in their interest because they're going to be increasing their quality and increasing their yields. It's really in their interest because the demand is going to be increasing in the near future, so they can really be out front and demanding those premiums when the consumer demand increases. Right now, there's not much consumer demand. But, it's increasing as the awareness increases.

Mr. Jon Frank: How much marketing are farmers going to need to be doing as they're getting the better quality?

Mr. Dan Kittredge: How much marketing? Well, there's nothing like the flavor, right?

Mr. Jon Frank: I agree.

Mr. Dan Kittredge: It depends on your marketing strategy. If you're marketing wholesale to some trucker that's selling it in the city somewhere hundreds of miles away, you're going to

have a little different logistical issue than if you're selling at a farmers' market.

If you're selling at a farmers' market, once people taste your watermelon or taste your beans or taste your corn, they're going to come back next time because they've said, "Wow, that stand over there had the best whatever that crop is that I've ever tasted." And the same thing with CSAs and that kind of marketing, and to some extent, probably local health food stores.

Part of what we're going to be offering at the Real Food Campaign is literature that you can download and print out explaining the principles behind all of this, because there is a good amount of scientific understanding involved. We're going to try to bring it down to easily understandable metaphors and clearly explained principles.

So it depends on how good you are at that, more and less. But what's really going to happen is your consumers are going to start noticing a difference. And you're going to be noticing a difference as well, as a farmer.

Mr. Jon Frank: And the nice thing about it is that everybody has their own built in refractometer, and that's their sense of taste which is going to be confirming that yep, the refractometer is absolutely correct--it's so much better.

One of the things I'd like to point out is that the upcoming class is something that we've never done before. And we're focusing on this because we've had just such a increase in the number of people who are involved in small scale fruit production, whether they're going into local auctions or they're going into farmers' markets or even CSAs or direct to the local supermarkets, not even organic. And it's increasing quite a bit.

And what we're trying to offer with this are the tools necessary to put all these concepts together and come out with an overall plan, a system, that can take you from point A, which is where you're at, to point B, which is the production of nutrient dense foods.

And I would just like to point out it is the easiest thing in the world for Dan and I to get on the phone and just talk about how good nutrient dense foods are. It's an entirely different matter when you're out on the farm and you've got to come up with high brix tomatoes.

It's not a walk in the park. And so, you have to really understand where you want to go, where the market's going, and how you can get in on that. And then, it's going to take some time because it is a biological process to get the soil correct. And that doesn't mean if you just add compost, you got your biology out, you're fine. It doesn't work quite like that. And

you've got to put these tools in place, work and get the right mineral level--the available minerals out there in the right ratios--before you can see a significant increase in brix.

This conference, then, is laying out the fundamental tools that you've got to really understand and incorporate one with the other. You just can't understand one thing, you've got to learn how to put these tools together.

These tools really start with the soil test to really give you the roadmap, and we go on from there to give a broadcast of nutrients based on the soil test. And from there, we move into some of the finer tools that are still very important, the fertigation, the foliar sprays, and the conductivity in the soil.

And we've really had a tremendous increase in the attention that we pay to conductivity in the soil, and we're going to highlight some of that. It's really saved and changed a lot for farmers, when they pay attention to the soil energy.

So, that's why we're having this class, in order to integrate those five tools and get people really thinking about where the market's going and how they want to position themselves in the future market.

Mr. Dan Kittredge: My small piece of the workshop is focusing on that market direction. Understanding that that market is going where it's going, I can speak as a farmer to the

level of complexity and overwhelmingness that you get into when you get into this. There's a certain intuitive resonance with the basic concepts of biological systems and maximizing the potential of the biological system and balancing it. That makes sense.

And then, the principles and the tools of the pH meter and the conductivity meter and the refractometer and building foliar sprays and balancing whatever your fertigation is and just the process of testing the soil and the plant sap and all of that kind of stuff. It takes a level of management and understanding and I'm looking forward to going to this workshop to learn myself.

Having been doing this for a couple of years now, I feel like I'm finally ready to integrate all of this kind of stuff. I've just sort of been picking it up piecemeal.

So, I'm really looking forward to going to this course because I think it's going to be really good to sort of have each one these things thoughtfully laid out and focused on and explained in a real bare bones manner--what it's doing, why it's important, and how you balance it and how you work it with everything else. Absolutely.

Mr. Jon Frank: We've got a local farmer and I'll be highlighting him a little bit more. He's basically been on our

program now for two years, and he is very, very happy. He just could not wipe that smile off of his face this year.

He has not, like you, significantly raised his prices. And truthfully, if you take a refractometer to his produce, it's not meeting the standard of excellence. It's pushing on good, but it's probably not always in good. And most of it's probably upper average right now.

For example, he had some sweet potatoes 9.6, well, 10 is the beginning of good.

And it's not the best that's out there yet. But, he started with a soil that really did need some work, and he's been diligent to apply the broadcast. And this is his second year. Two and a half years he's been with us.

And he's really seeing some differences. And basically, this year was a stellar year for him. He told me that in all his 23 years of raising produce, he's never had a year like this ever. And really, in almost anything, he says, "It's double than the best I've ever had before for this crop."

Mr. Dan Kittredge: It's humbling at the beginning if you take a refractometer to your produce and you see where you're at on the chart. If you're too proud, you're going to turn around and say go somewhere else, because the quality that we are accepting and accept as normal and good is really mediocre. And you see this amazing, enhanced growth and vitality and disease

resistance and yield, and you're still only in the average category. And you think about, "If this is average, I can't believe, I can't even imagine what excellent is going to be."

That’s what's really the exciting part, you get the minerals on and you get the biology going, and the plants have this sheen and this growth and it's quite exciting, absolutely.

Mr. Jon Frank: It's my observation that when you're starting to get your soil back, the first thing that comes back that you really, really notice is the outstanding level of yield. It's an amazing change from what it has been.

That's the first thing. You'll notice better quality. It's incremental better quality, but you can all of a sudden see a dramatic rise in yield.

Mr. Dan Kittredge: Yield does increase before quality increases.

Mr. Jon Frank: Right. But, once the yield's up, then you basically kind of have to--I wouldn't say fight, but you’ve almost got to earn the stripes to raise it step by step.

Mr. Dan Kittredge: I think finesse is the word I use.

Getting to a basic good level is one thing, but then you really have to be on top of it. And I think part of the problem with nutrient density as it's evolved is farmers get to a level of significantly better than where they were, but far below the potential for nutrition.

But, because there hasn't been a consumer demand out there for that maximum nutrition, the farmers have been happy to say, "Well, look at this. I'm getting much better yields, my cost for production is down, I'm getting better profits," and they don't really have a need to push on to the next level.

Mr. Jon Frank: Long-term, I would like to see therapeutic grade food, and that would be something that's beyond what we would consider excellent into the therapeutic grade. And I think if we can get a good variety of that type of food someplace and run that into like a retreat setting for people who are sick, we could do a world of good in a short time with just food.

Mr. Dan Kittredge: Right. And that's when you can talk about getting premium prices.

Mr. Jon Frank: Yeah, when we can take it to the therapeutic grade.

One of the things I learned in marketing, if you bring an average produce to the market, the market will reward you with a poor price.

If you bring to the market good produce, the market will reward you with an average price.

And if you bring excellent produce, it'll reward you with a good price.

But, when you bring outstanding or the very top of the line, the most premium, the market will reward you with the most outrageous premium pricing.

Mr. Dan Kittredge: That sounds about right.

Mr. Jon Frank: And, you think about somebody who's an Olympic person and the difference in time between a gold and a silver could be fractions of a second on something. And that's where in the future, I think there'll be pretty strong competition to see who can get there because the value of that is so high.

Mr. Dan Kittredge: Right.

Mr. Jon Frank: We've got a e-mail that came in from somebody who lives in Singapore. And he says that Japanese fruit is imported into Singapore, and it is noted for its taste.

They don't really understand nutrient density in terms of the refractometer, but they know--they follow taste, which is about the same thing.

Mr. Dan Kittredge: Which correlates directly.

Mr. Jon Frank: And would you like to guess the difference in price between the standard, average produce cost in Singapore versus the Japanese imports?

Mr. Dan Kittredge: I don't know, 50 percent higher?

Mr. Jon Frank: How much?

Mr. Dan Kittredge: Fifty percent higher?

Mr. Jon Frank: Fifty percent? No, it's four times the cost.

Mr. Dan Kittredge: No. Really?

Mr. Jon Frank: No joke. Not only that, it sells out. It doesn't stick around. It sells.

Mr. Dan Kittredge: That's the thing. When people understand the value of it, and they will, they'll pay any price.

A lot of farmers, at least around here, are sort of like "Well, I'm growing high quality organic produce to sell to Whole Foods so the rich people can buy it. But I want the poor people in the cities to be able to buy it, too, but I can't afford to sell it to them."

So that's when you get into some of those ethical conversations about do you just want to be charging the premium price or do you want to be feeding people who really need it and don't have access to good food and all that kind of thing.

Mr. Jon Frank: And there's a point on both sides of that conversation.

Mr. Dan Kittredge: Absolutely.

Mr. Jon Frank: There really is.

And so, I want to just thank Mr. Limapen for bringing that information to me from Singapore because I think it opens our eyes a little bit.

Mr. Dan Kittredge: Arden says that the Japanese will only import the premium quality kiwis from New Zealand based on a brix test. And those kiwis that fail to meet the Japanese standard are the ones that are sent to this country for consumption.

Mr. Jon Frank: I think I had some of those today. They have a beautiful green color but they sure weren't up to standard.

Mr. Dan Kittredge: And the California citrus that meets the highest brix standard is sent to Japan, and the rest is sent across this country.

That standard is out there, it's just that the American populace is unaware, as they are on numerous subjects. So, the demand isn't there.

There's a real opportunity for farmers that are getting in on the ground level to be years ahead of their competition.

Mr. Jon Frank: I know a farmer, a market gardener, who's a pretty large operation. And they are doing basically everything they can to quickly come onboard with the concept of nutrient dense foods because that's what they've been talking about for a long time. But, in reality, it's been hard for them to achieve it.

And they're starting to get customers saying to them, "Okay, we want this vegetable at such and such or better brix."

And we want this or that. And they're saying, "Hey, we're doing the best we can. We're not there yet, and we can't market it yet at a specified brix."

And so that creates a little dilemma for the producers, but it sure indicates the demand is starting to come around.

Mr. Dan Kittredge: And there's so little awareness about all of this really, and the demand is already there and building.

Mr. Jon Frank: Well, I'm glad that you're working to get some funding and then consolidate information and get people talking to people.

You're going to have a website on this specifically for the Real Food Campaign?

Mr. Dan Kittredge: We have a website currently up. It’s realfoodcampaign.org. We're basically building it up page by page, and some of the pages are blank. We’re working on consolidating the information.

The basic principles and the mission of the campaign are up there, but who are all of the farmers around the country and who are the consumers that are the consultants, all that kind of stuff, we're still compiling. All the scientific data documenting increased yields and increased mineral density and all that kind of material is still coming.

We're working on it step by step. And it's basically a volunteer venture right now. It's a little bit scary because we're getting in all this excitement and people wanting this and people wanting that and not having enough time and money to put it all together. It's coming together, it's just taking us time.

Mr. Jon Frank: Are you having a place then for people who want to sign up as producers to join the campaign and then support the whole movement with some membership fee?

Mr. Dan Kittredge: We have a general membership fee of $40, and if you want to buy a refractometer and a garlic press, it's $100.

So, the question is, do we want farmers to say, "Okay, I'm growing nutrient dense crops."

I want some standards to be present. A farmer's word is not good enough. Either you need to have a soil test that passes, or be working with somebody who can vouch for you, or you need to have a mineral assay on some crops that qualify.

I don't want people to just join--just sign up and say, "Hey, I'm got nutrient dense crops," and then consumers will go to their farm and say, "This is nutrient density," when it's not. It's just somebody who's falsely claiming.

Mr. Jon Frank: I see.

Mr. Dan Kittredge: That whole validation process and standards process is something that's being worked on. And that's part of what we're struggling with right now. In documenting who are the farmers around the country, we have to do our diligence on seeing their references, whether it's the consultant they're working with or their soil tests or they've got mineral assays on their crops, etc. We want to be sure that the people we're putting up on the website really are producing the high quality crops.

Mr. Jon Frank: The difficulty in that is that a farmer might be doing everything that he can right, and yet he's still in that early phase where he's not got documented high brix on his produce to prove that he's doing the right things.

Mr. Dan Kittredge: That's basically what it's coming to is there's two tiers. There's a very small upper tier of people who are really doing quite a good job, and then there's a much larger second tier of people who are in the process and arguably do have much better quality than anyone around but still are not up to that excellent level.

As the collaboration and the coordination process moves on, we start to see where the natural barriers are and where the natural standards are. And it seems to be there are the people who are in the process. And I think that that should be some sort of standard, so you can say, "We are in process." And we

can see and document the improvement in quality year-over-year in both crops and soil or whatever. And then, the people who have really reached that level.

I think that's probably going to be where we're at, how we'll structure the farmers listed on the website.

Mr. Jon Frank: One of the things that comes to my mind when you talk about this is that, first of all, I think what you're doing is really important because ultimately you're creating consumer demand and you're trying to fill that with the needed production.

Mr. Dan Kittredge: Right.

Mr. Jon Frank: And so, if we can all work together on this, I want to stand behind what you're doing and say that my encouragement for farmers and for producers is get on board with the Campaign for Real Food, because it's going to do us all good. In a rising tide, all the boats get raised up. It's not just one boat. If we can work together.

Eeven though the details are not all worked out, I would encourage farmers, producers that are looking to sell to join this.

And the other thing I was thinking, Dan, is that software is being developed as open sourcing a lot. And some of the best software is open source.

And one way that we can use for validation is just let people who buy the produce go ahead and say, "Okay, this farmer sold beets that were 8 brix." And that measure is whatever, however it is. And let the consumers start reporting back and they themselves can start to paint a real good picture of where that farmer's at.

Mr. Dan Kittredge: Right. We are actually on that, that's part of what we're doing--there's basically direct farmers and stores. That's how consumers right now can find where to go in their local area.

My ideal of the vision is that there will be a closed loop system where all this information is bouncing back and forth. And then it becomes naturally very clear. If a farmer says, "I'm producing nutrient dense crops," they can show their soil tests over three years. They can show maybe some mineral assays. And there will be consumers also validating. That natural organism of community, of just basic information, will make it very obvious who is doing the best job in your area.

That's definitely the ideal. Again it's a question of time and money, as usual.

Mr. Jon Frank: Go ahead and repeat one more time the website.

Mr. Dan Kittredge: It’s www.realfoodcampaign.org.

Mr. Jon Frank: I wanted to just cover a couple comments on the blog that were directed toward you.

The first one was a question from A Daughter of India. "How dense are Indian fruits and vegetables? How do you compare them to the produce in America? Many thanks."

Mr. Dan Kittredge: Does this person know that I've been to India?

Mr. Jon Frank: The e-mail that I sent out, I don't know that you saw that, did say that you'd worked and lived in India, yes. And that I had, too.

Mr. Dan Kittredge: How does India correlate with the US?

Mr. Jon Frank: "How dense are the Indian fruits and vegetables, and how do you compare them to the produce in America?"

Mr. Dan Kittredge: Well, I actually was not using a refractometer when I was in India, but the Indian soils are extremely denuded. Some of the basic understanding that comes from the Remineralize the Earth perspective is that the broad-spectrum minerals are laid down in the geological process through some basic functions, either volcanism or glaciations or siltation. That's how soils are renewed over time.

And so, if you look at the tropics, the Amazon is replenished through these massive windstorms that take up minerals from the Sahara Desert in Africa and blow them over to

the Amazon. There’re some basic biological systems that bring minerals back to the soil.

And Indian soils had quite a good agriculture system for thousands of years. But, when the green revolution came in in the '60s and '70s, they really burned through their topsoil quite quickly.

So I think actually India is one of the places where they use the most pesticides and the Indians are the most toxic and have the most toxic [inaudible] of any country in the world from pesticides, from hardcore, heavy duty pesticides.

And if you understand the biological systems, you understand that those pesticides are only necessary when your soil does not have the minerals in it that the crops need to thrive and resist infestation and disease.

So, I'm not sure if that's a clear answer, but I think not so high.

Mr. Jon Frank: I do think the freshness is a benefit, but that is not necessarily enough.

Mr. Dan Kittredge: Freshness is always much better, but I don't think their brix levels are particularly high.

Mr. Jon Frank: It's interesting, and I don't what's number one. But, I read recently that India is the number two producer of fruits and vegetables by country in the world. So, it's huge. It's really huge.

Mr. Dan Kittredge: Sometimes I fantasize about going back to India. There're these places in the world--Africa, central Asia, these major land masses where this understanding of how to balance the minerals and empower the biology could bring back deserts, could bring back total barren lands to vibrant crop production. The potential through this understanding to really change the world in meaningful fashions is really immense. So, we'll see how that all turns out.

Mr. Jon Frank: I share that long-term vision. I feel like I'm here for a time, but in the long-term, that may be something to work on in the future.

Mr. Dan Kittredge: Absolutely.

Mr. Jon Frank: And the thing that has to play into that is the impact of health in the soil will impact the vegetation, but ultimately that vegetation has got to impact weather patterns or you can't get really get enough inertia to do what you need to do. You've got to get some rain in some of these areas.

Mr. Dan Kittredge: I know in India, for instance, they have these massive monsoons, and they used to have really sophisticated technologies for trapping the water and having it refill the ground water supply. But, in recent decades, a lot of those infrastructures have fallen apart. So it's not a question of shortage of water. It's just a question of poor management.

Mr. Jon Frank: Well, it is a question of lack of water depending where you go. There's different regions there.

Mr. Dan Kittredge: I would agree.

Mr. Jon Frank: Some of the areas have definitely--due to a lot of manmade influences--changed the weather pattern for the worse quite a bit. And some of that needs to be reversed because they're struggling with very, very low rainfall. Even though the majority of India is not, there are large areas that do.

Mr. Dan Kittredge: I meant in Africa and central Asia and wherever else we're looking. But, we also understand that a lot of agricultural systems do not manage their water intelligently. That if you can use things like drip irrigation—a.) you use a miniscule amount of the water that you would otherwise use in a flooding situation. But, you can also fertigate and feed the soil and the plants directly through that same drip system.

The potentials of this are quite profound. And of course we can't go to the middle of the Sahara and expect things to turn around immediately. But, there's a lot of low hanging fruit, as it were.

Mr. Jon Frank: I got one more that was submitted on the blog. And this is the last one on the blog.

This comes from Natharaj. It says, "Hi, Dan and Jon. As I see more and more farmers become interested in remineralization,

I observe them just adding rock dust to the soil without regard for whether what they are adding is what is actually needed. My experience in working with Jon has shown that too much or the wrong ratios of mineral may not be what we need to produce nutrient dense foods."

And then, the second paragraph. "I would like to hear Dan's perspective on this issue. Also, the remineralize.org website has great exposure to the world. Do you see a value in educating people not to simply dump rock dust into the soil and think this will solve the problem of nutrient deficient crops? Thanks, Natharaj."

Mr. Dan Kittredge: Very insightful and very pointed.

Yes, Natharaj. I think this is one of people who's on the Brix Talk list serve.

Mr. Jon Frank: Yes.

Mr. Dan Kittredge: So, this is part of why I have focused on the Real Food Campaign from my earlier work with Remineralize the Earth. I understand that the biological process that the earth goes through is done in geological time spans. So we're talking about glaciations every however often, tens of thousand, hundreds of thousands of years. And we understand also the role of biology and shifting minerals from one form to another.

This is something that I am sensitive about bringing up. But, biological transmutation, which is a well documented

scientifically process, which is that biology--you know, microbes do shift minerals from one form to another. I'm not sure what the math is, but I think it's oxygen plus magnesium equals calcium.

Most chemistry looks at electrons and moving electrons back and forth to make compounds. There's a really good book called Biological Transmutations by a guy named Louis C. Kervran, who was a member of French Academy of Sciences, a very hard science scientist.

And he wrote a book documenting all these different places where this science was clearly shown, that biology does have the capacity to shift minerals from one form to another. And if you look at a lot of the rock dust that's available, it's high in silica, and silica is one of those things that easily turns into calcium. And through the work of Reams, we understand the critical role of calcium.

So, I don't think that the two are contradictory. But like anything, if you do not understand your soil science and soil science in general, chemistry and physics, you can put exactly the wrong thing, the wrong kind of rock dust on your soil to put it even further out of balance. That's a very serious possibility.

So, while I appreciate the ideas of Remineralize the Earth in general, I think that the more specific scientific

application of them through this work is very appropriate. I'm not sure if I've answered the question entirely.

Mr. Jon Frank: Well, it's a delicate question. And it's an important question.

Mr. Dan Kittredge: I'm a big fan of mineral balancing and the biological system and looking at the soil from a biological perspective and working on that directly. I think it's the most efficient way to do it.

If you're talking about forests and major grasslands and the Siberian Taiga or whatever, then you can talk about broad-spectrum rock dust. But, if you're a farmer working on row crops, I think there's no more intelligent thing to do than to really closely manage and balance your minerals and amend with biology, etc., etc.

Mr. Jon Frank: I do want to point out a couple things on this question here. We are going to be covering in the class Soil Remineralization Reams Style. And I want to highlight the various different aspects of soil remineralization.

That's a big word, soil remineralization.

Mr. Dan Kittredge: Quite vague.

Mr. Jon Frank: It is very vague. And I think one of the most important books that I've ever read is Bread From Stones, and I still think it's one of the most important books I have in

my library, even though it's quite old. But, it sets the foundational questions out there.

And I would like to just jump into this question here. My observation is broad-spectrum rock powders are such that you could put very large quantities on and basically do no harm.

And you may not do all the good that could be done if you followed the Reams type philosophy, but you won't do the harm in what I've observed.

And so, in my mind it's not a bad thing. You can go ahead and get very fine gravel dust washout or something, and if you want to put on 10 tons, go ahead. It's not going to hurt anything.

Mr. Dan Kittredge: Right. But there are some questions of tailings and all that kind of stuff.

Mr. Jon Frank: Now, if you get something that's high potassium, that could be a problem.

But, where I find a much more--worse problem is people that go on and they take that idea, that concept, and they apply it to compost and manure and they just say, “Well, put a bunch on. It's sustainable.”

Mr. Dan Kittredge: “If some manure is good, more must be better.”

Mr. Jon Frank: “It's a local resource and I have plenty. Let's put it on.”

That will do a lot of harm.

And so I don't get bent out of shape if somebody does put this on at high rates. But, I will say you need to incorporate Reams' concepts, and that means address those phosphates and first all address the calcium.

We'll cover this in a lot more in depth in this class “soil remineralization.”

Mr. Dan Kittredge: If you get your calcium and phosphorus basically what they should be, then I think a broad-spectrum rock dust product is a very important piece of the protocol. There's no doubt.

Mr. Jon Frank: I agree.

Mr. Dan Kittredge: But, if you're really looking at the biological system and maximizing biological vitality, there's a real role for hard science and chemistry and physics and all of these kinds of things to really monitor and to utilize as tools in the process.

So, it's just a question of flying blind versus having a map of where you're going.

Mr. Jon Frank: Well, Dan, I want to wrap this up now. I want to thank you for all your insights and sharing. And I'm sure a lot of people will learn some things. And so, just really appreciate your time.

This will be available as a free download and also for people to have a playback. So, thank you very much, Dan.

Mr. Dan Kittredge: My pleasure. Thank you for having me.

Mr. Jon Frank: And do you have any closing comments or anything you'd like to bring up at this point?

Mr. Dan Kittredge: Boy, I think I've covered most of the things I wanted to cover.

I'm really looking forward to going to this workshop. I think that there needs to be much more of it out there, and that's part of what we're trying to do with the Real Food Campaign is have these materials publicly available and try to serve as a coordinating hub for this process.

So, we very much welcome any memberships. Sign up, get the newsletters. If you know anybody that's got money, it would be great to kick start this process a little bit more.

Join--come see the website. And it's a work in progress. Come every couple of weeks so it'll be a couple more pages up and more sophisticated. So, like this whole process, we're just evolving.

And best of luck to all the farmers that are at it. I can say as a farmer, it's a whole new world.

Mr. Jon Frank: I just got an idea while we were talking. Perhaps if there's a lot of interest out in the East Coast, we could have somewhat of a similar type of a conference that you

could host and then we could do this. And maybe we can get a number of people who wouldn't come all the way to Indiana for this. Is that a possibility?

Mr. Dan Kittredge: I know that a lot of the people that I know around here are not planning on going because of just the distance.

You're really trying to put it into a "these are the basic pieces of the puzzle and this is how to get from the beginning to the end." And I think you guys are trying to lay it out in more just overt "these are the facts, this is how to do it" kind of thing. Maybe not, but that's the impression I get.

Mr. Jon Frank: Well, let's explore that idea, and I have some other ideas so I'll continue to talk with you on that.

And I am looking forward to seeing you in the class, and it's coming up just in a few weeks. So, again, thank you and I think we'll just close the call now.

Mr. Dan Kittredge: All right. Great, Jon. Thank you very much.

Mr. Jon Frank: Take care, Dan.

Mr. Dan Kittredge: All right. Bye-bye.

Mr. Jon Frank: Bye.

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