Jonathan: Welcome everyone, Jonathan Hunsaker**,** founder of Organixx and I'm joined with TeriAnn Trevenen**,** our CEO.

TeriAnn: Hey everyone.

Jonathan: And also, Dr. Daniel Nuzum.

Dr. Nuzum: Hey folks.

Jonathan: Dr. Nuzum is the master formulator behind the organic products but way beyond that, he is an encyclopedia of information. And so we decided to start this podcast just to share with you all kinds of information about living a healthier, happier life. And so that's why we have doc here today. This is Episode 5 and we're going to be talking about turmeric. We're gonna be talking about inflammation. We will be talking about vitamin D and let's kick it right off. Let's talk turmeric right now is such a very, fad, popular, whatever you want to call it-

Dr. Nuzum: buzz word

Jonathan: buzz word that's going on right now. Why? Why is it so special?

Dr. Nuzum: It has a long history as a very effective herbal anti-inflammatory. I mean it's been around; they've been using it in ayurvedic medicine in India for close to 5000 years. so, it has a long history there. It's been used in Oriental medicine for recorded almost 3000 years of recorded history of being used as an - what we would call an anti-inflammatory in Oriental medicine. It's been one of the spices that was sought after by the Europeans. From the Orient, from India.

Jonathan: What is turmeric?

Dr. Nuzum: Turmeric, that's a good place to start with anyways.

Jonathan: Sure. [laughs]

Dr. Nuzum: What is this stuff, anyways? Ok. Turmeric is a plant that is in the ginger family. A turmeric root and ginger root are first cousins. Turmeric has a- If you grew a turmeric plant the leaves that grow out of the ground are very similar to ginger, ginger plant. If you've ever seen those before but they actually look, the leaves look real similar. The roots are very different. You know Ginger roots are larger, thicker roots where the turmeric are not quite as big around. And the turmeric roots are orange because they have the curcumin in them. And that's one of the major chemical differences between ginger root and turmeric is, turmeric has the curcumin in it. So, I can give you a little background to what it is.

Jonathan: In general, when we're talking about, we were only talking about the root. There's nothing that's been used with the leaves or anything like that. It's just the root.

Dr. Nuzum: Right, this just the use of the leaves as anti-parasitic.

Jonathan: Alright.

Dr. Nuzum: [laughs] Okay those are of both plants though. So that's the primary use in the herbal medicine kingdom you would use turmeric leaves or ginger leaves as an anti-parasitic.

TeriAnn: Interesting.

Dr. Nuzum: The thing with turmeric is, it has had a long history of historical use of being an anti-inflammatory. It always helps to a swelling that was the thing. In-

Jonathan: Well let me cut you off let me ask you what- I mean explain for a second, we talk about inflammatory but what exactly is inflammation? Everybody talks about inflammation. Just give us a quick understanding.

Dr. Nuzum: What is this thing?

Jonathan: Right.

Dr. Nuzum: Inflammation, a lot of people get pain in inflammation, sideways not necessarily—they're confused. Inflammation is when something is expanding because it's swelling. And when you have something that is inflamed and its causing pain it's because the fluid in that particular area of your body is causing that that tissue to expand and the pain is caused because of the expansion of the tissue pushing on the nerves that connect to that tissue. So when the nerves feel this pressure, they tell us that there's pain. And so you get a joint that's -you jam your thumb it swells up. You can't move it because it hurts. All right because there's swelling in the joint.

Jonathan: Why did it swell?

Dr. Nuzum: Because something irritated it. Bumped it, hit it with a hammer. Or something caused some sort of trauma. The body's response to irritation is always an inflammatory response. Many people's response to criticism or to your foul language or something like that is an inflammatory response because it irritates them.

Jonathan: Interesting.

Dr. Nuzum: It's an inflammatory response, right. Where your body when it gets irritated by a toxin, by injury, by emotion or whatever, has this inflammatory response. So all kinds of things, anything that is an irritation to you as an individual can be a trigger for inflammation in your body. Whether that is foods or chemicals in the environment or you stubbed your toe.

Jonathan: So why is it beneficial when it comes to - say bumping your thumb or twisting your ankle. Why is that inflammation good at that point?

Dr. Nuzum: In order to bring all the white blood cells that your injured area needs to heal, the body will swell up to draw those cells, those white blood cells to the area and they come in and start fixing things. They get in there and start healing that particular injury. Now that initial swelling is a good thing because it gives them space to work in.

It splints that particular area, because everything swells up and you can't move it, right. Which is good. You don't want to move an injured area, right, initially. If the person is healthy, in their overall - we call it the global capacity for inflammatory response. Their overall level of inflammation in their system is relatively low. That particular injury won't stay swollen for very long. They'll adapt and overcome it. If the person's average or overall level of inflammation is high they get an injury like that. And it may not ever go down. The swelling may never go down completely.

Jonathan: That brings in the conversation around chronic inflammation right. When you're talking about their inflammation being high in general. Let's talk briefly because I want to get back to turmeric. Is chronic inflammation, understanding the difference between that and we'll call it isolated inflammation.

Dr. Nuzum: Right. You have your isolated acute inflammatory response which is usually to an injury or - you get something on your skin and it - poison ivy. Poison Ivy is your skin's response to the irritating acid on the leaf of the poison ivy plant. When it touches your skin it's an irritant, causes this swelling and pain redness and irritation of the whole process. So it's the contact with that acid from the plant that caused that irritation. So that was the irritant.

Your body had that local inflammatory response to that. Now if that acid gets moved around on your skin it will spread that irritation spreads. Correct? If anybody's ever had poison ivy, you know what I'm talking about, right. So, if you've seen it, you know that that's how that happens. Now, that's local acute inflammation. Chronic inflammation looks more like fibromyalgia, everything's just inflamed or the person's just bogged down with swelling in their whole body.

Jonathan: Well that's an extreme case, right?

Dr. Nuzum: Right. Right. ***[inaudible 0:08:47]***

Jonathan: Sure.

Dr. Nuzum: -that ends, that would be an extreme case. You take somebody with other immune issues and things like that. Those folks are dealing with chronic inflammation. That's what chronic immune disorder is or autoimmune disorder. Autoimmune disorder is, it's chronic inflammation swelling in their body that has gotten so bad that their immune system has lost the ability to differentiate between who's the good guys and who's the bad guys so just lashes out against anything. In whatever their particular system is most sensitized to is what their immune system will lash out against. those are examples of chronic inflammation.

Jonathan: And let's talk because I think it's even—yes, there are extreme cases. I think a lot of people

are inflamed simply by poor diet, consuming too much sugar things like that will cause you to retain more water, be more inflamed so to speak. Right. Two different things like that. It just has somebody naturally more ***[unintelligible 00:10:00]***

TeriAnn: Not only that. What are they experiencing to know that that's the case what symptoms inside. Symptoms are they seeing from that to make that apparent to them.

Dr. Nuzum: Right. If you're on a standard American diet you're not only not getting lots of nutrients. You're getting lots of pesticides, lots of herbicides, lots of other cides. In the foods that you're eating those things are wreaking havoc on people's guts. If you consistently eat and then your abdomens is bloated. If that is a very consistent issue for you the chances of you having a leaky gut, where there's the gut wall is irritated and inflamed, therefore, it becomes hyper permeable.

So. What I mean by that is if you're looking at this, here if this was your gut wall nice and healthy. It's all nice and tight and it can sift things, only small things are going to come through that nice tightly knit mesh. Right. If it gets swollen and pulled apart that mesh separates in it. It becomes easy for larger particles to pass through. So what happens is you end up getting undigested food into your bloodstream. These are minute little particles but it's still much larger than the nutrients that should be floating into your system through your gut.

When that happens there's a whole process of events that start to happen within your immune system which brings about every inflammatory issue that you can imagine. When that happens, every time you eat in your gut can just blows up like a balloon. Your immune system gets set on a level five alarm in anything that's floating in your bloodstream becomes targeted as if it was a foreign invader. So when you see you eat a hamburger, that protein from the bread, the gluten in the bread and the protein in the in the meat.

As that undigested protein enters your system, your immune system starts getting alerted to those particular sequences of amino acids. That's a protein. So when it starts , if it sees that consistently, it will start searching out that particular sequence of amino acids everywhere in your entire body that happens to be your brain. It's your foot. It's your joints in general or your myelin sheath or whatever. If it finds that particular sequence of amino acid somewhere it starts attacking that particular area we call that auto immune disorders but it's really an inflammatory response that our bodies head.
So those are- I know that's kind of technical I hope that -

TeriAnn: No I actually think that was a really good explanation of it and I think people we talk about inflammation in a really bad context but really it's our body warning us something's wrong.

Dr. Nuzum: Right. that's exactly the case.

TeriAnn: So knowing that something's wrong and you know going back to our conversation around Turmeric. Let's talk about turmeric in inflammation and why it is a buzzword right now and why people talk about the standard American diet causing inflammation why is Turmeric so popular now?

Dr. Nuzum: I've had patients come to see me and I asked them when they come in to bring their supplements, bring their medications and things like that. Over the years. I've had people come in they were taking all the bottles from the big box store, bottles of four to 800 milligram ibuprofen tablets. They're taking 500 of those a month.

I've had patients who commute that was their standard practice. They just do that all the time. Can't figure out where my gut is a mess. My kidneys are failing, my liver is failing - I don't know why but I'm doing this every month. Five hundred tablets or more in some cases. Why? Because there's so inflamed they couldn't stand it anymore. Everything hurts so bad, they were so inflamed. So we have to work back through a whole different process of reversing all of that. But just to give you an example that is not an uncommon thing in our society.

Jonathan: So, Ibuprofen is an anti- inflammatory?

Dr. Nuzum: Correct.

Jonathan: And are we seeing the same thing without other pain relievers essentially anti-inflammatory or Ibuprofen specifically?

Dr. Nuzum: Ibuprofen more of an entire inflammatory than it is a pain reliever.

Jonathan: Okay.

Dr. Nuzum: It does help with pain because it's reducing the swelling. But that's something really common, we see that very common. You know when people are finding turmeric and finding that it is doing something at least similar to the Ibuprofen and they're able to reduce their amount of Ibuprofen they're taking - is becoming popular because it's working. People are finding this and it's working. That's across the border, so many.

Thousands and thousands of people if not millions of people are finding that every year in our country, they're finding this. But what I was getting at, when we started is this isn't something new. We've been using this in herbal medicine for thousands of years and it's had these same effects for thousands of years.

Here's a basic concept in herbal medicine is that spices, or things that are spicy, hot **cayenne** pepper, peppers in general, turmeric, ginger, real spicy herbs, oregano real spicy herbs will dry out inflammation. That's a concept in herbal medicine, a very big concept in Oriental medicine. That's in that Chinese medicine that's, use spices to dry out dampness, and dampness would be swelling.

Jonathan: Think about eating spicy food and it just start swelling.

Dr. Nuzum: Exactly. Good drying out that swelling, exactly. That's a basic concept in herbal medicine, has been for thousands and thousands of years. And now what we find today. You know at this point there's just within the U.S. there's over 3000 peer reviewed clinical studies that have been done on

curcumin from turmeric as an anti-inflammatory in its positive in every - it's across the board. It works. They're finding this in clinical studies.

Jonathan: I'm going to just be real quick on turmeric specifically because clearly it's a good thing to take. Is it something that you would consume on a daily basis?

Dr. Nuzum: Yes. Here's the reason why. The reason why I would take it on a daily basis is if you've ever had an inflammatory issue in your body, your tendency to have a higher level of inflammation, you are going to be more prone to having a higher level of inflammation. Right. So, if you could take something that would consistently start bringing that threshold down You want to get instead of being at ten you want to be down to one.

So, if we can keep you, do things that start bringing that down and you get everything under control but then stay on something that's not going to hurt you, like Turmeric that could keep those levels down. So your threshold is way higher. Does that make sense?

Jonathan: Absolutely.

Dr. Nuzum: You bring it down to - your overall level of inflammation down to a lower level and keep it there consistently. You're going to be less pro inflammatory if that makes sense.

TeriAnn: That makes perfect sense.

Dr. Nuzum: That's why entire societies that have - in India look at India -You get almost two billion people over there that take this on a daily basis and they have been doing this for generations and generations because of this very reason. That's why it was incorporated thousands of years ago into their overall diet. It was something that was actually incorporated by edicts from their kings years and thousands of years ago. The turmeric was to be consumed in every house that was an edict.

TeriAnn: Wow, that pretty cool. Going back in time thinking about the history behind that. everyone taking it like that. So let's talk about turmeric and black pepper because you hear about these terms together all the time. And let's talk about the myth behind that.

Dr. Nuzum: There is a myth there. It's it works. Let me just start off. The reason that's touted is because it does work. You know they've done studies, it does work.

TeriAnn: So it's super fascinating that everyone is taking it like that and you know it's now that it's such a buzzword today and a lot of people are taking it. And one of the things that you hear together lies turmeric and black pepper. Let's talk about that misconception behind that.

Dr. Nuzum: There are a couple of curcumin delivery systems as what they were touted as. There's a couple of ways of speeding up how fast you can get curcumin into the bloodstream. Black pepper is one of them; oil fat is another way of doing that. You can you can literally whip up curcumin in like coconut

oil and things like that. In the coconut oil, the fat globules of coconut oil will absorb the curcumin for a little while. All right.

And during that time, you can consume coconut oil. And it carries the curcumin into your system with it. It kind of slips in with oil. You know what I'm saying. That works. That is how that works. With black pepper extract, the Piperine is a mucous membranes irritant. Have you ever eaten hot salsa or real hot peppers in it that you burnt your throat?

That was because of the capsicum and the Piperine in the peppers. Piperine is in all peppers. you find a higher concentration of it in black pepper than you would in like a chili pepper or things like that. But as one of those ingredients in there with the Cayenne in the capsicum from the Cayenne that are so spicy and hot.

The problem with taking Piperine over a long period of time is the way it acts in the gut, is it irritates the gut wall causing it to swell up, so you can pass the curcumin into the system easier. Curcumin is a large flavonoid molecule and flavonoids are very sticky so they're not easy to move around in the system. Because they stick to stuff, literally this will stick to the gut wall if you had it.

So being that it's a large molecule that's bigger. It is hard for that molecule to pass right through the gut wall because it is so big. So, when they take and add Piperine to it, black pepper extract to it. The Piperine causes the inflammatory response in the gut wall and the curcumin passes through that that inflammatory inflamed the gut wall. Right. And then slowly, usually within a few hours it goes back down to normal. The problem I have with it is that's not good training. I don't want to train my wall to get inflamed and not be inflamed and be inflamed and not be inflamed and be irritated and not irritated.

Jonathan: Well there's just there's just better ways to get the curcumin into your system rather than using stuff like that and not to mention that it also affects your gut biome as well. Correct.

Dr. Nuzum: Correct, with time Piperine is a very powerful antibiotic.

Jonathan: And you're killing off the good and the bad in your gut but you are killing of the good. And the reason I bring it up here - I'm talking about is- we get questioned all the time, questions about our Turmeric 3D. Why doesn't that black pepper and he's black pepper? It's because people see this Facebook meme or something else on social media that says now black pepper makes it 2000 times more absorb-able.

Yes. If you want to do that a couple times great, but if you want to use turmeric on a long term basis to help decrease your overall - Well I can't even say that. if you want to use turmeric 3D that helps supporting healthy inflammation level. Right. On a daily basis you can't do it with pepper all the time, that’s not the way to do it.

So, talk to me for a second about alternatives. I mean we've talked in other episodes about fermentation and what that does to a molecule. We just for two minutes for those listening those that take Turmeric 3-D

can understand why we don't use black pepper and what we used that is as if not more effective than black pepper.

Dr. Nuzum: One thing real quick on the black pepper is you can't give anybody that has a gastric issue, a stomach issue or even esophageal issues, can't stay on black pepper for very long. Two weeks maybe three weeks. Usually a month is about the longest amount of time they can stay on it because it starts to even irritate the upper part of the GI track.

So, you know I do use it, use that extract and some other lines and some other programs that I do personally. But we don't do it for long periods of time. You know it is for a very specific reason. You know we're using; we're utilizing that effect for a very specific reason. Now, for long term use, you want to do something that isn't going to be irritating. Does that make sense?

Dr. Nuzum: Absolutely.

Jonathan: So with Turmeric 3D we have three different turmeric extracts. The turmeric here that we're working with, and we're using this formula is- we have one extract that is extracted via mushrooms. We actually feed the mushrooms the curcumin in the turmeric roots and the curcumin and all this. In the mushrooms extract, they ferment the ingredients out of the root.

So, in the growing process of mushrooms in a lab, when you were growing mushrooms, most labs we use grains or rice to grow mushrooms and so they pick up whatever nutrients they can from the grain. The grains or the rice, correct. In our process in this particular ferment that we're using. We have turmeric root.

We have curcumin extract that we're adding to the turmeric. We have blueberries, we have red quinoa in. These aren't rice, These aren't white rice. So, the nutrient base that our turkey tail mushrooms are growing out of here are not only the blueberries and the red quinoa, we're also giving them curcumin and turmeric root that they're extracting in fermenting.

TeriAnn: I think it's important for people to understand growing it with the grain and the white rice. There's no nutrient there. We really need to drive that home, that’s happening a lot. That's not what you want to see. You would want to see a process where it's giving more nutrients and it's something that's really going to benefit you. And just for someone who's listening in for the first time and doesn't understand the process behind that. so much better to have the latter process versus grains and rice.

Dr. Nuzum: Exactly. Mushrooms are what they eat also.

Jonathan: Like people.

Dr. Nuzum: Just like people. Whatever the mushroom is feeding off of is what ends up in the end product, your final product. And so they extract whatever it is that they're eating, whatever they're growing off, of they're extracting nutrients and things from them. That's one of our turmeric extracts. The other two were using probiotic extraction methods.

So, we're taking probiotics. In the probiotics are when we feed them the curcumin, It'd be like if my favorite analogy of this is, I had this piece of paper here and I had a figure drawn out on the paper. What the probiotics do is they cut out that figure. So, what I have at the end is a fermented figure and they've eaten away all the edges of the paper. Does that make sense?

Jonathan: Yes.

Dr. Nuzum: So, all that extra, unnecessary components of the curcumin are eaten away so you end up with a much smaller molecule. So we don't have to irritate the gut then to transport it into the system. It's totally different. It's not something that anyone else is doing; this is just a different process.
We also have Turmeric 3-D, we have the ashwaganda okay, ashwaganda helps with the digestive process and the absorption process.

Also, we take ginger and go through the same probiotic fermentation process with ginger root. So we also have a fermented ginger in here and which is like the secret ingredient almost. It's not a secret but it's - the secondary ingredient that is extremely powerful in and of itself. And so we have a really interesting formula here in art because of how we're extracting the curcumin because of how we're combining things. You're getting three different types of turmeric extracts with curcumin. These are curcumin extracts and they're coming out in such a way that the molecules are so much smaller. We don't have to irritate the gut to push -

TeriAnn: So just a question for the average everyday person then, if you're not using black pepper and you don't have a method like you're talking about here that makes it smaller and delivers it right through your system. If you're taking turmeric then, right, what's happening right it's just taking turmeric then explain that a little bit>

Dr. Nuzum: Right. Typically this is an average; this isn't for sure for everyone. but typically if you're taking a curcumin extract, so as a curcumin extract you'll absorb about 15% of it. If you're taking a turmeric powder which isn't a curcumin extract, just a turmeric powder, you'll still absorb about 15% of the curcumin that's in that powder. But that powder typically only has 1% curcumin,

Jonathan: It's not a minute number at this point 15% or/of 1%

Dr. Nuzum: Exactly. So which is why we had to find another way to make this bio available. Now apart from all of that we also take our humic and fulvic delivery system and we bond that to these extracts. So, with the human component we're taking this extract, what humic does is, it bonds the extract to the gut wall, so it sits there and gets absorbed over time.

Not only does it absorb quickly but it's some of it stays there so you get a time release effect because of the humic component in in this formula The other thing is we have a fulvic component in the delivery system that drives the- it literally bonds to the stuff shrink wraps it, and carries it right through into the system takes it right through that gut wall.

TeriAnn: So especially with something like turmeric, humic and fulvic are so powerful and you don't have to have that black pepper issue that it's actually a myth that people talk about?

Dr. Nuzum: It does, the black pepper will increase the absorption of the turmeric.

TeriAnn: But overtime you don't want that. Yeah, great to clarify that.

Dr. Nuzum: The problem is, if you're okay with irritating your gut over time, then that's fine. What I wanted to do is find a different way to do this so we didn't irritate to get people's gets are already irritated. We don't need to -

TeriAnn: irritate them more. right.

Jonathan: It's just important to kind of show this difference because of course people ask, Well hey, I can go to Amazon and I can get it turmeric product for $30. And yours is 60, right? Why is it so much more? And aside from having the additional stuff like ashwaganda, **like** vitamin D3 which we'll talk about in a second as well, but it's actually bioavailable, you're actually able to use the product. So yes we could buy some turmeric and throw it in some capsules and sell it to you for 30 bucks a bottle right but you're not going to absorb, like we said you can absorb 15% of the turmeric, I'm sorry 15% of the curcumin which is only 1% of the turmeric. Yeah I mean it's just not getting anything in your system. and so-

TeriAnn: It's important to know - back to a conversation we've had many times what's in your supplements and why you need to understand is actually being delivered into your system, is it actually going to work?

Jonathan: So we're going to close this out here pretty soon, But really quickly I just want you to mention why we've added vitamin D as well into this mix?

Dr. Nuzum: Because curcumin massively increases how much vitamin D3 you absorb in your gut, So it helps, it opens the door for the vitamin D3 to come in. When we took this, the idea was this would be a great way to slip vitamin D into the system. Since we already created this really cool delivery system let's add some vitamin D3 to it well.

Vitamin D3, if you research it, you'll find that it has all kinds of anti-inflammatory benefits. Also, there's massive and it isn't direct that it doesn't just go out and quench inflammation in your system. What it does is it activates a lot of anti-inflammatory enzymes within our body so it literally enhances our ability to deal with inflammation. So it's not directly an anti-inflammatory. Am I making sense here?

Jonathan: You're making tons of sense. Listen this is why this is hands down our most popular product. It's why I wanted to do a podcast on the ingredients inside of it so that people are really educated and understand it and understand the reason that black pepper is important because it helps you - people say black peppers because it helps you absorb the turmeric.

Well now we're saying to Turmeric is important to be able to absorb vitamin D. So since we cracked the code on how to deliver turmeric to you without having upsetting your gut, without having to expand your gut walls, without doing any of that we found what it delivered. It's like hey, we might as well give you some vitamin D because Turmeric is the delivery system for the vitamin D.

Stephanie: It's amazing; you also get 5000 iu of fermented vitamin D in there. I want to do more on this. But I'm going to go ahead and end our podcast here. Thank you everybody for listening. And if you're interested in learning more about this, go to organics.com. You can read tons of articles, watch videos. If you feel inspired, grab some turmeric 3D. Try it for yourself. And thank you TeriAnn, and thanks doc.

TeriAnn: Thanks everyone.

Jonathan: And we will see you on the next one, alright.