

Cliff Scholz: Hello, this is the *FarmsforTomorrow* podcast. I'm Cliff Scholz, and I'll be your host today. Our guest for this podcast is Joe Scrimger

Joe is a third-generation Michigan farmer. He's also widely known for his work as a farm consultant. His Michigan-based Bio-Systems, a soil testing and Ag consulting business, served Michigan and Southwestern Ontario farmers for 38 years.

More recently, Joe launched Bio-Systems II, where he's working on local and regional food systems and Great Lakes water quality issues.

Joe continues to help organic and conventional farmers improve their operations through biological management practices.

Joe, we've had a number of conversations over these last few months and one of the big things I learned is that good nitrogen management is key to solving many problems farms are having right now. We've talked about pests and disease, soil conditions, crop quality, runoff and erosion.

These last two especially, runoff and erosion, directly impact the health of our lakes and rivers. And as I know that's a big priority of yours right now.

So, where's a good place to start this conversation?

Joe Scrimger: Well, at this stage of the game, there's conventional ag that I moved back to focusing on. In the last how many years, I was more focused on organic and biological. And then some new conventional farmers.

But in dealing with the water quality issue, all farmers need to address that, 'cause there is some problems on some of the organic farms, too. The problem in water quality systems in the conventional world is pretty much focused on phosphate.

And it's measurable. It's there. It is a problem. But it's been caused by the overuse of nitrogen. And I'll say that's been a gradual process that, for lack of better words, I'll say it sort of snuck up on the farmer. I'm not sure some of 'em realize this progression that they've made, where, I've been at this long enough and my hair shows it in having grown up on a, sort of a

conventional dairy that was doin' some biological things because they always did that. And they were doin' a few organic things, but they didn't call it that back in the '60s.

So I've had early exposure. I mean I know a lot of researchers at Kellogg Biological Station, Michigan State and at other universities, that are very good, educated, might be master or doctorates, but they don't have the past experience and they haven't seen the transition.

And so they're takin' it from today or maybe the last ten years and, you really gotta, in agriculture, because these changes are slow, you have to look at it over a broader time. And in respect to the food part of it, I like to look at it on a 100-year basis, even though I've only seen 50, but I try to research that other 50. And on the nitrogen side of it, that problem's been there for quite a while.

I'll give you one example. There was a lot said recently about, lead pipes in Flint and the problem with their system. When I was a young boy, I stayed with my aunt in Flint, my dad's sister. And I was probably early teenage: 12, 13. And we fished the Holloway Reservoir. And that was a reservoir that was put in for energy production. And there was turbines there.

But it was put in as Flint's water supply. And it's actually just northeast of Flint. And that water comes from my neighborhood that I grew up in, in the Thumb. But by the time they go to the '70s, and this was never mentioned in the Flint water crisis, what happened was the nitrates got so high in that water that Flint, after they'd invested in the Holloway Reservoir, moved to other sources of water.

And they weren't actually as good. And the reason was, they thought it was gonna cost too much to have the farmers better manage their nitrogen. And that was happening in the '70s already. And actually, the farmers were only putting on half as much nitrogen then as they are now.

So that's an attention-getter to me, where some of this new breed of researchers hasn't saw that. And even Dan Wyatt, who lost his job over that, who I know personally, 'cause he was the head of the Department of Ag, he doesn't understand it, either. He's younger than me. So I see those

examples.

But then now, I track with Lake Erie and track with Saginaw Bay. And the Nature Conservancy is doin' a huge project that's financed by the USDA on those watersheds and the Raisin River.

So I've worked with the Raisin River watershed. I did a program for them couple years ago online, for the Raisin River growers. Although the big farmers didn't show up, the small farmers did. Small farmers don't tend to be the problem. It's the larger farmers that are puttin' on the heavy dose of nitrogen.

So again, the nitrogen's not the issue. It's putting on too much at one time. Plants need nitrogen. And plants can handle nitrogen up to a certain point, which happens to be about average of 70 pounds.

Cliff Scholz: Okay, so just for our non-farmers out there, "70 pounds" means, 70 pounds per acre per application?

Joe Scrimger: It's just that most of 'em are usin' 150 and a lot of 'em are puttin' it on, because of the size of their farms, they're puttin' it all on at one application. And then some of 'em are trying to use 200 pounds to beef up their yields and lower their cost.

And nitrogen's fairly expensive now, so it's getting their attention because of price. And we've been through two or three price hikes in the last 50 years of me doin' farmin'. So we've looked at it really heavily before.

But even organically, we have to have nitrogen from someplace. Whether it's manure, whether it's a legume in the rotation. Could be alfalfa, could be soybeans, could be peas. Or, what I have to work with the farmers on is getting their inherent organic matter to release nitrogen.

Most of those farms when you put on those heavy rate, the system in the soil, which I would say is, it's much more advanced than any computer we have on our desk, that system realizes there's too much nitrogen so it doesn't produce any. And then the farmer has to put on more.

And, the trick is to lower that amount of nitrogen, get that organic matter

back building and back releasing nitrogen again. Because in order for the rest of the nutrients to release properly, to feed the plant properly, to have a plant with proper cell structure for proper nutrition, the nitrogen from the soil has to be working. And the fact is, on most farms it's not.

Cliff Scholz: Wow, that's a comprehensive answer. And with all that, background material about Flint, I had no idea that history.

Joe Scrimger: Most don't--

Cliff Scholz: That's amazing.

Joe Scrimger: sometimes I say I've been working on connecting dots, you know? But I've been at that for quite a while.

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