

## Field Day Podcast Ep. 30 Nori Inc.

**Jordan Hoewischer** [00:00:00] Welcome to Episode 30 of the Field Day podcast brought to you by the Ohio Farm Bureau Federation. I'm your host, Jordan Hoewischer, director of water quality and research with Farm Bureau. Today, we continue our series on carbon. We talk with Aldyen Donnelly from Nori Inc. They're probably one of the most established people in this space Aldyen really goes far and wide on this subject. It's probably one of the longer episodes that we have. But it gives you a good perspective of someone coming from maybe an economist's standpoint or some different perspective on it. So I really enjoyed sitting down with Aldyen. And, I hope that you guys learn as much listening to these things as I did, trying to ask the questions. So I think you'll really find this one interesting. Enjoy.

**Jordan Hoewischer** [00:00:52] All right, well, let's get started here. From every person that I interview, I start with who you are, what you do, where are you from? Give me that lengthy bio that they give prior to a talk that always seems way longer than it seems.

**Aldyen Donnelly** [00:01:11] My name is Aldyen Donnelly. I'm probably here because I'm a co-founder of Nori Inc. And Nori is almost four years old and we're building what we call a dedicated carbon removal marketplace to differentiate it from some of the more broadly defined carbon or greenhouse gas offset markets. We can talk about that, why we're doing that that way more later, if you'd like. I'm actually Canadian. I live in Vancouver, Canada. I'm trained as an economist. And my special focus early was health epidemiology, determinants and distribution of disease. And from that base, I sort of shifted into environment and nature and natural health in my orientation in the 80s. And I've been doing this for a long time. In the mid 1990s, I ended up being the leader of a consortium of 14 of Canada's largest 20 largest greenhouse gas emitters. So big energy and chemical producing companies who were working together to try to figure out what this climate change thing meant and what it might be as an issue and how to prepare for policies that might emerge. And in the mid 90s, we said to ourselves, probably in every policy future, we're going to get regulated and some sectors of the economies are less likely to get regulated. And are there opportunities for us to reduce emissions or store carbon in the other sectors to offset our emissions? And very early in that conversation, we realized we didn't know if food and fiber producers could do anything. We knew that our prudent business strategy for particularly the utilities, would be to look out and see if food and fiber producers could provide that carbon reduction removal service for a pure business reason. If you're looking at complying with regulations, whatever you have to bear in compliance costs, whether it's writing off assets and building entirely new systems or reducing emissions in existing asset bases, you still have to raise your prices to recover your capital costs and a return on them. So if you're going to spend that money and you have an opportunity and you really have three choices, spend the money in my own operations to reduce emissions or send money to my critical strategic suppliers, suppliers who have emissions discharge emissions, but from whom I take price and who I need to retain as suppliers, or send money to my most price sensitive, vulnerable customers so that when I increase the prices, I charge them. I also send them a new revenue stream. So any just prudently operating business is going to pick sending money to those critical strategic suppliers and price vulnerable customers before even reducing in their own operations for any given price.

**Jordan Hoewischer** [00:04:53] So it's a band-aid instead of a curative.

**Aldyen Donnelly** [00:04:56] If you're going to deal with emissions, it's just pure good business sense. So in the 90s, we went to a bunch of scientists and said, what can farmers do? And we learned a bunch. There are a lot of opportunities for food and fiber producers to both reduce emissions and build back up the organic carbon stocks in the soils that we've depleted over the last 300 years. And so back then, we said to the scientists, OK, so how do we prove that this is happening? And the scientists said, well, it costs a lot of money. So in that time, that group of energy companies put up funding to finance some science and a research project that was called the Prairie Soil Carbon Balance Project and even today, some of the theory about how to estimate what's happening in the soil derives from that project, and that whole project was initiated by the big energy companies who wanted to figure out how to prove that carbon was being drawn down and stored to address their climate change policy risk. We started that project in 1995. So I guess that tells you that I'm not a very successful policy influencer because I've been working at this for way too long.

**Jordan Hoewischer** [00:06:26] Well, I mean, the climate policy is not a swift moving thing, as as everyone knows. I mean, it's been marred and a lot of politics.

**Aldyen Donnelly** [00:06:37] As is probably the case with anything that's important.

**Jordan Hoewischer** [00:06:41] Yes, yeah,

**Aldyen Donnelly** [00:06:44] From a farmer's perspective, one of the things... There are two things that really have caused me to stay focused on this solution set in that broader. There's three things. One is there are. Hardly any other sector can do as much in the short term. At as low a cost, and I'm not saying the cost to farmers of doing this is low,

**Jordan Hoewischer** [00:07:18] but comparatively.

**Aldyen Donnelly** [00:07:20] But comparatively it's low. It's one of the few sets of solutions where at the same time adopting practice changes which draw down CO2 and store the recovered carbon in the soil at the same time. That's activity that mitigates the risk of climate change. It's also building a more resilient and healthy topsoil layer, which is protecting our ability to be productive in the event of climate change. So it's one of the only solutions out there that's a two-fer, which means it should be top priority even if it was more expensive than the others. And it's not. And then the third thing that is really important too, probably more important to me than maybe some other people in the space is. And maybe you can explain this to me. I don't know why it's true, but in every modern society, once we shift from sort of local sustenance level economics to industrial scale, consumers do not pay prices for the food they eat. They're high enough to cover the total cost of producing and delivering that food to them anywhere in any culture. I don't know why. It's just always true.

**Aldyen Donnelly** [00:08:39] It's weird. It's just always true, at least for now. And I know and it's temporary, but temporary, defined as maybe for 50 years. This is a unique opportunity for farmers to draw in revenues from outside the food supply chain. And that opportunity to diversify revenues for farmers should not be missed. That should be a top priority.

**Jordan Hoewischer** [00:09:07] I agree, and I think that's why you see such an interest right now from farmers, and I think obviously the programs are there and the policies are starting to be built out. But I think you're seeing farmers come to the table and try to see

what's what. And, that's kind of what our role is as Farm Bureau is trying to help them figure out what is what. And that's part of the reason why you're being interviewed, just to kind of get our level of understanding raised a little bit because we don't want, similar to maybe oil and gas and some of the other things. We want to make sure that if you take one shot at selling future carbon or whatever, that you get into the right program that works for that individual farmer.

**Aldyen Donnelly** [00:09:56] You just said something really important. And, you know, I'm a major shareholder in Nori, so I like this all to be rolling at full speed yesterday. That's in my personal best interests. But it's a really good idea for everybody to just take a breath right now and pause and start asking questions. And you just said something really important. I'm of the view and the Nori founders are of the view that if a farmer is thinking about entering this marketplace. And perceives accurately that this is their one shot, step back and hold off because we're talking about building markets and a market should never be one shot. So if you're about looking at a market option that really is one shot, maybe you should think twice about doing that.

**Jordan Hoewischer** [00:10:55] Yeah, because there's probably, there's always going to be some sort of thing in the future. So like you're saying just to clarify, just for educating me and clarifying. So for programs that are asking to be locked in for long, long term, that would be something maybe that you would have to consider a little bit deeper than the normal.

**Aldyen Donnelly** [00:11:22] There has to be a certain minimum number of years of reporting. Because different market markets and I'll focus obviously on Nori that are making commitments to buyers that the carbon that we're saying was pulled out of the atmosphere is being retained in the earth for a certain period, we at Nori have said that one Nori credit, which is called an NRT, represents one ton pulled out of the atmosphere and retained for at least 10 years. You'll look at other markets are asking farmers to commit to one hundred years of retention.

**Aldyen Donnelly** [00:12:08] We totally support the goal of permanent carbon stock buildup and retention. We think it's ridiculous to ask someone to make a commitment to a hundred years. That's not a legally enforceable or practicable promise. So our market design says, you know what, the most we can ask you for is 10 years. And if the marketplace, the buyers out there want 100 years equivalent, they better by 10 credits. Yeah. And think of it as you are now your soil is also a carbon warehouse. And no warehouse operator would agree to take care of your furniture for 100 years for a one payment this year. We're saying be really clear. You're offering a carbon warehousing service. It's really important. And in our market design, we're saying both buyers and suppliers of that service should expect there to be repeated payments. We agree with 100 year goal. We're just saying, how do you get there? You get there by thinking in 10 year increments

**Jordan Hoewischer** [00:13:26] Because you can reassess payments and value. And because part of my questioning today is about the accuracy of what practices store how much and things like that. So we just don't know how the refinement that's yet to come. And some of those indices

**Aldyen Donnelly** [00:13:44] That's important too. Before we go there, I just want to say something else. In the Nori marketplace, even in that 10 year contract. We are in our contract we say, the supplier does have the option in the first six years of those 10 years to

remove up to 85% of their carbon removal claims, their verified claims, from our marketplace if they wish to go offer them for sale in a different place.

**Aldyen Donnelly** [00:14:21] And for the last four years that can remove up to 100%.

**Jordan Hoewischer** [00:14:24] Because that's being friendly to the competition a little bit because you got to all have a shared goal.

**Aldyen Donnelly** [00:14:33] We're also saying that we shouldn't survive unless we're the market you want to come to. And we're comfortable, if we remain vulnerable to you leaving us, that's increasing our probability that we'll continue modifying how we operate till it really works for the farmer. So even though we're asking for 10 years of reporting, you can't offer your credits for sale in two different markets at the same time. But you can leave us if you're not happy with our service.

**Jordan Hoewischer** [00:15:12] That makes sense. Can we reset a little bit and just go over what Nori is and who Nori is and your overarching company profile.

**Aldyen Donnelly** [00:15:24] First of all, check out [nori.com](http://nori.com) and Nori is basically the Japanese word for seaweed and kelp, which is another crop in the ocean that's good at storing carbon. So that's where the name comes from. And we are entirely privately financed. We've decided to operate without drawing on government grants, in large part because when you go to the science and when you go to farmers, the other entities that need to function well for our market to function well tend to rely heavily on government grants. And so we don't want to compete for that same grant money. We want that grant money to go to who needs it.

**Aldyen Donnelly** [00:16:12] We are a private, voluntary market. We're hoping that us getting it right might send signals to government about what better policy and regulations look like. But we're not trying to design a regulated market and we have a few goals. In all existing carbon offset markets, if you think of a carbon credit as equivalent to another crop like corn. In all of the established offset credit markets, Climate Action Reserve, American Carbon Registry, Verra, the California Air Resources Board, regulated marketplace gold standard, many of which have been operating for more than 10 years. The way those markets are designed, individual farmers, even if you're farming 3,000 acres, can't afford to go direct to market and sell your crop, your carbon removal claim. You have to go through an aggregator. Think of it as a processor and the other side of it is, in all of those markets an individual credit buyer like you, if you wanted to offset your footprint, also cannot go directly to that market and buy credit. You have to buy through a broker. So if a buyer is paying \$20 a ton because of how those markets are designed, you might put \$1.50 into your pocket after everybody, all the intermediaries take their parts. So Nori's first in priority market design was how do we build a market so that to the best of our ability, individual farmers can come and sell directly, come to market and sell directly, and individual small buyers can also buy without going through brokers. And so far to net those goals. So in our marketplace to date, buyers have paid on average a total of \$17.50 per credit. And Nori takes 15% and we've delivered \$15 per ton, and I'll go to what that means in acres in a minute. We've been able to deliver \$15 per ton or credit to the farmer. And the farmer pays for verification costs, which to date in our marketplace and verifiers set their own prices. So I can't guarantee any of these numbers. I'm just telling you what they've been. To date that's been costing less than 50 cents per credit or per ton to farmer. So when we're receiving \$17.50, the farmers been receiving \$14 bucks or more. And so we're pretty proud of that. So for any given price in our marketplace, it is reasonable to expect

the farmers are going to get a better, better net out of that. And the thing I love is and I'm not sure, I certainly can't take credit for anticipating this, but the vast majority of credits that sell over the Nori marketplace are being bought by small businesses, cafe operators, individual households who now don't have to go through the brokers. So where we're mobilizing that independent small business and small consumer marketplace, we're really, really, really proud of that. There are also large corporates talking to and working with Nori, but I'm really, really proud that we've made that retail market front work. It's way, way more of the dollar that the buyer pays to the farmer.

**Jordan Hoewischer** [00:20:01] So just add some levity a little bit. So is this what you provide your family members for Christmas? Do you buy them some carbon credits every year?

[00:20:11] Of course. And why wouldn't you?

**Aldyen Donnelly** [00:20:23] Well, but it's real. It's going into your food supply chain. Like, why would you send your money anywhere else?

**Jordan Hoewischer** [00:20:30] No, absolutely. I mean, it's better than a gift card to some store that you'll probably lose; why not offset your footprint a little bit.

**Aldyen Donnelly** [00:20:37] Well, I'll tell you, I don't know what your traditions are, but in my extended family, we decided maybe we would come up with a scheme where Christmas wasn't costing everybody so much money. Years ago, we agreed that what our Christmas presents for each other would be would be (this started when this was CDs. It's not CDs anymore.) We would make CDs for each other. And our requirement was that each of us was supposed to be introducing somebody else in our family to music they probably hadn't heard before. I can tell you making the music list for Christmas is way harder than getting somebody a \$100 gift card. I'm so regretting we made that family tradition. It eats up so much time.

**Jordan Hoewischer** [00:21:24] Yeah, well, it's great though. Sharing new music and new artists is great. And that's what we do a lot that my family as well. So. I'm trying to go through my questions because you have such a wealth of knowledge on this, so I really want to get into just some of the overarching stuff on farms to begin with. Let's start with what's your opinion on the current status of agriculture's influence on climate change, our connection with climate change. I mean, I guess I feel like I would know the answer, but I just wanted to kind of bring that up.

**Aldyen Donnelly** [00:22:14] Well, globally and it depends on how you look at the numbers. When we're looking at sources of greenhouse gases, food and fiber producers, and I keep saying and fiber producers, because it's expanding to include biofuels and energy products as well, account for anywhere from 12% to maybe as much as 20%, depending on transportation and stuff of all of manmade global greenhouse gas emissions. So if we get serious about trying to reduce the concentrations of greenhouse gases in the atmosphere, the food sector is going to have to react anyway. So one of the things I keep saying is one of the reasons to get engaged here is it's a source of revenue. And by the way, if you don't get engaged and start taking control of your destiny as a sector, you might have somebody do and that's not that's not a preferred outcome. I wouldn't imagine. And so I say two things at the same time the farmers: get into this, learn about it, make people like me and Nori help you figure out what questions to ask. When I say jump in, it doesn't mean jump in too fast. But this is also not only getting potential

revenues from outside the food supply chain where revenue diversity should really, really be important to you right now, but also take control of your future, because if you don't grab it, someone will grab it from you.

**Jordan Hoewischer** [00:23:57] Yep, absolutely. And I think that is always the best way to engage this specific sector or probably any business sector is have some sort of revenue involved, because especially this one, you know, I use the same term a lot. I call it trying to put the pill in the peanut butter for farmers. So how do get them to engage in practices that are ultimately going to make their farms healthier, make their soils healthier, probably make their yields better or even their efficiency higher while also taking another payment for this thing that's offsetting credits?

**Aldyen Donnelly** [00:24:39] Everything you said is right. But one of the reasons we need this credit market to be robust is as and I'm a seed girl, not a farmer, but I've been working in this space for quite a long time. Most of the time when I've seen land managers do that transition, if they didn't do everything perfectly for their field set for their fields, they ultimately end up more profitable and with higher yields and more of a crop mix, which is also diversifying, is also more revenue security. But I also find that it's really, really common for years, say three through six, after you start that transition to be a financial hellhole.

**Aldyen Donnelly** [00:25:36] So one of the other reasons to get really engaged in what can and should the carbon market do for you is that part of the key of bridging that financial hellhole. I'm not saying we're certain we've got it right in Nori. That's why we call our market still pilot phase. But we're really trying to be really clear that that's one of our goals, is to get that because things start really looking pretty good much of the time, somewhere between year seven and 12 after you started this process. But getting to that year seven is that takes a lot of commitment. And so everybody should go in with their eyes open and then how do we make sure that this market we're building is aware of that. And that's part of our job is to help the community across that bridge

**Jordan Hoewischer** [00:26:35] Yeah, it's almost like when, if you're an incoming college first year, you have all the financing stuff and people are giving you gifts at graduation. You have all the opportunity to get scholarships and grants. But then when you're a junior, senior, there's not as many, and then all of a sudden you're kicked out to the real world.

**Aldyen Donnelly** [00:27:00] You've got some debt you have to pay. And if you're like me and then you take that job that you hate just to get your debt paid.

**Jordan Hoewischer** [00:27:08] Yeah. So how do you bridge that? You know, because I know a lot of farmers who convert to no-till even though they kind of know it, it's still tough to ride that wave, especially in an industry where you can't dictate the price of thing that you're producing

**Aldyen Donnelly** [00:27:22] And you're in your third season and you don't think you ever see so many weeds in your whole. So let's be focused on that and other challenges. And the other reason it's hard. And this goes back to sort of what we're trying to measure or reward here is that there are a lot of soil treatment and land use or management strategies that draw carbon in the atmosphere, build up soil organic carbon stocks, increase water infiltration and retention rates and get you a lot of co benefits, not just carbon stock growth. But the right order of things and the right things to do are different from one farm to the next. So the other key from our perspective in market design is given some of the

uncertainty about how practice change turns into carbon stock growth, how do we make sure that we are not prescribing practices and focusing on carbon stock growth and leaving it to the farmer to make their own decisions about how to do it?

**Jordan Hoewischer** [00:28:45] And I think they would wholeheartedly agree to that philosophy.

**Aldyen Donnelly** [00:28:51] Yeah, so and I won't go into details. So we've got an approach that we think works and again, will probably improve over time with with input from farmers. But we totally oppose a system that's about prescribing practices and then paying you to prescribe the practices. You already live in a world where with all the best intentions, crop insurance makes you do things that you know, you're going out in the field and saying to yourself, why do I have to do this? And so it is important not to make that mistake again.

**Jordan Hoewischer** [00:29:28] No. What do you think the most successful? Well, you don't you don't want to prescribe practices, but in general, what do you think is the most successful practice a farmer can do, say if it's just like a general row crop farmer.

**Aldyen Donnelly** [00:29:50] Again, it is stages, and even if two farmers were going to implement all of the same changes, they don't necessarily go in the same order. Don't even take me seriously on order here. But first of all, soil health, reduced erosion, better water retention, soil carbon stocking...you know, the first thing you want to do is what does it take to have their soil not directly touching the air. How do you get the soil covered? And I think people are still coming up with new ideas. So you say reduce tillage and cover crops, and I almost hesitate saying those things. Just how many hours and days a year is that ground covered? How do you manage your operations to max out that amount of time the ground is covered. And then of course, minimizing disturbance. So keeping the soil covered one way or another. The other thing that's really interesting and for smaller farmers and I want to go on this quite hard is some crops draw more nitrogen out of the soil when you grow them and other crops leave more. And there's other nutrients, and maximizing your soil carbon stocks, part of that is maintaining a carbon nitrogen ratio. So it's easy to say go to multiple crop rotations, but actually figuring out which crops to put in what order.

**Aldyen Donnelly** [00:31:47] To have the crop that goes in that field next season compensating for the draw out of the crop that was there last season. That takes some experimentation and talking to others who have had experience. So it's not just going to crop rotations but what order of things. And that can be a challenge. But really interesting. So getting your crop rotation right, not just going to crop rotations is really, really important. Even before you talk about adding non-cash cover crops to do different things. To me the crop rotation thing. The really interesting thing that I never anticipated, but the biggest barrier to implementing crop rotations for most particularly small farmers is the distributors you work with, want you to be supplying wheat every year. Your whole distribution system isn't used to the idea that you might be producing different crops each season. It sounds strange because it sounds so obvious, but it took a while when we started having these conversations in the 90s for the large acreage owners to figure out, well, wait a second, I can do soy in these fields and wheat in these fields and then next year do wheat and soy. So one farmer can be doing crop rotations but supplying the same products into the distribution channel every season. Now, a small operator doesn't have enough acreage to contemplate that. But so one of the questions for me is how do multiple smaller operators collaborate and work together so that they can operate as if in that regard and planting

crop rotation as if they were like one big operator? It's that distribution system that ends up being a problem more than the science and the measurements and the decisions. And it's a really important part.

**Jordan Hoewischer** [00:33:55] Yeah, we find that a lot with with manure management and our livestock, small livestock. And we're actually seeing, I believe, some companies coming into Ohio to be a hub for small manure producers to produce that into another product.

**Aldyen Donnelly** [00:34:12] Being Canadian, I'm a little more comfortable with the word co-op than many Americans are. But I do think a key for this to be successful for everybody is to find those opportunities to work as a group when it's in your combined best interests sooner rather than later. That's going to be important.

**Jordan Hoewischer** [00:34:38] Another question I have, I'm just trying to get some some of my bigger questions out of the way since we're up against a little bit of time. What's the biggest hurdle...what's the biggest thing that could derail this momentum? I think we're seeing some steep momentum right now on this market, at least from a very new person's perspective in the carbon world. What's the biggest hurdle that we have in front of us?

**Aldyen Donnelly** [00:35:11] To me, there's there's two classes of big hurdle. To be frank, back in the 2000s, there was the Chicago Climate Exchange. A lot of farmers who got this concept a long time ago have said, is it real this time? And that's a huge hurdle. That there's been some false starts is a huge hurdle and totally respect that cynicism, if it's right to call it that. It's experience. And again, I'm really OK with the idea of everybody just pausing, taking a breath, saying, what do I need to ask and learn and know to be comfortable? It's real. I'm comfortable that Nori passes that test. Don't lack confidence. Be confident that it's right to ask that. I do think crop insurance is an issue because some of the things you have to do to qualify for crop insurance, are the things you have to stop doing to make that transition to regenerative ag. So how do we engage the whole insurance industry in the discussion? I don't see them well engaged right now that we might share in the responsibility for that. But we we have to do that.

**Aldyen Donnelly** [00:36:31] And then with those two things addressed, access to capital. There are operating cost savings over time. But there's a big upfront investment most of the time, and as I said earlier when we were talking about the three to five years. Ultimately, most of the time, your yield per acre goes up, but it goes down a little bit before it goes up. Exactly when it's hard to be paying off the money you borrowed to buy the equipment. So if we can get our market rolling and robust and trusted, it should be then producing a predictable revenue stream that makes it easier for the farmers to access the capital they need to make the investments. So if we could get modifications in crop insurance and trust that the market's real this time, then the access to capital that farmers need to actually really start that transition should open up and then we should be off to the races. But we're not there yet. And I think it's important that your insurance come to the table sooner rather than later in that context.

**Aldyen Donnelly** [00:37:48] I mean, it's similar to what car insurers have been going through the last probably 15 years is how do we plan for when humans aren't driving as much. And, do mandates and different things and requirements, do they still happen do they still mean the same when you have less human interaction. And I think it's going to be the same with crop insurance. How do we work in sync with this new industry that's



coming along and make sure that we're not getting in the way and there's not duplicative payments.

**Aldyen Donnelly** [00:38:26] And what are the critical guidelines that we need to think twice about? Now I'm going back a few years now. I doubt this would happen today because I think insurance is caught up. But I remember a time in the past being in a field with a wonderful woman who was seeding that day when there was about two inches of water in her field and it was still frozen three inches down. And she knew that half the seed she was spreading was going to end up in the river.

**Jordan Hoewischer** [00:39:04] It was the last day.

**Aldyen Donnelly** [00:39:05] It was the last day. So, I mean, we should be getting past that anyway. But we have to get past that stuff to open the door to the transition that we're aspiring to. I want to say how important is it? If I'm really conservative so I don't improve the science and I'm just using the lowest numbers that we can reasonably associate with as sort of 10-year rolling average improvements to carbon stock when people do the right things in their fields. US crop and livestock producers have the capacity to offset 100% of the US electricity sector emissions if you don't shut down another coal or gas plant, which you're going to go to. So going back to where I started in this conversation. Why are we saying we must find a way to give hundreds of dollars a ton worth of tax credit? To developers of that technology to capture emissions from your electric utility. When for tens of dollars a ton, the farmer in the field can provide the equivalent service and be building a more resilient soil base. Let's get real. I'm not saying don't curb emissions of the coal plants. I'm saying get the farm community delivering the service is your rational first top priority. And not doing it while debating for another three years how we're going to finance controlling emissions in the power generating units is crazy.

**Jordan Hoewischer** [00:41:05] Yeah, especially because they're still with the electric cars and everything like that, there's still a carbon footprint there. And that electricity has to be generated somewhere, somehow and transferred. So it's not a system that's ever going to go away.

**Aldyen Donnelly** [00:41:27] And again, going back to that first place. The food producers are your most critical strategic suppliers for all of society. They're also the most vulnerable customers of the energy utilities and fuel suppliers. So any rational strategy isn't saying do one versus the other, but any rational economic strategy would be engaging the farmers and paying them for their carbon warehousing capacity first. And that we're even contemplating it as maybe maybe not is irrational.

**Jordan Hoewischer** [00:42:12] Yeah. Especially again, like you said, especially when there's so many other benefits to those same practices. It would be different if it's just like, hey, if you put a tarp on your field, it'll decrease greenhouse gases, but you can't farm it. That's not a solution for farmers. But if it's hey, this payment may help bridge the gap between you and introducing a new practice that can ultimately help the future of your farm, then it's an easier sell.

**Aldyen Donnelly** [00:42:41] And if climate change is happening, if you don't change these practices, your soil will become less productive and your yields will go down. So there's there's just way too many co benefits or complementary reasons for this to be a top priority. So it's not easy because going back, first principle is how do we clearly reward operators for performing? And that is by increasing soil health and resist the temptation to

prescribe practices, which is sort of taking the carbon markets in the direction that we just complain that insurance is gone. So we have to learn from our prior mistakes and not repeat them.

**Jordan Hoewischer** [00:43:28] I also think it's key to that messaging is always super important. And there's a big reason why climate change has been so vilified because it was politicized. And so I feel, at least from my personal opinion, that a lot of farmers don't even want to engage in the talk of climate change, because I think there's an associative nature to it that they're being blamed or that big industry is being blamed. And I think if it gets talked about as them being part of the solution, like you said, you could offset 100% of the electrical production, then I think maybe you perk some more ears up as opposed to saying you need to cut, you need to do better, you need to cut. Yeah, maybe that's that's still the case for some parts of the industry. But if we start talking about them being the solution, I think that really helps with getting more people on board.

**Aldyen Donnelly** [00:44:30] Well, and you're making really, really good points because there is risk when you stand up and say, I can supply a solution, that there is the risk that government might respond by saying, oh, well, then I'll force. I mean, so I don't think people are crazy to be worried about that. There's there's a couple of rules of thumb. One is don't do anything voluntarily that you know would kill your operations.

**Jordan Hoewischer** [00:44:58] Yes.

**Aldyen Donnelly** [00:44:58] If you and everybody else were mandated to do it. But the other side of it more important is what's the best defense against that mandate is get going.

**Jordan Hoewischer** [00:45:11] Yeah, beat it to the punch. That's what we say in water quality, too, is get going and try to improve on those things before the regulatory body catches up to you.

**Aldyen Donnelly** [00:45:25] So I'm an old lady who used to be a basketball player. What's the best defense? A really, really good offense. And then going back to everybody sort of blaming you on stuff, you know, then I got a I got a quote my now long past wonderful blue haired grandmother. When you know you'd be right. But it wasn't making a difference.

**Aldyen Donnelly** [00:45:53] Oh, my dear, being right and a dollar still doesn't even buy you a pint of beer these days.' Get over it. You know, just when when people are saying stuff that just to be right. Don't don't let faze you.

**Jordan Hoewischer** [00:46:11] Yeah. I'm positive that there's in the fact that there's a lot of good momentum. I think it obviously it helps when there's money involved, but I think each day there's a little bit more understanding that climate change is real. I think there's still a skepticism of how manmade that it is or not, but I think the mitigation of it is definitely truer in farmers' heads than the cause.

**Aldyen Donnelly** [00:46:45] I want to I want to jump on on how manmade it is. And this might be a generational thing, but I grew up as a kid learning a little fairy tale about the old lady who lived in a shoe and had so many children who didn't know what to do. Who cares whether it's manmade or nature. The earth is our shoe. We got a lot of children. We probably have to mitigate the atmospheric concentrations of heat trapping gases. And I don't know why it ever mattered whether we have to do that because it's caused by

humans. Because we would still have to mitigate it for the species to prevail and survive even if it was totally natural. So I sort of don't get that argument.

**Jordan Hoewischer** [00:47:36] Yeah, I think they think it's cyclical. And so that it would cycle back down to lower levels and everything will be the same. But to me, I've always thought, well, even if it's cyclical, you have no idea how long the cycle is and what the cycles of hundred years are you going to hold your breath the whole time?

**Aldyen Donnelly** [00:47:55] I think you're making a really good point. But I'm also thinking the old lady living in the shoe now, she has so many children she doesn't know what to do know is also important.

**Jordan Hoewischer** [00:48:10] Yeah. It's a now problem.

**Aldyen Donnelly** [00:48:12] The earth is a fixed space. The capacity of the earth, the total carbon stock in the earth and the atmosphere is fixed and the question is, what is in the best interests of humans and the other occupants of the earth right now? And our population is not fixed. Again, even if this was a totally natural phenomenon, we have to mitigate it. And and you're right. I believe that, yes, it could well be cyclical, but the cycle is way too long for us to just rely on it to self-correct. I think Mother Earth will self-correct. That's what she does. That's what history tells us.

**Jordan Hoewischer** [00:49:03] And sometimes that means eliminating things.

**Aldyen Donnelly** [00:49:07] Yeah. So it seems to me there's a pretty practical, prudent path forward for us to pursue. Even if there is only a 10% risk of climate change, there's still a pretty prudent path.

**Aldyen Donnelly** [00:49:20] And while doing so is increasing soil health and the productivity of our soils. What's the downside?

**Jordan Hoewischer** [00:49:28] Yeah, no, I agree. And I think that's why it is going to be an easy sell. And that's why we need to make sure that the markets are stable and they come they come along with the growth and acceptance from the from the ag sector.

**Aldyen Donnelly** [00:49:44] And so going back to your opening remark, and I do have to go in a couple of minutes, but that doesn't mean anybody should be required to make one choice, a final choice today. So I'm saying jump in, jump in yesterday cautiously. And if it looks like you're being asked to make a final choice or a choice that binds your whole generation, let alone your grandchildren, it's OK to hold off for a bit.

**Jordan Hoewischer** [00:50:22] Well, I think I think that is a perfect cap to what we talked about. And I think that's a perfect place to stop. So you can jump on to your next meeting. And if anyone wants more information on Nori, you can go to [nori.com](https://nori.com). I will make sure that they get to listen to this here soon so that they can jump on board.

**Aldyen Donnelly** [00:50:50] Thank you for having me.

**Jordan Hoewischer** [00:50:51] Yeah. Thank you.

**Jordan Hoewischer** [00:50:53] And that was Aldyen Donnelly from Nori, Inc. If you have any questions for me, feel free to reach out via email [jhoewischer@ofbf.org](mailto:jhoewischer@ofbf.org) And if you

want to learn any more about Farm Bureau or any other projects that we have or maybe becoming a member, please visit [ofbf.org](http://ofbf.org). Thank you.