



# FARMER TO FARMER

podcast



## EPISODE 128

**John Stoddard and Lindsay Allen of Higher Ground Farm on the Journey from Idealism to Practicality on a Rooftop Farm**

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Chris Blanchard:

It's the Farmer to Farmer Podcast episode 128. This is your host, Chris Blanchard. John Stoddard and Lindsay Allen worked together at Higher Ground Farm, a rooftop farming operation with two locations in Boston, Massachusetts. John is the founder of the business and operates the site at the Boston Design Center where he's farmed since 2013. Lindsay runs the new site at the Boston Medical Center. Higher Ground Farm sells to restaurants and direct consumers and provides produce to the Boston Medical Center cafeteria, patient food service and a preventative food pantry.

We dig into the fundamentals of rooftop farming including options for different production systems and why Higher Ground has opted for the system they use. John and Lindsay provide insights in the surprising ecology of rooftop farming including weeds and seagulls and discuss soil fertility management and irrigation systems. John and Lindsay also ruminate on how to find a roof to farm on, what it takes for an urban farm to survive and how they've leveraged the rooftops to



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create relationships with customers and clients. We examine the two different business models at Higher Ground users to make their operation work, growing food for sale as well as operating a rooftop farm for a management fee.

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John Stoddard and Lindsay Allen, welcome to the Farmer to Farmer Podcast.

Lindsay Allen: Thank you so much for having us.

John Stoddard: Thank you, pleasure to be here.

Chris Blanchard: So glad you can join me here on a Sunday afternoon. I really appreciate you making the time, again typical farmers, right? No boundaries.

Lindsay Allen: Yup, guilty.

Chris Blanchard: I'd like to start off by having you guys tell us a little bit about Higher Ground Farm, where you guys are located and what you're doing there?

John Stoddard: [00:02:30] Yeah. Higher Ground Farm is a rooftop farm. Well, now, we're two rooftop farms in Boston and our first location is on the Boston Design Center in the Seaport neighborhood of Boston. It's really one of these up and coming neighborhood to Boston. We spanned our lease back in 2013. It was probably great timing for us because right after that is when a lot of restaurants and hotels and et cetera started coming in. We our based at the Boston Design Center, is actually little over an acre. We're not growing on that entire space currently. We only really have about 2,000 square feet of planted space but there's certainly a room for growth there.

We, like I said, started in 2013 and really operated for several years selling to restaurants and also do a farm stand at the ground level for the folks that work in the building. There's probably about 2,000 or so people that work in the building. Then, well, I was farming with a business partner of mine, Courtney, who left after three years to really start a family and left Boston. Then this year, in 2017, we began managing a brand new roof farm at Boston Medical Center which is not far from our flagship location. It's been would be considered Roxbury neighborhood or the south end. That is when Lindsay came on to join our team. She's the farm manager over at Boston Medical Center.

Lindsay Allen: Yes. This is really Higher Ground's first farm outside of the main campus there and we started at the end of April, so a little bit late into the growing season.



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We have been farming there now for about two months and the roof itself is about 7,000 square feet and we're growing on about 2,300 square feet of growth space which makes us the biggest rooftop farm in Boston which we're very excited about. The goal of this farm was, the Higher Ground Farm was approached by Boston Medical Center and they were wanting to grow local organic food for their patients and they have a preventative food pantry on site so they are wanting to grow for that as well. It's part of BMC.

BMC is really new to me in terms of what they're doing, that's Boston Medical Center. This farm is part of the larger bundle of their dedication to the environment and to a holistic approach to health care for their patients. They don't have any experience in farming and so they have had look to John and I to hold that down for them. It's been a really interesting experience. Right now, we're about a month into harvesting and letting our food going between the kitchen, which from the kitchen, it then goes to the cafeteria for visitors, for patients, for staff of the hospital. Then it also goes to the patient plates, so actually into the hospital rooms where patients are staying.

Then the other half of the produce goes over to the preventative food pantry. We're trying to provide a lot of the greens and then now we're coming on to, of course, tomatoes and our other summer crop for the food pantry as well and trying to add more of a rounded offering than just canned vegetables and more of the processed things that are often available in a food pantry there. I think just to give you a more complete picture of what's going on with food there is that we also have a demonstration kitchen at site on BMC that works everyday offering free cooking classes. It reflects what's being given out that day in the pantry which I think is really important to making sure that the food is actually used.

Because sometimes we're giving maybe different ingredients that are normally part of a pallet that someone who is used to a CSA would know what to do or someone who is used eating a more localized seasonal diet. We have this amazing demonstration kitchen that does cooking classes. It also does diet specific classes. For cancer survivors, it does classes around that. It does classes for diabetes patients, for youth, for whole family cooking. I think for me, that's a really fun piece to this whole farm is that makes it a much fuller picture and I think a holistic approach to nutrition at the hospital. Yeah, that's just a little glimpse of what we're doing. There's some education pieces to the farm as well, but yeah.

John Stoddard: I have to just add to what Lindsay said and that Boston Medical Center is located in a neighborhood that's what you might call underserved. There's not as many grocery stores there. People tend to be lower income so this is a way that Boston Medical Center do the things Lindsay was describing, having the preventative food bank, having these cooking classes. It is increasing access to really the best food. I mean, producing beautiful food that are organically and making that accessible to folks that might not be able to afford it or it might not even exist in their neighborhood. It's a really powerful thing I think that Boston Medical Center is doing and that we're really happy to be a part of.

Chris Blanchard: [00:08:30] That's really great. Just a couple of weeks ago, we were talking to Ray Tyler out in Tennessee and he had a daughter who got very sick. She got cancer



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when she was really young and they completely up ended their diet even on organic vegetable farm. They completely up ended their diet. He talked about some of the challenges with doing that. I think when you talk about reaching out into the community, it's one thing to make those kinds of changes to your diet that somebody might say you need to do when you got cancer. If you already know how to cook and know how to cook with vegetables, I think it is really important to provide that kind of support for people rather than just saying eat more produce, eat more fresh food.

**John Stoddard:** Just giving it to them doesn't necessarily mean they're going to use it or know how to use it. Like Lindsay was saying, being able to high end that demonstration kitchen. I think it's really a comprehensive way to address the stuff.

**Chris Blanchard:** Now, is Higher Ground Farm a for profit company? Are you guys are nonprofit? How does that work?

**John Stoddard:** Yeah. I was going to actually mention, this is kind of a departure for us this year. Really, we're operating as like a seed-to-sale business where we're growing and selling food. The model here with Boston Medical Center is a little different because they're paying a management fee. They're paying Higher Ground to run this which is different than what we've previously done. I'm starting to think as Lindsay was talking just the differences in what it takes or an urban farm to survive. I think it's pretty different from what you'll see in a traditional farm. There are opportunities and there is also a barrier.

It's just to explore the business model or even the concept of urban farming and how to make it work. I think there's a lot of those questions about, is it a nonprofit? Is it a for-profit? I can talk forever on this so I'll give a brief. I'm just saying it's interesting. I think we're all looking and I think across the country as you're seeing more urban agriculture that question of what is the business model, how to make it work, how to make it a non-elitist thing as well.

**Lindsay Allen:** Right. I think that's what's interesting about these partnerships that are starting to emerge with hospitals and larger institutions is there is so much money within hospitals to support initiatives like this or even if it's not an exact farm than whereas supporting through their purchases like redirecting large amounts of funds to localize food economies. That's what's exciting for me looking at changing the way hospitals invest and the way hospitals buys. I think that that's a really emergent market for different urban agricultural partnerships because there is a lot of money in hospitals that I think a lot of people know about but maybe haven't quite tapped into it. I think we'll see hopefully a large increase in growth in that area and those partnerships. This is definitely a win-win situation.

**Chris Blanchard:** I'm curious when you talk about partnering with and marketing to a hospital, are there increased food safety demands from them and how are you guys meeting that? Because obviously, you're dealing with an at-risk population.

**Lindsay Allen:** That's really we've been lucky and not have to do with that because we do a first wash on the farm there and then it goes to the kitchen and they actually process and wash everything there. We've been extremely fortunate to not have to really deal with that on our end, that the kitchen has a wash station



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within their own kitchen. I basically harvest on site, do an initial wash and then I have about a 10-minute walk maze through the hospital and deliver it to their large kitchen when then processes it there.

Chris Blanchard: To back up a little bit, tell me about rooftop farming. What does that look like at Higher Ground Farm? How do you guys have the soil arranged on top of these roofs?

Lindsay Allen: We work with Recover Green Roof which is the leading company in Boston doing green roofs. They do edible roofs and they also do commercial, residential. They're amazing. They work with Vermont Composting Company which I know is a sponsor of your podcast here. We love them. We are actually working completely out of milk crates. At first, my history in farming is in suburban and rural farming, all in ground. I've never done anything like this before. I was definitely kind of give the thought of the farming out of milk crates and thought, oh like ... I had no expectations of large amounts of food.

There is unbelievable amount of food coming off of this farm right now. We went with milk crates as opposed to doing raised-beds for a number of reasons, one, being that it's considered a temporary structure so there's a less of a permitting process and lot less of a legal process to go through if you're using milk crates. These milk crates are then lined with the recycled plastic fabric. It allows for drainage, air flow and does an air pruning of the roots on the side. Then we use a blend from Vermont Composting Company in each of those crates.

We have the farm divided up into different rows or sections and there are four rows within a section and then we have our irrigation system on top of that. We were able to ... we set up the whole farm with John like six or seven hours with 15 of us. Vermont ...

John Stoddard: It was like four hours.

Lindsay Allen: Yeah, it was even, yeah, it's even less than that.

John Stoddard: Pretty quick.

Lindsay Allen: The Vermont Composting Company basically filled the crates for us at their site and Vermont ships them here. We have a freight elevator in the building where our roof is on. We then had a really great ... came from Recover Roof and from Higher Ground and bucket brigaded all 2,300 crates out there and then took another week to set up irrigation and those finer details like that. It's definitely, right now, we're working with our initial year, beautiful fertility because of the blend from Vermont Composting Company. Next year, we'll definitely be needing to top dress and work a little bit more on the nutrient levels and possibly get a Dosatron for the system to supplement for nutrients and minerals and stuff.

Chris Blanchard: Are you using an off the shelf mix from Vermont Compost Company or did you have them do a custom blend for you?



- Lindsay Allen: We're using an off the shelf mix but they were actually just out last week with us then we're definitely talking of like what could be different, what's working, what's not. Because they're definitely seeing this emergent market with more container farming and rooftop farming. I believe I'm correct in that Recover Roof is the one who sourced and did the purchasing and buy for us of the ... yeah, through was kind of the liaison with Vermont Composting Company but I believe it was ... I don't think it was a custom blend for our roof if I'm correct.
- John Stoddard: No. It's the same. Yeah, I'm forgetting the brand name but you can see it their website.
- Lindsay Allen: I think it's like compost plus or whatever, yeah.
- John Stoddard: Chris, if in case you're interested, wanted to give you a little background on how we came to this milk crate method which actually Recover has branded with its own name. I'm forgetting what they call it now but when we were looking to set up the original Higher Ground, we're really looking at doing a green roof farm. I'm not sure how familiar are you or your listeners are with the different options. Obviously, you can do greenhouse on a roof. You can do hydroponics and then the other big option would be a green roof system. That's what Recover Green Roof installs is green roofs.
- You're using a different type of media obviously to grow vegetables but it's a whole system that really you're not planting in containers, you're planting literally like you create the ground up on the roof. There's different advantages and different disadvantages. If you have a green roof farm and you can see an example of that at Brooklyn Grange Farm, that's the type of farming they do on roofs.
- Chris Blanchard: Right. That's really just soil placed on the roof directly.
- John Stoddard: Exactly, yeah. It's a system of layers so you have basically like a pond liner that goes down sort of a roof barrier and then you're putting down these other layers for drainage, et cetera and installation and then you put a special media that has less organic matter in it. I think there's more rock and what not in there to be able to make it so the soil doesn't blow away. That's great in the sense that it's really pretty traditional as far as being able to use tools like seeders, et cetera on the farm. When you use the container method, it can be certainly less expensive and some of the other reasons that Lindsay mentioned like permitting, et cetera, because it's mobile. You can move them at any time.
- If the media you use have more organic matter better for plants. We weighed all these options and ultimately back in 2013 decided to go with this milk crate method and it works. It has its issues but it works and Recover has gone on to install the same system on a few other roofs and now here at Boston Medical Center. I think like Lindsay was saying, it's now what you might be used to if you're used to farming on a traditional farm. You learn different ways to make it work and you got to be creative all the time.
- Lindsay Allen: Yeah. Recover Green Roof has done over the past few years some different studies and been observing basically a raised-bed system, the container system



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and then the open media so just covering a roof with media and seeing which ones grow better. They said by far, the milk crate containers out produced all the other methods. Basically, if you're thinking of these containers ... I mean, it's like they're growing in butter practically. There's the help of the soil, it's beautiful and that you're not losing a lot of the topsoil to wind scour and things like that. They found with some great observation over the past few years that the milk crate method out produces any other form of rooftop farming in terms of container.

Chris Blanchard: I think it's important in this to note that the Vermont Compost potting soil is a compost-based potting soil with the fertility in the soil. It's not a hydroponic system. It's not like you're growing in an inert medium and then adding fertility through the water system.

Lindsay Allen: No, definitely not.

Chris Blanchard: You're actually growing on the soil.

Lindsay Allen: Right. That to me as a farmer is really important. It's to be working with living soil. That's why I think Vermont Composting Company is so amazing and why I think that our food is growing so fast and so abundantly. I always say what I'm giving tours of this farm too especially working with hospitals. It's like we want to be giving patients nutrient dense food just like we are what we eat. Our plants are what our soil is. We have this amazing high quality soil blend by Vermont Composting Company and therefore, are getting a much higher quality output product if we were to be compared to some other kind of potting soil or if we were doing the hydroponics or something there. We definitely have a superior vegetable product coming out of their because of that.

Chris Blanchard: Now, at the Boston Design Center, you've had plants in milk crates for a long time now. Have you guys used essentially the same system there of having Vermont Compost Company fill your milk crates for you and then bringing them up on top of the Design Center or did you go about things different there?

John Stoddard: It's similar and different. We really started ... we had to raise money for this project so we had a Kickstarter campaign different than Boston Medical Center who funded the farm. They built the farm and paid for it so that we're able to ... I would say for the original site, we really scraped it together the best we could. We actually built our own planters. We got soil delivered and we used a local company, not Vermont Compost. We had soil delivered. We basically put all our planters together, filled them with soil and we put them on pallets to be shrink wrapped. Then we had a crane come and lift all the pallets to the roof one by one and we set up the farm that way.

This is similar and different and we've used Vermont Compost at our flagship site when we expanded a bit and bought soil from them and we've also bought their compost blend. As Lindsay said, they recently came out to Boston Medical Center. They're interested in learning more about this and try to problem solve. I think they're going to be coming out to the original site to take a look there and see how things are going and offer solutions to some issues we have up there. Yeah, essentially, it's similar but it's been refined.





When we were putting our farm together in 2013 earlier, in the past four years, I think Recover has really sort of refined the way they do things but it's a beautiful thing to have Vermont Compost filling them for us and them showing up ready to be installed. It was great to do it the way we did it. We did it really with volunteers filling everything but certainly sort of a less efficient system. If you have the funds to do it and have someone else do it, that's great. When we got started, it was really us. We'd limited money trying to make this project happen. We did it really all ourselves.

Chris Blanchard: Now you said you actually built the containers yourself at the Boston Design Center?

John Stoddard: Just meaning we ordered milk crates, had those delivered and then we used a landscape fabric to line them. We cut strips and stapled them in and all the stuff and then filled them with the soil ourselves. We were really involved from sort of at all the stages of building the farm with Recover Green Roof's assistance. They have the experience with the crane and being able to signal and what not with all the things you need to do when you have a crane there. They came in for the day of install but we really built the planters ourselves from the landscape fabric and the milk crates and the soil.

Chris Blanchard: I always think one of the interesting things about growing things in pots is that you actually see the fact that the soil is being transformed in the plants because as you continue to harvest, the soil continues to be less and less and less every year. With the planters that you've been managing over a long period of time, are you just adding additional soil on top? Is that how you're managing your fertility there?

John Stoddard: We haven't lost a lot of soil. Fertility is an issue and concern that I continue to grapple with and want to work with Vermont Compost and others more on it. We add compost every year but we haven't lost the significant amount of soil so we're not buying and refilling planters necessarily.

Lindsay Allen: Yeah, it ...

John Stoddard: Yeah, go ahead Lindsay.

Lindsay Allen: No. I was saying, in Vermont Composting like they just brought us ... they have a great composting blend for topping off and side dressing for container mixes. We'll be using that to supplement where needed when we are actually losing soil and then the nutrients that's taken up this year. We'll be using their blend to top off and side dress where needed.

Chris Blanchard: Are you also adding additional fertility or you just really counting on the potting soil and the compost with your top dressing with to provide your crop fertility?

Lindsay Allen: That's our ... yeah, main way that we're doing that. We're also considering getting a Dosatron and we'll probably ... I foresee this year needing to possibly in the fall do a little bit of top dressing but I think next year, I'll probably start making some composting teas and playing around with that. We also are doing worm composting on the farm too. I'm experimenting with that but it will be



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mostly top dressing within Vermont Composting. That was kind of the conversation we started with them last week on the farm is how do we move forward and ... yeah, growing our soil, keeping nutrients in the soil and moving forward with this. It's definitely a new area in terms of larger production in this way. There's not a lot of like rule books out there for it at this point.

Chris Blanchard: What crops are you growing? I mean, I imagine you're growing some of everything but where are you focusing your energy?

Lindsay Allen: When I was planning this farm for this year, I was really looking ... because with rooftop farming and with most urban agriculture year, really every square inch is important and counts. That's for me is what's been kind of fun getting innovative of how are we stacking the succession in time and space and getting really creative with that and really efficient with that. My goal is to look at focusing on crops on that are either continual harvest or that are just fast in the ground in and out. Doing a lot of cutting green and salad mixes for the hospital goes through a lot of that, for salads, for the patient plate and the cafeteria.

We have collards, kale, chard for continual harvest so we do bundles of those for the food pantry. We do a lot of lettuce heads and then doing ... I mean, the usual suspect, tomatoes, eggplant, peppers, hot peppers, different, summer squash, zucchini, cucumbers, lots of green beans, radishes, carrots, some scallions ... what else do we have? In the spring, we're doing lot of spinach and arugula, but really focusing on what will grow quick. We can get in and out and then what can we continually harvest from and then I'm trying to look a lot of what's happening obviously above ground and below ground like kind of push the limits of companion planting and with sneaking in root crops here and there next to other things and I'm getting creative in that way.

Chris Blanchard: Is that similar to the approach that you guys have followed at the Design Center, John?

John Stoddard: Yeah. I mean, well, we started out thinking where we're going to be growing tomatoes, greens and herbs primarily for restaurants. When we decided to do this farm stand in our second year because we wanted to take advantage of the fact that we had 2,000 people down there that eat vegetables too, we decided to diversify and grow a greater variety. Growing a lot of the things that Lindsay mentioned and really trying to both serve the restaurant market and the farm stand market as well. I'd say that's one of the toughest things as far as the Higher Ground, the Design Center site is really gauging what folks will buy.

You have a crop rotation in mind, then you don't want to be growing the same thing over and over again but certain restaurants want the same thing over and over again. It's just a tricky balancing act of trying to keep the farm and the soil healthy while also satisfying your market. One way we really address that last year was we partnered with one restaurant with the chef from Select Oyster and they were great because he just basically took whatever we were growing. I didn't have to deal with having beautiful chard to sell but not enough customers. It's different at Boston Medical Center because they're really taking the lead from us in terms of what we're growing and they're doing their best to use it and offer it at the food pantry as well.



Lindsay Allen: Yeah. This has definitely been our ... we're considering it our growing year at Boston Medical Center because the first year and for the chef is definitely ... they have amazing chefs in the kitchen there that are I think are really progressive for the hospital. This is totally new so we're trying to really work out those kinks of what works for them, what crops and where can they be flexible and where do we need to be more flexible. Then we didn't very much lead time at all in terms of ... I'll speak for myself in terms of when I was hired and then when things need to be in the ground. I look forward to next year.

I wanted to talk to more of the exit poll of the food pantry to see what more culturally appropriate crops can we be growing for the food pantry that would also then work well on a rooftop because there are some things that wouldn't make sense for a rooftop. It's definitely a balance of what can make sense for a roof and then what is it that either for working with chefs in the kitchen or the food pantry itself that people are going to use.

Chris Blanchard: What kinds of crops don't make sense on a rooftop?

Lindsay Allen: I think a lot of one time harvest. I'm not going to waste time with broccoli, any cabbage, things that are going to be sitting on the ground for longer. I cut it once and then there's an empty space there. That's why I've been focusing in thinks that I can continuously harvest that occupy that space or aren't occupying that space for a long time. Because I'm growing a row of cabbage, it sits there for two or three months and then I harvest and then after wait again. I'm trying to go for yeah, the quicker returns like bok choys and salad mixes, lettuce heads and then our collards, kale, chard, things like that or tomatoes where I can continue to harvest for a little while off of those and stuff like that.

That's my personal philosophy, just seems to be logical in terms trying to use all of that space as efficiently as possible. I think it's also really important to be looking at your markets of who are growing this food for and being culturally appropriate. I don't want to force kale down anyone's throat. Yeah, that's definitely what I look forward to expanding on next year.

John Stoddard: Agreed. I mean, I would just add. I think I experimented with kalette last year and like Lindsay was saying, having them in the ground all season and taking up that space, is it worth it? Certainly, it's worth it with tomatoes because that's a lot of revenue comes in from tomatoes but something like kalettes not worth taking up a significant amount of space for the whole year when it's really not going to bring much of a return. Then you also think there's things I think you can grow most of what you grow at ground level, you can grow on a roof.

It's a different environment obviously. One thing on roofs that you contend with is wind. It's real windy up there so you have to just make sure you're trellising aggressively, et cetera, to accommodate for some different conditions that you face on a roof.

Chris Blanchard: When you're looking at these containers, a milk crate is about pretty much a cubic foot.

Lindsay Allen: Yeah.



- Chris Blanchard: It's 12 inch by 12 inch by 12 inches deep more or less. I think there is some different dimensions depending on the brand and everything. I mean, it's about seven gallons of soil. When you're seeding those, how do you know about doing that? If you're putting in a crop like arugula or other salad greens, are you just broadcasting the seed in there or are you planting it in rows? What does that look like?
- Lindsay Allen: I do three rows. For any of greens like arugula, spinach, on the spinach, I do two rows but salad like cutting greens for a salad mix, I do three rows per crate. I think find that to be a cleaner or easier harvest and I guess that's more just me copying my patterns in ground farming too. For arugula and cutting greens doing three rows per crate and then with spinach doing two rows per crate. We direct seed all of our cutting greens and root crops and then we're doing transplants from the Food Project which is a really wonderful local organization that I also work for about half a mile from us. They have three commercial greenhouses right in the city which is as wonderful resources. They've been growing a lot of our starts for us and then another farm, Three Sisters Farm, outside of the city grew a lot of our summer crops for us so we're transplanting those in.
- John Stoddard: Chris, I will say when we have in the past at the other location broadcast arugula exclusively. We grow in sales so much arugula that that's typically how we seeded arugula then but followed most of what Lindsay was talking about for other crops, other greens.
- Chris Blanchard: Then when you're putting those greens in, is that just by hand? You just sprinkling the seeds into a furrow or broadcast them over the crate and the case at the Design Center?
- Lindsay Allen: Yeah. It's interesting because you can't really use any, everything is by hand. I find it to be more of a pain to use any other kind of implement than my own lovely hands. Yeah, you're literally just sprinkling which I know as most farmers were like, oh my gosh, that sounds terrible. You'll get used to it. I have a really good sprinkle hand now. Yeah, it's all by hand. It's too small of an area to really be using any kind of seeder or otherwise.
- Chris Blanchard: I'll just say, as somebody who's recently made the transition from farming to gardening like that whole idea of sprinkling seeds in by hand and trying to get them even and consistent, that's really hard.
- Lindsay Allen: It's totally is. Luckily, I've both done larger scale commercial organic farming with all of the implements and gadgets and before here was farming in California for three-and-a-half years unlike ... well, it's 450 acres but would be like three acres which was all hand farming. I'm definitely used to not relying on too many implements. I mean, we were using seeders there. Yeah, it's interesting you are using some more of the gardening techniques as opposed to farming techniques on a rooftop farm and then trying to make them as efficient as possible. I guess practice makes perfect, but yeah.
- Chris Blanchard: I guess with the soil it's blended from ingredients and doesn't actually have any dirt in it. You must not have any weeds.



- Lindsay Allen: That would be nice if that were the case. Weeds seem to just magically appear on rooftops somehow which still some sort of mystery to me. I mean, birds, wind, I was just ... when Vermont Composting Company was out last week, there's this one seed that I actually ... this weed that I've never seen before, I have no idea what it is and I was like, "What got into your mix?" They're like, "That's not from our mix. We've never seen that. I don't know what that is." That just happened, I don't know, blow in on a day. I'm not sure. Things do still blow in there are weeds. The first year, there's definitely less weeds. John I think can probably talked more to as the years go on you get more and more weeds but the wind and birds and nature still finds a way to bring weeds into your life on the roof.
- John Stoddard: And insects.
- Lindsay Allen: Yeah, yeah.
- John Stoddard: It's amazing. Yeah, I mean, our first year, we had very little weeds and sort of the weed pressure grew as the years passed. I think it puts a point on how important it is to buy a quality compost and soil. I wonder some of the vendors that we've used in the past whether that was a mistake or not and even where you're buying your plants I think also or pests coming in. I mean, certainly, that's possible. I know we had hornworm one year and I suspect it was because we took some plants from a guy that was looking to get rid of them. We didn't necessarily know him and not very a reputable source and I think that's how we ended getting hornworm one year.
- In some ways, it's kind of really cool I think in the fact that you build ... it's like if you build it, they will come. You're building a new green space in the city that wasn't there before. Bees find you, ladybugs find you, all sorts of beneficial and otherwise do find you on the roof. A positive thing in some ways and also can be you have to ill-deal with some stuff that you think you might not have to deal with since you're on a rooftop.
- Lindsay Allen: Yeah. You kind of touch on that John and I think that's one of the things that amaze me is like how life will emerge even on a rooftop, three or four stories about and the heart of the city of how quickly we have this little ecosystem on our roof already. Within a few weeks, we had this amazing amount of ladybugs just showing up that probably came in some eggs on some of the transplants. There is just this huge population and we have butterflies and dragonflies and we brought in two beehives. We have bees which are really great and help us on the farm. It is amazing. In the weeds, you'd say come on, but how fast it does create its own little ecosystem up there even within a few months.
- Chris Blanchard: I assume if you do have to spray that you guys are using organic techniques for controlling the insect pests?
- John Stoddard: Yeah.
- Lindsay Allen: Absolutely, yeah. We haven't this year had to do anything, it's been pretty under control, little here, little there, more cabbage moth that I'm dealing with right now. Yeah, we are strictly organic in our practices.



Chris Blanchard: But not certified organic, right?

Lindsay Allen: No, no. It wouldn't make sense for us to. I mean, just because the hospital is our entire market. At BMC and at Higher Ground, it's more of the connections and people that know the story of the food that to me with certification make sense in some settings. I think if you can have the partnership with the people who are buying or consuming your food that I don't think I don't bother or wouldn't bother going through certification process.

John Stoddard: Agreed. Yeah, I think it make sense depending on the market that you're serving. As Lindsay said, the people that buy our food and eat our food can come to our farm and meet us and talk to us and see us, we're right there. I mean, that's the benefit of being in a city and that you can really closely connect to the folks that are eating your food. Yeah, I mean, I think philosophically, Lindsay and I both prefer organic methods and folks if they want to verify that, they can come visit us.

Chris Blanchard: With that, we're going to stop here, take a break, get a word from our sponsors and then we'll be right back with John Stoddard and Lindsay Allen of Higher Ground Farm.

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sold it to them cold. If you're purchasing the CoolBot, please use the code FTF at check out to double your CoolBot warranty at no charge or mention Farmer to Farmer and receive an exclusive discount on your walk-in cooler, storeitcold.com.

All right, and we're back with Lindsay Allen and John Stoddard of Higher Ground Farm in Boston, Massachusetts. We've been talking a lot about the technical side of things and there's a couple more technical things that I want to make sure the we cover before we move on. In all of the pictures that I've seen of the two farming operations, the irrigation seems to feature prominently and it's not irrigation like I've usually seen on production vegetable farm. Can you tell me a little bit more about the irrigation system that you've got?

Lindsay Allen:

Yeah. I can talk about the one at Boston Medical Center. It's a little bit different over at the first location at Higher Ground Farm. I'll let John talk about that one. The one that we're using at Boston Medical Center is a weathermatic system. It's amazing. Instead of using a drip system, they are route-emitters so there are some surface emitters so the water actually never daylight. Traditionally, they're what's used in commercial nursery settings where you'd put one in each pot. We have in ground route-emitters for each container and then that's hooked up to a Weathermatic system which is tied in, has a weather sensor actually on the farm.

It tracks the weather. It tracks evapotranspiration rates and it will shut off if it's rained and tracks the rain that's happening on the farm. We end up saving a lot of water that way. It's also tied into you can remotely control it from your smartphone. It's very high tech kind of the latest in irrigation technology that we were lucky enough to get on the farm. We have it scheduled to run every day because one thing that with rooftop farming that I've observed is that because of the wind, you lose so much to evaporation and things distraught in because things are raised up. Obviously, they're not in ground so we lose a ton to evaporation.

Yeah, we're watering everyday but it's extremely low energy output for me because it's all in automated system that I can fiddle around with and add in five minutes here and it's divided up into four sections too. Depending on what crop I can change by amount of water based on that crop.

John Stoddard:

Yeah, it's pretty great. It can also detect if there is a break in the system. If waters surging out of ... something breaks and as far as the connections go which has happened to me, if you're farming on a roof and all of a sudden water is flooding everywhere, you're certainly risking the building below or the floors below and damaging those. We had an issue at Boston Design Center location where a connection bursts and we had a little bit of water damage, thankfully it wasn't so bad below and our insurance covered it. That's certainly something that after having that experience, I know how important it is.

We ought to get an alert ... well, they not only alert you but they'll shut the water off with this irrigation system that we have at Boston Medical Center. It's pretty great. I don't have a ton to say about the Boston Design Center location as far as irrigation goes. It's not as high tech. Again, this is four years ago that it was installed or five years ago actually that was installed. It's drip irrigation so



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not the same as the in ground emitters and controlled basically, we don't have the internet connection to it. It was set based on how much water time you want throughout the day and in the different zones. Certainly, irrigation is a wonderful thing, saves a lot of time for you.

Chris Blanchard: It is interesting to me with the situation that you're talking about growing in these milk crates because I think in some ways you can probably afford to over irrigate in a way that you might be able to in a lot of soils where you don't have the primo drainage that you have with essentially a potting soil in there.

Lindsay Allen: Yeah, definitely. Because we have the roof it can drain through and drain off. We're definitely trying to not waste any water so I haven't done this but it's on my to do list to pulling out a few of the crates and then testing, putting a solid bucket underneath so I can test if we're having any run through which I don't think we are. I've had to actually increase over the past week how much we're watering because those were really drying out there. We are trying to get that perfect amount where we're not having any water moving through and draining out of the system.

John Stoddard: There's the worry of over watering and having nutrient just basically going down the drain. It's definitely important to strike that balance. Yeah, you don't worry about drainage but I guess you worry about the other side of it of whether or not you're watering your nutrients right out of your planter. We noticed after four years at Higher Ground that there are lots of infertility where the emitters are.

Chris Blanchard: You can actually see that even just within an individual crate that there are places in the individual milk crate where the fertility is lower?

John Stoddard: I mean, for example, seeding arugula. When we're getting started, obviously you first saw germination under the emitter and then that we're seeing actually was the reverse. We would see a ring around where the emitter was, where things were germinating or just not growing quite as vigorously under the emitter.

Chris Blanchard: John, you mentioned an issue when you had a water line break and irrigation line break back at the Design Center, can you talk to me a little bit about the structural considerations and location choices and how you go about finding a roof to farm on?

John Stoddard: Sure, yeah. When we knew we wanted to do this, we set about looking for a roof and actually Recover Green Roofs came on many location visits with us because they're really the experts in this. What we knew we needed certain things from a roof, access is super important. How do you get there? How do you get stuff up there? Then there's the additional consideration of, can visitors safely come up and down from the roof? Is it accessible to folks that might be able to climb stairs, et cetera? There's that consideration, access would be a big one.

Another thing was size. We knew that for the business model that we were looking at that we wanted something that was at least 20,000 square feet. Another thing was the condition of the roof. If you're going to be putting anything on top of a roof that's permanent or semi-permanent, you don't want





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obviously any leaks happening from the roof. You want to make sure that the roof is in good condition. Ideally, it's five years old or less. Even more ideally, you put in a new roof down which is what Boston Medical Center did and then the benefit to them is they put a new roof down. We basically covered the whole roof with like an AstroTurf fabric and then the planters.

What that's going to do is protect the roof from the elements. They're going to get double or triple the length of their roof membrane by putting this farm on top of it. Another important thing for us was just having an enthusiastic landlord. A landlord that saw the benefit of this, certainly Boston Medical Center does and then the folks at Boston Design Center. I think they see it as something that's great PR for them, et cetera. Having that buy-in from the landlord is also important.

Lindsay Allen: Yeah. I think with Boston Medical Center what was another reason why this roof was chosen, I mean, A, because this roof that is on was actually leaking and had some issues and so they need to replace it any way. They figured might as well have this for the farm and by I think one of the cost saving pieces in rooftop farming can be that as John mentioned, it can extend the life two to three times the normal length when you'd have to replace a roof again. It's a long return time in terms of cost investment. I think for larger businesses or in this case hospitals, it's a cost saving benefit with all of these other multitude of benefit factors as well.

The location were on like the third story roof of a building that's below one of the main buildings at Boston Medical Center that has a completely I think it's 10 or 12 story glass back to it with three of our main clinics in that building. We really wanted to have the farm located where there was visible access for patients and visitors to the hospital. That hospital gets thousands of visitors everyday who get to ... they can't physically go on to the farm necessarily but they can visually interact. Constantly, when I'm up there, if I'm looking up and there are people waving down at you, there are people with their wheelchair just facing, looking out watching.

I think that that's not to be undervalued the kind of therapeutic qualities of having a green space that is visible to a hospital and hopefully more and more accessible to more of the hospital patients there. That was definitely a key point of not wanting it to be a hidden farm but wanting it to be highly visible to the visitors and patients of Boston Medical Center.

John Stoddard: Yeah.

Chris Blanchard: I think that's huge.

Lindsay Allen: Huge.

Chris Blanchard: Having spent way too much time in hospitals over the last year and a half, just the amount of ugly that you encounter.

Lindsay Allen: So true.

John Stoddard: Yeah.



- Chris Blanchard: Looking out the windows, unless somebody is actually taking the time to think about it, I feel like it does actually have an impact.
- Lindsay Allen: Right.
- Chris Blanchard: Just speak from experience, I appreciate that consideration that went into that.
- John Stoddard: There have been studies on just the benefit of having green space visible from your window just improving productivity in employees and improving your general disposition. I think it does play into the whole angle of health and providing an environment in a hospital or in any business where people are able to see a green space and really feeling just the way it affects them on a ... I don't know if it's spiritual level or what not by just having that benefit to improve their mood and et cetera.
- Lindsay Allen: Yeah. I think that's what is needed by Boston Medical Center. There are also parts of the hospital where you can't see the farm. They live screens with the different photos and shots streaming of the farm up and different parts of the hospital. They also from the demonstration kitchen, they do live recorded videoed cooking classes too. They get actually projected into patient's rooms as an option for them to watch so you can be like learning how to cook with what's happening right in the Center too. They're really creative with the ways that they are trying to make a space healthier in a lot of layers there at Boston Medical Center.
- Chris Blanchard: Does having a camera on you and having all of these people watching you, kind of like turning farming into a spectator sport, does that give you a creep sometimes?
- Lindsay Allen: I mean, there's not a live stream of us ever. There's people take photos and they go up on there. Yeah, sometimes I forget about it. There was once, I was having lunch up there a few weeks ago and it was like, oh should I lay down and close my eyes for a second? Then I was like, wait, I think people think I'm dead. I'm lying out there just trying to catch a wink and then looked up and there's all these people looking down at me. It's across the street so it's not so close and personal that it feels intrusive. I think it's fun. I wish there is a way for people to actually be able to come on to the farm more easily than there is right now.
- Because I think in urban farming so much of what we have to offer is what I think of as the alternative harvest and that's the knowledge and the green space that we create on farms for people to be able to interact whether that's just visually or walking through or as a learning space as a classroom. That's really I think important.
- Chris Blanchard: Now, the two locations that you have the rooftops are pretty different. I mean, one is right out on the harbor, the other one is a little bit more in what seems to be a light industrial area. You tell me about the differences, the advantages and disadvantages for locating that way.
- John Stoddard: Yeah. I mean, like I mentioned at the Boston Design Center location, it's by the ocean. It's probably even windier. It's also higher. It's probably even windier



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than the Boston Medical Center location and we have seagulls up there which is kind of unique in the sense of those birds have been there longer than I have nesting so just trying to contend with them. They get pretty territorial during in their nesting phase when there is babies. We actually pretty much learned to live with them and they learned to live with us. I really believe that they learned to trust us after a while.

As far as location goes, there is that to contend with. It's also really in the heart of as I was mentioning, a neighborhood that really has a lot of restaurants and it's not far from other neighborhood. I was delivering produce on bike for several years and could just easily bike to the north end and to the south end from our location. I would say it's a pretty good central location to be able to ... if you're in the market of selling the restaurants, that worked really well for us. As that neighborhood grows, there's only more folks to sell to even small markets, et cetera.

Then the Boston Medical Center location, the best thing about it is that all foods going, well not the best thing but as far as moving product goes, the best thing is just that it's right on site. It's a dream to not have to be delivering going around town, et cetera, and dealing with orders, et cetera. It's a beautiful thing to be able to grow and then deliver right to the kitchen on site.

Lindsay Allen: Really, there's no fossil fuels in that delivery.

John Stoddard: No.

Lindsay Allen: It's like a few thousand feet that I'm pushing my big metal cart of produce through the hospital which is its own really unique experience of literally wheeling hundreds of pounds of vegetables by the intensive care unit and then sharing the elevators with doctors and physicians and everyone which I think is also another benefit at least great conversations that end up happening in the elevators. I actually take three different elevators to deliver the food which means interacting with a lot of different patients and employees and facility workers and doctors. I think that's really fun piece of it too. Discovering there's a lot more gardeners in the world than I maybe thought there were.

John Stoddard: I would just add to Lindsay's statement, at both locations, you see people really light up about this stuff.

Lindsay Allen: Oh my gosh, yeah.

John Stoddard: They seem so excited. They always want to talk about it. It's a nice thing to be able to ... I don't know, just see people's reactions and see sort of I think people are yearning for this kind of stuff. Everyone wants to see it, it's something that really excites people. It's a cool thing to be involved with to see people really just so interested in it and so excited about it.

Lindsay Allen: Yeah. There's definitely like a lot of BMC employee pride around the farm. It's like whenever I'm walking around with produce, then people were like, "Oh, is that from the rooftop farm? Oh my gosh, I can't wait to come. I just signed up to volunteer on Tuesday." I do a volunteer afternoon every Tuesday. Now, it completely booked up for the next month. We have a release the next dates.



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We have people just clamoring to want to engage with it and I think that's one of the other benefits too is for the staff and employees of Boston Medical Center which I think there is something like 5,500 employees of BMC.

Being to add another layer of work ... I don't know, places to interact and engage with. We just had with the demonstration kitchen two weeks ago, we partnered up with the HR department had an iron chef competition so they came up and they divided into two groups and they had to ... with myself and my assistant Hillary help them harvest different ingredients and they had to bring that back to the demonstration kitchen and have a cooking competition there. It's fun to just figure out different fun ways to get employees onto the roof and engaging with it as well and bought into what we're doing.

Chris Blanchard: It's really clear that you guys have the cool factor cover, right? I mean, growing on a rooftop is pretty bad ass. How does it look economically? I know at the Boston Medical Center, you're really talking about a fee for service sort of farming. They hire you guys to do it. When we go to the Boston Design Center, what are the economics look like of actually running a for profit farm on a rooftop in downtown Boston?

John Stoddard: It's really tough. The way I usually talk about this is that you look at a production-based model or you look at a model where you're relying on non-agricultural activities. For us being so small, we definitely do not generate enough revenue to really have a full staff, et cetera. The way I see other rooftop farm is really making their money is by having events, like I know Brooklyn Grange in New York City, they have weddings up there, yoga classes, all types of different programming, something I would love to do at my location if we had legal access.

We have a stairwell but we do not have an elevator. According to the American Disabilities Act, don't know the exact name of it, in order to have public up there, everyone needs to be able to reach the farm. We can't draw from that type of revenue. The other way to go is production based purely which I would say you can look at Lufa Farms in Montreal. Their rooftop farm I think they have two, they grown hydroponically. It's not really a place for visitors, not that they don't have visitors but the way they're generating their revenue is through growing pretty intensively throughout the year because they have a greenhouse. For the Boston Design Center location, it's definitely a struggle. It's been really a labor of love for me over these past few years. I'm currently really reevaluating how to make that site work economically.

Lindsay Allen: [01:06:30] Yeah. I think that right now, I know we just closed out a grant cycle here in Boston with the US State Urban agriculture that were putting out and really calling in for large proposals for urban farming. I think that there is starting to be a lot more money and startup grant money out there of four urban farmers. I think that those situations can help with a lot of the upfront cost. Then I think partnering though with Boston Medical Center now, they've covered the cost. They had a large donor based that wanted to fund this project so were very lucky in that aspect.

I think that those are some really large untapped market of money to support rooftop and other urban farming initiatives is through partners with hospitals in



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colleges where there is a huge revenue, a huge amount of food coming into these systems every day and that would be able to support them. I think that right now we're at that with rooftop farming that there is large upfront cost that is real but there's also a lot of room for creativity and a lot of room for partnership. I think it's also not to be undervalued what John were saying of the ... for me, when I hear of a farm that isn't allowed to have people on there or for me, I'm not interested in hydroponics at all.

For me, farming is yes about the food but it's about the community building and it's about the relationships of the human aspect of what we create there. I'm not interested in the farm that can't have humans on it. For me, it's really interesting to think of in an urban setting, what are those other educational opportunities that could be other revenue streams as well. I know for some people, farming, they don't actually like interacting with humans that much and that's why they interact with plants. That's not that urban farming might not be the best place for someone who's not more of a human community centered person as well.

John Stoddard: I mean, you look at some folks that have actual fairly successful rooftop farming businesses or urban farming businesses. Some folks are literally investors and entrepreneurs that don't really have connections to farming but they see a market for local food and they've done that. There are examples of those folks and then there's the other side of what Lindsay is saying of folk that maybe have more of a community based mission. They're like a mission-driven organization rather than being an economic opportunity to be realized. Really, thinking about the business model of how you make urban farming generally work, I mean, you see it working with nonprofits.

Like I mentioned, you see it if you can involve other types of programming that bring in revenue in the form of weddings, et cetera. You see it like Lindsay was saying in these types of partnerships where it's not really you're not growing food for sale, you're growing food for institution or could be even like a corporate office park. It's different than what you see with a rural or suburban farm. If you believe in urban agriculture, finding a way to make it work and be creative so it might be this fee for service model, it might be the Brooklyn Grange model or could be more of the Lufa Farms model, there's different ways to make it work and I think they're all valuable.

Lindsay Allen: Right.

John Stoddard: But yeah.

Lindsay Allen: I think there's definitely a wrap that rooftop farms have that are very expensive to startup, which they are. I think relative to other farm startup cost, there are hard costs that can't be as flexible as some of the startup cost of a suburban real farm. We aren't paying for a tractor. We aren't paying for a lot of the upfront cost that are pretty significant in starting a farm in a non-urban setting. Yeah, I don't think there's as big of an economic difference for startup if we really bring into those other factors that farms are contending with.

Then I could just say in terms of production wise, I farmed in Illinois, in Massachusetts, in California, in Tanzania, a lot of places and I've never had per



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square foot so much food come out of one space. I mean, we're cranking food out of here. I think if we were actually on this farm a for profit entity and had found a way to have our initial upfronts with some of the grants which would have been easy to do to cover those initial cost, we would be doing quite well for ourselves.

Chris Blanchard: Lindsay, you talked about more production per square foot than you've seen on any other farm that you've been on. What does that actually look like? I mean, what kind of numbers are you producing there at the farm?

Lindsay Allen: Yes. We're about one month in for harvesting and we've harvested 2,000 pounds and that's basically all in greens. A few 100 pounds in radishes but that's all in cutting greens, lettuce heads, bok choy, arugula, spinach. We're producing at about 2,300 square feet in about half ... of course, only about half of that is in different kinds of greens production. The numbers have been ... I'm impressed by how fast things are growing. Then it's basically evenly split at this point where about 1,000 pounds have gone to the kitchen and then 1,000 pounds have gone to the food pantry. That's our first month. We're hoping, we'll wrap things up at the end of October on the farm and aiming to grow between 10,000 and 15,000 pounds of food, which is really a guess because I'm not used to a rooftop setting. Yeah, we'll see how that goes.

Chris Blanchard: With that, we're going to switch to our lightning round. We're going to get a quick word from our sponsor and then we'll be right back.

Perennial support for the Farmer to Farmer Podcast is provided by the amazing people at Vermont Compost Company where they've been helping plants make sugar from sunshine since 1992. Through 25 years of producing the best potting soils you can buy, Vermont Compost Company founder and owner Karl Hammer had stayed intimately involved in the company, working with a small staff of committed individuals to provide compost based potting soils, chalk full of microbial partners and humus bound nutrients. The people at Vermont Compost Company have a practical understanding of the challenges organic or space and they combined that with a comprehensive understanding of soil and plant science and this really amazing intuitive comprehension of what's going on where the roots and the fungi do their magic.

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John, you've been doing the rooftop farming for longer than Lindsay so I'm going to ask you, what's the weirdest thing that's happened on your rooftop farm?

John Stoddard: The weirdest thing, oh man, I mean, I'll go back to the seagulls where I basically had to get a water gun and I used the top of a metal trashcan lid because they had nested by the irrigation controller and I had to get in there and make some adjustments and I had two particularly aggressively seagulls that would be charging me. I really had to arm myself to get in and do what I needed to do. I



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have a million seagull stories but it certainly contending with seagulls that can be a little aggressive when they have an egg in the nest.

Chris Blanchard: Any particular water gun that you recommend for dealing with seagulls?

John Stoddard: A big powerful one because those birds are not ... they are frightening. I mean, they're not messing around up there. Like I said earlier, they do learn to trust you but during that initial phase where they're nesting, they can be pretty aggressive so you've got to make sure you protect yourself and I think a water gun fairly harmless but also sends a message.

Chris Blanchard: Lindsay, what's your favorite crop to grow?

Lindsay Allen: Probably, which I'm not growing on this farm, but garlic. I love growing garlic, takes up that space and the season when nothing else would be growing, garlic scapes are just about the most delicious food. Yeah, I think garlic would be up there for me. I think it's pretty magical health benefits to it. I'm getting my masters in agroforestry so I'm very into trees and perennial crops as well.

Chris Blanchard: It's going to be interesting day to take your present career and match that up with what you're doing for an education.

Lindsay Allen: Yeah. Well, the rooftop is I think my interim while I'm getting my masters and my background has been more in perennial and agroforestry based farming.

Chris Blanchard: John, what's Lindsay's farming super power?

John Stoddard: My goodness, I don't know. I think she is efficient, knowledgeable and loves to teach about it, loves to engage with people so she's great with plants and people.

Chris Blanchard: John, again, since you're the one with the length of experience with rooftop farming, I'm going to ask you if you could go back in time and tell your beginning farmer self one thing back in 2013, what would it be?

John Stoddard: Oh man, I've talked about this a little bit before. I started this really idealistically. I really come from an advocate background. I've been in environmental advocate, food system advocate for years now and gone to school for both things and I really just wanted in starting this farm to create as they say the change I wanted to see in the world. I think that idealistic approach really helped in a way because knowing what I know now like would I still do it? Because it's challenging particularly at the Design Center where it's just a challenging business model, in some ways that might not tell myself anything because we wouldn't have what we have today.

Chris Blanchard: Okay.

John Stoddard: I think this has been really a project that involves just like creativity, figuring out how to make things work everything from the farm level of growing stuff and dealing with the unique environment to the business. I personally have no regrets about it because it's been a really awesome creative endeavor that I think has brought a lot I hope to the city. I think the benefit is being a little naïve



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about what it takes and being a little idealistic was probably good for me. I might just keep my mouth shut and not tell myself anything.

Chris Blanchard: I love it. I love it.

John and Lindsay, thank you so much for being on the Farmer to Farmer Podcast today.

Lindsay Allen: Thank you so much for having us. This was great.

John Stoddard: It was great to be here.

Chris Blanchard: All right, so wrapping things up here. I'll say again that this is episode 128 of the Farmer to Farmer Podcast. You can find the notes for this show at [farmertofarmerpodcast.com](http://farmertofarmerpodcast.com) by looking on the episodes page or just searching for Higher Ground, that's H-I-G-H-E-R G-R-O-U-N-D.

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Finally, please let me know who you would like hear from on the show through the suggestions form at [farmertofarmerpodcast.com](http://farmertofarmerpodcast.com). I will do my best to get them on the show.

Thank you for listening. Be safe out there and keep the tractor running.