



FARMER TO FARMER

podcast



EPISODE 157

David Greenberg of Abundant Acres Farm on Investing in a Deep-Compost System, Radical Delegation, and Cooperative Direct Marketing

February 8, 2018



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Chris Blanchard: It's the Farmer To Farmer Podcast Episode 157, and this is your host Chris Blanchard.

Chris Blanchard: David Greenberg of Abundant Acres Farm raises about five acres of vegetables with his wife Jen in rural Nova Scotia, about an hour from Halifax. With four full-time employees in addition to David and Jen, Abundant Acres focuses on high value crops while also growing a bit of everything for their diversified market streams.

Chris Blanchard: David takes a deep dive into the cooperative direct to consumer marketing arrangement that Abundant Acres has with a few select food producers in Halifax, including how they use that storefront to host their Free Choice CSA, and David digs into how he and Jen manage inventory and supply for the off-farm Farm Choice CSA, including everything from record keeping to how that informs their planting choices.

Chris Blanchard: Abundant Acres uses several different production systems, including tarp, deep compost fields for high value crop production, a tractor based row crop and blast culture vegetables in rotation, mobile Caterpillar tunnels and heated greenhouse



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space. We take an especially in-depth look at the investment and returns on deep compost system and discuss the engineering behind the mobile Caterpillar tunnels and we also get some insights into the lessons learned in the blast culture system.

Chris Blanchard: Now according to David, the farm succeeds in large part because of its reliance on radical delegation to employees. We discuss how David and Jen set expectations, guide their workers, and give and get feedback to improve performance so that they can rely on employees to take leadership and responsibility for the production on the farm.

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Chris Blanchard: David Greenberg, Welcome to the Farmer To Farmer podcast.

David Greenberg: Thank you, it's great to be here.

Chris Blanchard: So glad you could join us today. I'd like to start off by having you tell us about Abundant Acres. Where you guys located? How much are you doing? What are you doing? How are you selling your produce?

David Greenberg: All right, well, we're located in rural Nova Scotia, Canada. So we're on the Atlantic coast on a body of water called the Bay of Fundy, one of the largest, highest tides in the world. We're about an hour from the capital city of Halifax, which is a smaller city of about 300,000 people. We farm on five to eight acres a year depending on how much wholesaling we do and where we feel markets are going. And we usually have four full-time employees and a handful of part-time employees and my wife Jennifer and I run it together. We're going into my 22nd year of farming. And we do mixed vegetables with an emphasis on greenhouse crops, high value crops, and then we also just grow a bit of everything.

Chris Blanchard: So I've been to Halifax, I think it was back in 2012, but of course it was in the middle of the winter because that's when I travel everywhere for farming conferences, but I have the impression that even though you're on 43 degrees latitude, same as Madison, Wisconsin, that you guys are not nearly as warm there in the summertime, even though you might be as cold in the wintertime.



- David Greenberg: Yeah, I know. It's kind of a damp, clammy, maritime climate. So I think degree day wise, correct me if I'm wrong, I think this is right, but somewhere like Madison would probably be I'm guess something like 4,000 degree days for like corn growing days.
- Chris Blanchard: That feels like the sort of thing I should know off the top of my head, and I just have no idea.
- David Greenberg: I think it's something like it might be even 5,000 degree days in the Midwest, and we're in a hot spot in Nova Scotia and we're at about 2,300.
- Chris Blanchard: Okay.
- David Greenberg: So the heat units are not there. And yet we can grow peaches outside and we're at Zone 6. So it's one of those maritime climates where we grow eggplants outside, they probably yield half as much as they would in a place like Madison or Pennsylvania or something like that.
- Chris Blanchard: And you just don't get quite as cold in the wintertime because of course you've got the Bay of Fundy and the whole Atlantic Ocean kind of right there.
- David Greenberg: Yeah, exactly. So it's just that thermal flywheel thing that's going on and I love it. I grew up outside of Boston where it's hot and muggy and, you know, typical New England weather and the first time I came up here I saw a farmer sweating like crazy and it was like 80 degrees out and he had jeans on and no shirt and I said, "Oh, is this hot for you?" And he goes, "Oh, this is the worst day we've had all summer." and it was mid-August and I thought oh, man. It had just been in the high 90's in Boston day after day and I come up here and I think oh, I found paradise.
- Chris Blanchard: I've never quite gotten used to the heat in the Midwest after growing up in the Pacific Northwest, so I know kind of the opposite of what you're talking about.
- David Greenberg: Exactly. Yeah, I've become so soft now when I go back home in the summer, if I ever do travel in the summer I'm flabbergasted by the heat.
- Chris Blanchard: So how are you guys marketing your produce? And that five to eight acres of production sounds like a lot of variation from year to year?
- David Greenberg: Part of that is we're just increasing our yields per acre, so I think we're actually settling at about five acres of production. We market through a CSA that we hope to get up to 200 hundred shares this year. We usually start with around 180 to 200 shares and then we do a big city farmer's market. We wholesale to a university student union that does 100 plus CSA and we're one of their main suppliers. We sell to a few stores and other farmers that resell to restaurants, just a few wholesale accounts. A few restaurants buy from us, but it's not a focus, and then we do our CSA distribution at a project we call the warehouse market where we have grass based, pasture based meat producer, a sustainable seafood distributor and us all share a retail space that we sell at three days a week in the north end of town and that's been really successful. We started that last year. So we do Free Choice CSA and retail sales concurrently three days in a row.



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- Chris Blanchard: Wow.
- David Greenberg: That's been a really big success for us.
- Chris Blanchard: What a great idea for a partnership to pull in those other producers and have that available on kind of a piece by piece basis in the way that I think makes more sense with something like meat, rather than trying to have the meat CSA or something like that.
- David Greenberg: That's right. And he does do custom orders, so he's bringing in probably 100 customers a week. The seafood distributor has a catch of the week program with 200 people, and a lot of those are coming through the warehouse. She does have some other distribution spots, but basically we're bringing in our CSA clientele, who are then buying meat and fish and then the meat and the fish people are buying our veggies. There's been this amazing synergy, plus we can pay someone to help us on Thursday, which is our main distribution day and then also watch the shop Friday and Saturday and we're splitting her wages among the three producers and splitting the rent.
- David Greenberg: So we've found this space is an old bean sprout factory that has walk-in freezers and walk-in coolers and, you know, drained concrete and all that and a big garage door and there's lots of parking. It's on a quiet residential street a few blocks from a trendy shopping area, and so some weeks we're tripling our sales that we do at the big city farmer's market there.
- Chris Blanchard: So in addition to having the Free Choice CSA there, you guys are also selling vegetables to people who come in from the meat and the seafood customer perspective.
- David Greenberg: That's right, and we also have a lot of customers who simply just don't want a CSA and they're very loyal, they'll come year round or buy a lot of stuff every week and they just don't want a CSA, and those actually are some of our best customers. We have this one customer that's Paleo Diet followers and they spend probably \$50 to \$100 a week on vegetables, plus another \$100 to \$200 a week on protein. So it's not unusual for them to drop \$300 a week on us at the market and they have no interest in signing up for any kind of program, so they're just, you know, awesome farmer's market customers basically.
- Chris Blanchard: Right, and of course because you're doing this in such a small market setting, you really are able to choose the people that you're partnering with. So you've got a meat producer and a seafood wholesaler who match your food ethic.
- David Greenberg: Exactly. Yeah, and that's a really big issue, especially with meat. I find that the quality ... You know, there's pasture raised and there's pasture raised, and the person that works, and we've dealt with is one of the most accomplished grazer in our region, and his quality is just unbelievable, and same with the seafood. So it's really nice and then we also bring in the best whole grain bakery that we love the most. We bring her products in, we bring beautiful flowers bouquets, specialty mushrooms, ferment and we kind of just curated our own farmer's market to have all our favorite products. And so far it's been a big success.



Chris Blanchard: And when you say you've curated your own farmer's market, have you done that along with the seafood partner and the meat partner, or is that really something that has been an Abundant Acres project to say let's bring in the flowers and let's bring in the bread?

David Greenberg: The flowers and the bread and all that is us, it's Abundant Acres. The seafood person brought us in. Because she was renting the space as her headquarters, but she has her office spaces upstairs and she uses the walk-in cooler and then she brought us in just as she was signing the lease for the building, and then the meat guy has actually had the person who owns the building has been his client for 20 years, so the owner of the building wanted the meat person to come in. And then we brought in the bread and the flowers and eggs and, you know, just a few other things.

David Greenberg: And Abundant Acres rents the whole downstairs market space and then we sublet it to the other vendors and we keep the money. We do one sale, we just use a Square POS system and we just have different buttons for each vendor's product. Everyone just brings their stuff, they don't have to count inventory or nothing like that. If we sell a piece of fish, I just press the fish button, total that, press the meat button, press the produce button, and then the Square system keeps track of it all, and then once a month the fish wholesalers aficionados keep track the money and write us a check once a month.

Chris Blanchard: How long have you been doing this?

David Greenberg: We started the first week of June last year and we're going year round now.

Chris Blanchard: Great.

David Greenberg: Yeah, and of course, but the hardest thing about replicating that would be finding a retail space in a desirable neighborhood that's affordable. That's the secret ingredient to that.

Chris Blanchard: And especially because you're not using that retail space seven days a week. It's not like you're you're really maximizing your utilization of those dollars per square foot.

David Greenberg: No, and we could go seven days a week, we totally could. I think it's a possibility that it would increase our days. Right now, the cost benefit isn't there just for the management of it and keeping produce there. Sometimes we have to do a resupply in on Friday morning, so as we're selling on Thursday I'll be calling or texting the crew telling them, pick more bunching carrots, get more spinach together, do this, do that. And then I'll drive home on through or whoever, one of us will drive home, and one of us will have to go back in on Friday. So it's a huge responsibility doing multi-day marketing. And if the customers come and there isn't something there, you just lost a customer. So keeping it going multiple days is not a decision to be taken lightly.

Chris Blanchard: And you said that you're doing this is a year-round market. Does that mean that you're doing year-round vegetable production?



- David Greenberg: We are. We have storage crops. This year we're buying in some storage crops. There's a bunch of larger scale certified organic producers that we're picking stuff up from and being very transparent about it, but mostly we grow our own stuff. And then we have greenhouses with greens in them and we're doing our peaches. And then there's actually there's an aquaponics array in the warehouse that the owner of the building is doing a rainbow trout and salad greens system grow up. And then most of that gets cut and carried 20 feet into a bin of salt. There's also that too.
- Chris Blanchard: Very cool, very cool. So tell me just I mean to kind of set the market context then, tell me a little bit more about Halifax? I think it's about 300,000 people and you've got a university there?
- David Greenberg: Yes, so there's several universities. There's about 60,000 undergrads in the town and there's a military base and a regional hospital. Just the things you'd expect in a small Catholic city. Halifax has a very well-developed farmer's market culture and not a very well-developed CSA culture. So there's several farmer's markets and not that many CSA's. There's one really big year round CSA with I think about 800 shares. And then we're the second biggest in the town at only 200 shares tops. So I think there's a lot of room there. Markets I say generally are struggling.
- David Greenberg: Like I've heard in some of these other places in North America that farmer's market sales are stagnant or going down. And certainly CSA signups are harder to come by than they used to, so definitely it's not like it was four or five years ago. But just the buyers of local foods seems to have been really committed great customers there's no doubt, but it doesn't seem to be as trendy to have a CSA box or go to farmer's market as it was a little while ago. Do you see that in your interviews a lot now?
- Chris Blanchard: Yeah, we're hearing that a lot. I mean, you know, of course we hear that, and we hear that, and we hear that, and then it is kind of funny there are some folks that I talk to who are like it's, you know, the market's never been better for us. I think it varies so much according to the geography, kind of where you're at. Maybe in the peak of enthusiasm when it comes to any given trend, you know, where maybe if you're in a city where it hasn't been as big of a deal that maybe you're still kind of riding the upswing.
- Chris Blanchard: And I was particularly struck ... This has been a number of interviews ago when I talked with Corinna Bench, in Ohio, and she was saying how for them the CSA is actually really strong, but they're really adopting a lot of the marketing approaches, you know, in terms of selling those CSA shares and even thinking about how to get people to renew their CSA shares that you might see in the more conventional food scene, you know, rather than kind of taking the completely alternative route with the marketing.
- David Greenberg: Hmm, interesting. Yeah, I think for us we found the more choices we give, the more retention we have and the more face to face contact. So our two main things we're doing that we didn't always prioritize is that my wife and I attend almost every Thursday distribution and let people know on Thursday is our main ... So that we tell people they can pick up their CSA shares on Friday and



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Saturday, but Thursday is the main day the farmers will be there and everything was harvested fresh.

David Greenberg: On Friday, some of the stuff will be left over from Thursday, but on Thursday we're rolling in, we're there, come and get it and people respond to that so strongly, just that eye to eye contact and full choice. So we'll do a large share is usually nine items, a small share is six or seven item and it's just all laid out farmer's market style and you just whatever items you want, except for certain things you might put up early cherry tomatoes you might get a deal on, but by and large you take whatever you want and you never take something you don't want.

Chris Blanchard: I feel like there's a real tension there with the face to face contact and the choice element with CSA because really we're being asked to do a lot more as farmers. I mean that face to face time, that comes at a cost because you're not on the farm. You know you're now standing there, you're selling things, you're being a merchant instead of being back home getting the weeds killed. And I feel like the same thing to some degree with the choice. You know, there's this ever growing pressure to provide more, and more and more, and more, and more. We always found on our farm for the CSA like having really early tomatoes or really early cucumbers, we didn't really get anything out of that. You know, a lot of times we'd increased the choice and people go oh, that's great but it wasn't like we got more for having an early tomato the way that you might at farmer's market with a higher price for that first tomato of the season, and I found that to be kind of a frustrating dynamic with the CSA.

David Greenberg: It is true. I think that's kind of a weak point in CSA in general is that you're not getting that direct market response. For us, we're doing a lot of farmer's market sales while we're distributing the CSA, and the CSA has created a buzz for us in this alternative location on a quiet residential street, that people are jogging by this little street and they're seeing 30 or 40 people picking up their CSA shares and talking and laughing and having a great time and they go, "What's going on in there?" and they come into our building. So for us I sort of see the CSA distribution as this really great adjunct to our alternative farmer's market sales. And for us it seems to pencil out really well. You know, there's many CSA days where we're selling \$6,000 of product in a day in a really small market on a fairly small farm. You know, it feels like it's worth our time compared to farmer's market where a really, really good farmer's market is three to four thousand about our top sales in the market.

Chris Blanchard: I really like that idea of that synchronicity between, you know, the CSA sales being sort of a core that drives some of your other marketing efforts.

David Greenberg: It is, and then what we do too is because we're doing free choice, at the end we might be out of some items, like let's say we don't have salad mix left, but we have lots of spinach, and people are coming in at the end of our distribution day and I'll say things like, "Okay, spinach is two for one, two for one." and I'll blow out a lot of stuff and people have less choice, but they have a perception of great value. I would never two for one things that I could sell easily the next day unnecessarily, but I'm like oh, we're just way overhead with this spinach this week. And so I'll give two for one spinach's and people are just delighted. And to me it seems like, you know, there's always that certain percentage of stuff that



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isn't going to sell at any market where there's choice, and we whittle that down to a very small amount and then we give the rest away. So we have almost no waste. We probably waste 30 or 40 pounds of produce a week. And I love that.

Chris Blanchard: Tell me more about how the Free Choice CSA system works for you guys?

David Greenberg: We set up ... The larger the bins the better, so that we can put lots of stuff out so that we don't run out of product in the middle of a rush. So we use these ship to shore fish totes that are ubiquitous on the Atlantic coast of Canada. It's like gray plastic fish totes that's about 18 inches, 20 inches wide and about three feet long, and about a foot deep. So we set those up at an angle and we fill them with every different thing we have and we just have signs saying what it is and if there's a limit on it or how much an item is.

David Greenberg: So like we might do something like if we have leeks that are bunched we'll say one bunch per share. Or if there's cherry tomatoes we might say one pint box per share, so everyone knows they can only take a pint, they can't take five pints of cherry tomatoes that week. And people just count it themselves. We don't track it, it's all honor system and we find it really easy. One thing we had that really streamlined how we manage our inventory. So the way we're doing it now, we might go to a Notepad or, you know, those tablet things, we might do that, but for right now we have a white board, set outside our walk-in cooler. We write down each item that we harvest and how much, and then we take a picture with our smartphone using a tiny scanner app that allows us to get a really clear scan of the whiteboard and we print that out, bring that to market.

David Greenberg: So then first of all when we're setting up, it works as an inventory, so if I was in the wash pack room and I can't remember if we harvested fennel or not, I can look at my sheet and know oh yes, there is some fennel and dig around and find it. So we put everything out, we sell everything, and at the end of the day we can very quickly just note what is left over, so we'll just, you know, look and say oh, we brought 20 fennel and 13 are left, bring less next week. So it's just a very streamlined way of doing that and then we print out all those white boards too, and we use that for organic certification as our audit trail to do our harvest records. It's pretty straightforward. It cuts down a lot of data entry. So when doing a free-choice CSA I think it's crucial that you somehow learn how to bring what you need when you need it. You know, and that's true of farmer's market too, it's a little more ... There's a little more pressure when someone's already paid for it.

Chris Blanchard: Right.

David Greenberg: You're delivering the goods.

Chris Blanchard: Well, and of course at farmer's market you've got that other flexibility besides just how much you bring of how much you charge. You know, you can always say, you know, we're limited on cherry tomatoes this week, I'm going to jack the price.

David Greenberg: Yes, that's right. And that's the thing too when you have to really balance in the CSA system it's kind of getting back to what you said about if you bring early tomatoes are you really getting anything out of it. Sometimes in the middle of the



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harvest season we're giving a lot of value because each item is so valuable. You know, like winter squash for instance. In a free choice system where people can take all the winter squash they want, just per unit, I find in order to not lose my shirt I have to grow small winter squash.

David Greenberg: So we grow butternut squash and I used to grow them at 1.5, but in row spacing, and I was growing too many large that the value sacked. Unlike farmer's market I can't charge by the pound for those winter squash so I need to crowd things in the row to make my winter squash small enough so I don't lose my shirt on a per item CSA. You know, you have to do funny things like that. Like with growing fall broccoli. We pack them in the beds so that we're getting our beds for the income that we need and that we can give these small heads of broccoli that aren't too valuable.

Chris Blanchard: With that example, with a free choice CSA, somebody could ... You know, if I come to pick up my CSA share and I'm not a big broccoli fan, then I have the option of getting one smaller head of broccoli or three smaller heads of broccoli, whereas if you have those big monster heads of broccoli, even if I don't really want a lot of broccoli and only want a little bit I'm stuck just having to take that one big head.

David Greenberg: That's right, and it's an interesting thing that's happened to us, is since we're doing the Free Choice CSA and we had to sort of downshift the value of our units we started using that same sort of controlled unit size at the farmer's market, and a lot of our prices two years ago were \$3.25 instead of our base bunch price and we went to two for five. And what we did is we just shortened up all our bunches. So I pretty carefully calculated our revenue per carrot or per kale leaf and I kept our revenue the same, but just made all the bunches smaller and now we have these smaller everything, and now almost everything is two for five on our table and our sales jumped up a lot, so that's been an interesting sort of thing to do.

David Greenberg: And, you know, like we're doing bunches of Hakurei. We'll have golf ball sized Hakurei I'll do a bunch that only has four in it and if you put those two bunches together and charge \$5.00 people would be like, that is a ridiculous price, there's no way I'm paying \$5.00 for a bunch of turnips, but you have them two for five, \$3.00 each, two for five, and people will buy two bunches and think they are getting the best deal. And we're in a college town where there's lots of undergrads living in apartments with little bar refrigerators and we kept hearing people saying I want kale, chard, turnip and carrots, but I can't fit it all in my fridge or it'll rot before I eat it and now they're coming to us and buying these little bunches and just loving it and we're getting all these people who like, oh, this works. That's been a big driver of sales for this market.

Chris Blanchard: So it's been interesting for me over the last couple years since I stopped farming and making the transition to the really sad transition to being a grocery store vegetable shopper. You know, even when I got a great food co-op I think that this is actually something that they do particularly in the wintertime with the national produce scene is that I feel like there's a lot of fluctuation in bunch size. So you don't see the price like on kale never really gets jacked up really high like it sometimes does with broccoli on a per pound basis, because kale is sold by the bunch, but what will happen is that in the middle of the winter is that those kale



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bunches get really tiny, you know, and then as spring rolls around and things start ramping up again they get a lot bigger and so again when you kind of talk about that on the value per acre idea I think it's an interesting idea to adjust the amount rather than adjusting the price. I like that.

David Greenberg: And something we heard a lot too is that at farmer's market I think customers feel uneasy when they have a certain amount to spend and they don't know how much their bill is going to be and they can't quickly do the mental math. And this way someone will come up to me with a \$20 bill in their hand, and they say, "Okay, what eight items am I buying this week. I'm spending \$20.00 on produce." and they go one, two, three, four, five, six, seven, eight. Thank you, here's your \$20. And it's like we're really turning through our customers faster at market, too. And people just feel super transparent. We have everything very clearly labeled as much as possible, and we're just getting a lot of positive feedback for that.

Chris Blanchard: I'm going to come shop at your store. I like that. I really like that. So tell me about the production systems that are getting this food to the warehouse market and the farmer's market and the CSA.

David Greenberg: We have multiple production systems. A lot of our high value, mostly direct seeded, short season crop, so quick roots and greens are grown in an acre and a half, no till, tarped, deep compost field. So we have 108 beds, 100 feet long by about 42 inch bed tops. There are 60 inches on center and we have full tarp coverage. So we have 18 tarps that covers six beds in three rows. So we have block A, B, and C, 36 beds per block, six tarps covering those beds. We have full sprinkler irrigation, so any crop that's growing has a sprinkler on it. We use Senninger Wobbler-Xcels. We use four sprinklers per hundred foot run per bed, so we're irrigating six beds, we're tarping six beds. We have row cover that can cover six beds and we're using a lot of compost.

David Greenberg: I've been thinking about this for years and when I read Ben Hartman's excellent book, The Lean Farm, actually I think I first heard about it when I heard him on your podcast. It just clicked in my head and I started doing some math and I figured out I could put four inches of this very clean peat moss based, weed free, pH balanced awesome compost. I could put four inches down on a bed for \$106 bucks. And I did the math, worked out to just over \$16,000 to cover 108 beds and I did it and invested the money.

David Greenberg: That was in the spring of 2016, and we had an incredible drought in 2016, we ran out of water for six weeks and I think that compost paid for itself that first year. And we also just did away with our weeds. It just covered over all that chickweed in our salad mix, and suddenly what cultivation we did have to do was three times easier. Our yields expanded, doubled our yield, everything just got easy and awesome. And now we're just really sold on that production system for those particular crops. We do a lot things like we'll, you know, have a piece of ground has some sort of weed problem.

David Greenberg: Chickweed is a big one for us and, you know, we'll do things like the chickweed will come up through last year's compost so we'll take the tarp off, we'll let the chickweed start germinating, will flame it, then we'll put more compost down and then we'll seed immediately, and we're just really learning how to use the



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tarps and the flaming and the deep compost to pretty much eliminate weeding in those hard to manage crops. So in 2016 we did over \$100,000 in sales on that acre and a half with no greenhouse. It's just all agricrop and we spent about \$20,000 on compost, which is a lot for sure, but we were able to grow things like spinach and arugula through a drought and we spent less than 5% of our labor on weeding and our yield went way up and our crop quality went way up.

David Greenberg: And we were plastered with soil borne fungeses killing our spinach when it's in the cut or eaten stage, and that's stopped, and suddenly we're growing beautiful spinach this summer. Just killing it on spinach. So now like last year we spent about \$5,000 compost on that field and of course the big question is are we going to get so much phosphorus and other less viable nutrients. So far the only thing that getting high is potassium, so I'm going to have to figure that out as we go into the system longer. So that's one system we have.

Chris Blanchard: One thing I think it's interesting on what you're talking about there is that when you're looking at the expenses there what you're doing is you're trading input expenses for labor expenses, because you're really using that compost as a weed control tool and of course if you're increasing your yields on a per square foot basis you're probably cutting down your labor costs on a per unit harvested basis. You know, so you're kind of trading that input cost for labor costs. I'm curious, where are you getting your compost? Is that something you're making yourself? Is that something you're buying in from a local producer?

David Greenberg: Yeah, I've always loved making compost and I still make a lot of it myself, but we decided, you know, reading books like The Market Gardener and just thinking about it instead of okay, I surrender, I can't make weed free compost that's super consistent. So we started buying it in from a peat moss manufacturer. So there's a peat bog about 45 minutes from us that fed cows and sheep on peat moss and then turns that into compost, adds lime until it's pH balanced and sells it. And it's expensive. It's delivered, it's almost \$40 a cubic yard and it's a perfectly weed free, super fluffy. You can direct feed into it and there's no crusting. Of course it holds moisture beautifully and being peat based it lasts. So we'll put four inches down and 12 months later there's probably an inch and a half to two inches of it still sitting there on the surface of the soil.

Chris Blanchard: Because that peat's already a really ... It's what's the right term for it? It's humus already, right? It's a completely finished, stable organic matter.

David Greenberg: And it's like it's so stable. It's almost like I say it's like a fossil carbon. You know, it's almost like a fossil fuel and obviously it's debatable how sustainable it is, but here in Nova Scotia about 20% of Nova Scotia's land mass is peat bog, and there's a lot of peat here, so we really love it. It just does everything we need in a way that seems to be very cost effective and, you know, and you were saying we're substituting input costs for labor. That's one of those things where it's one thing if you could even have that labor, but for us our crew is busy all the time harvesting and planting and marketing, and as every vegetable farmer knows there's a time where you have to get weeding done. If you can't get it done on time it's not even that hourly labor cost, it just doesn't get done.

David Greenberg: And now you have a weed-y mess, and now you have a labor problem with harvesting, cilantro that's overrun with whatever, some tangling weed and you



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can get your harvest done on time now. You're sunk. The whole thing falls apart. Yeah, so I am really excited about that system and then using the full tarp coverage has been interesting. It cost us \$6,500 to buy 18 tarps and enough sandbags to hold them down. So now instead of dragging tarps here and there and playing this sort of jigsaw puzzle, on our crop plan we just every block of six beds we have it so that either the block is all things that mature the same or like if there's something like arugula, salad mix, spinach and then carrots and beets, we'll put the carrots and beets to one end and we'll pull the tarp away from that and then as the quicker crops mature we just roll the tarp across the quicker crop and then once the carrots and beets are done, we just flip the tarp over those last few beds.

David Greenberg: And what that does is we never, ever, have weeds maturing waiting to be taken care of. It's just, you know, a bed is done, it gets flail mowed, tarped immediately and then our turn around gets way faster. We're double and triple cropping everything and we uncover that tarped bed and we just have this crumbly black weed free surface, just ready to plant. Unless we are trying to flush out weeds then we'll untarp, wait two weeks, wait for weeds to germinate, flame weed them, and then usually put fresh compost down and plant. And by using that thing we've been able to beat pretty much every weed we have, including some nasty things like wild mint and nettle and things like that, that are in that field.

Chris Blanchard: And how are you getting that compost spread in that system?

David Greenberg: We have a custom tractor that we built out of a zero turn mower. So it's really light and really maneuverable and we pull a little cart that carries about a yard and a half of compost with this little cultivating tractor. So we load the compost with the bucket loader, we have the compost right by the edge of the field. And we can spread a lot of compost in a hurry with that. This peat based compost is so light and fluffy we shovel it around with snow shovels. So it's actually fun and easy to spread it and one time I timed myself and a really strong, fast employee. I wish I could remember it off the top of my head, it was a really large number of bed feet per hour. I won't make it up, but it was kind of astonishing, but in a few hours you can definitely do about ten beds. So it goes by pretty fast and that's doing a really thick covering, like three or four inch.

Chris Blanchard: And you said that this production system that you've just described accounts for how many acres of your farm?

David Greenberg: One point five and that includes all the perimeters and cross paths and everything. It's 108 beds that are on a 60 inch center. And then our paths, we're trying to make our paths more and more narrow as we go and it's interesting too. I have the whole sort of toolkit for a BCS like a Power Harrow rotary plow, flail mower, all that stuff, and now we're hardly using our rotary plow, which is an expensive piece up here and we're not really using the Rotary Harrow or the rotary plow. And instead I changed the wheel spacing on our Kubota that has 13 two rear wheel. We just brought our wheel spacing in a little bit so we're at about 59 inches centers. Couldn't quite get 60 inches on it.

David Greenberg: We're on 50 inch centers and I'm not broad forcing anymore, I'm using just a simple ... I had a friend custom manufacture sort of like a bed shaper silage unit. It's two big disks, they're about 20 inch disks that scoop out the path and reform



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the shoulder of the raised bed and then two gains of S-time and then two gains of rod-weeders. They're like just spring steel, it just crumbles through and then a roller at the back. So I'm able to lift down a bed in about 30 seconds and, you know, deeply loosen the soil without inverting the soil profile, crumble instead of dragged through it and then rolled it back and then we're ready to plant really fast. And so yeah, we were broad forking 108 beds and paying someone to do it by the hour, suddenly a few thousand dollar tool seems pretty cheap.

Chris Blanchard: And how often are you doing that with those beds?

David Greenberg: Before every crop of carrots for sure. We've been experimenting with it. Every time we do it we are bringing up some raised seeds, so I don't do it unnecessarily. I'm still learning how much I have to do it, but I'd say about before half the crops we do it.

Chris Blanchard: That's one and a half acres of your production, so you said you've got a total of five. How are you doing the other three and a half?

David Greenberg: I really love our Rain-Flo 345 mulch layer, it doesn't make a raised bed. Since a lot of our fields are sandy gravelly loam we don't want a raised bed. Also we grow a cover crop in between all our plastic mulch, and the raised bed would greatly complicate the mowing of that. The way our system is, we'll spade a field under a cover crop hopefully so we'll spade under our cover crop, rototill the whole field and then we have a small manure spreader that we've put a hood on so we can spread homemade compost very quickly. One manure spreader load will do a 450 foot row.

David Greenberg: So we do 400 foot rows on eight foot centers where we're spreading a layer of compost about three inches thick and about three feet wide and we'll fill that in with a rototiller, a six foot rototiller, just to kind of lightly till that in at a low RPM and just kind of paddle it through the soil and then we'll lay our mulch over that and we end up with these five foot wide plastic, so we end up with about a 40 inch bed top on our plastic, which is nice.

David Greenberg: Or mowing our cover crop, I used to use standard four foot plastic and I found I couldn't overlap the flail mower onto the plastic enough to get a clean cut. So this way with the five foot plastic we plant our transplants so they're least six inches from the shoulder of the plastic and then we plant annual ryegrass and red clover in the spring, work it in with the power hill. Actually what we do is we lay our plastic, we power hill out all the rest from laying the plastic mulch to get a really smooth surface that will be easy to mow, then we spread our seed and either power hill it or let the rain work it in. And then as we crop the field, we mow it with our 34 inch wide flail mower. Two passes up the path up and down does it. And we end up with this beautiful carpet of red clover by the end of this season, no weeds, no soil disruption.

David Greenberg: And so I view our plastic culture a year as a major soil building year in our rotation, and then we'll pull the plastic and the drip tape the following spring and let the clover grow out several times, mow it, let it grow, mow it, let it grow, and then we'll spade that whole field under and cover crop it for the year and I feel like we're building a lot of soil with those crops in that year.



- David Greenberg: And then the balance of our production is in row crops, and we do crops that do really well with tilling. Like potatoes, leeks. You know a lot of our larger brassicas, kale, all that stuff we do in 30 inch rows pretty conventionally, except we have this funny machine that we built. We call it the crop hopper, which is a Zero Turn lawnmower with a spin weeder, belly mounted on parallel linkages. You can move the spin weeder up and down and side to side with your hand and you're steering the tractor with foot pedals that's actually the Zero Turn mower transmission. So that's one funny thing that's had varying degrees of success. I've been working on that for years. But at the end of the day, it's just 30 inch spacing row cropping where we mechanically weed and till.
- Chris Blanchard: And that bare soil production, that's integrated in with your plasticulture production, but that rotation doesn't overlap physically with that one and a half acres of salad and short term roots beds.
- David Greenberg: Yeah, that 100 acre, high value crop thing is just in one field and it's just sitting there. So far we haven't felt the need to rotate out of it. I have considered expanding that into some of our other rotations. So far there's been no disease issues and the fertility has been okay. I'm going to change compost if I have to, to get out of the potassium thing that I'm getting here, where I'm getting excessive potassium, but I think we're going to be okay. I hope I can manage that. And then if I have to, I'll set that up into the rotation, which would be a lot of extra work.
- Chris Blanchard: You started to say before I interrupted you and wanted to get some clarity on that rotation, that you are also doing some hoop house production.
- David Greenberg: Yeah, yeah so we have tunnels, field tunnels that are on rebar foundation, they're 300 feet long and they're either 20 or 16 feet wide. And we've been playing with, you know, Cat mobile Caterpillar tunnels for years. And now we're at a system where we have four rows of rebar that gives us three sites for this site, A, B, and C and the rebar is permanently installed with a thin strip of landscape fabric that the rebar skewers through so there's no weeds around our foundation posts. And we can just move the hoops side to side and use that as, you know, some sort of protective cover is so advantageous in a climate like ours where June often feels like the end of winter, and we just don't get the season of spring because we're literally a few hundred miles south of icebergs. The ocean's so cold here in April and May it's nothing wants to grow.
- David Greenberg: Yet, there's lots of sun. So this simplest of greenhouses are such a big hit here. So we have the [S-field] is our hoop house fields that we just do those rotations where we either have cover crop or fall winter crops or spring crops growing, you know, spring summer crops growing and were flipping these hoop houses around. And then we also have a large heated greenhouse that's 32 by 144 feet that we just put up that has a climate battery in it, which is a novel way to heat a greenhouse, which is three modules that are on a 15 inch culvert on either side of this 30 foot square hull and there's four inch thick sewer pipe connecting the two culverts and it sits there and sucks air in from the top of the greenhouse through all these various sewer pipes pumping heat into the ground and then putting out, you know, cooler air back in the greenhouse during the day and then night the fans come on and suck the cooler greenhouse air through this heated soil, releasing all that soil heat into the greenhouse.



- David Greenberg: So we just built that and we'll see how that works. We have tomatoes, peppers and eggplants that are just coming up in our seedling greenhouse and we're planning on transplanting them out into this greenhouse around the beginning of March. So we'll see if that gives us the early warm season crops we're hoping to get without a big fuel bill. And then we can also crop greens through the winter in that house, too.
- Chris Blanchard: I was just going to ask you if that actually works and I guess the answer is you don't know yet.
- David Greenberg: We don't know yet. We just got it finally wired up together about a week ago. I have seen other farmers that are just playing with this too, and there is a fellow in Pennsylvania who posted that he had ... It was one degree Fahrenheit outside and he was able to maintain 19 or 20 degrees Fahrenheit inside. Which would be the difference between, you know, and if added maybe a little supplementary heat, that would be the difference between keeping greens going or not in a greenhouse. I think it will work really well going into the spring for warm season crops. I am also going to have a forced hot air oil burning furnace in there for backup. I think we've get an awful lot of sun that we waste in late March, early April that we could store a lot of heat and just keep those crops growing how they want to grow without letting our temperature get below 50 degrees, which is our degrees in May.
- Chris Blanchard: I farmed for a couple of years on Mount Desert Island in Maine, which is really, you know, pretty much exactly parallel to you guys and just due west from where you are and it was remarkably sunny there in the wintertime. And that was something that really struck me when I moved back to the Midwest was just how many gray, cloudy days that we have and the temperature profile a lot of times isn't all that different than what we were experiencing on that hilltop on the island in Maine. But the difference was that we actually had sun and I assume that's the same for you guys in the wintertime.
- David Greenberg: I think it is. It's sort of like this weird secret thing. Yeah, we actually have like I said, it's a beautiful sunny day right now. It's puffy clouds in the sky and blue sky. So yeah, I don't know. We do have a fair bit of solar potential here, so it's a fun thing to explore. We're also installing a compost feeder, which is another wacky experiment, which is a pile of wood chips and manure or blood meal whatever mixture it will be, but mostly wood chips, 20 foot diameter, 10 foot high circle with pipes circulated through it and then just a circulating pump off of an old hot water boiler and then we have flex pipe laid in between our layers of earth tubes in our climate battery module. So we'll be pumping hot water into the soil to sort of turbo charge the system and we'll see how that works. From what I understand a compost pile 20 feet across, 10 feet high can produce 40,000 BTU an hour for a year at a time.
- Chris Blanchard: Wow.
- David Greenberg: If we put 40,000 BTU into our soil starting ... You know, we might build it in September let it come up to temperature for a month, turn it on October 1st and then we'd have millions and millions and millions of BTU's to draw on through the winter and then maybe turn it off, crop our greens until about now and then



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turn it off, and let the compost pile heat up again and then turn it back on after a week and then start banking heat for our tomato crops coming up. Actually, when I meant turn it off is actually we turn off the climate battery so that we're not drawing that heat out. And instead of bank heat, getting ready to plant our tomatoes.

Chris Blanchard: That's a lot of infrastructure that you've put into place there, and that can't be cheap.

David Greenberg: No. We definitely been putting a lot of our earnings back into the farm for the last [few] years, and then something I'd like to talk about is I'd really like to talk about our labor management. I think that's super interesting and how we've done that. So yeah, so we have an off-farm job too that in terms of farming income it pays very well and gives us the latitude to invest a lot into the farm and actually the climate battery we had really dear customers invest in that so almost all the climate battery was paid for by customers.

Chris Blanchard: What I'll do here is actually take a break, get a quick word from a couple of sponsors, and when we come back I want to talk to you really quickly about the mobile high tunnels that you've got, and then you said employees and this off-farm job. We're going to take that break and we'll be right back with David Greenberg from Abundant Acres in Nova Scotia.

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Chris Blanchard: And we're back with David Greenberg from Abundant Acres in Nova Scotia. So David, those hoop houses, the ones that have the rebar foundation, that's really interesting to me and I've got the impression that you're building those yourself?



- David Greenberg: I started building them myself. I started out, there's a really neat guy, Todd Hanley in Oklahoma who I found on the internet and he had plans for fabricating your own mobile hoop houses. So I started with his system, and then I gave a presentation on them at a greenhouse conference and a greenhouse manufacturer liked the idea and started building them. So we had them made out of better materials, almost as cheap as I could buy materials here, so I started using his stuff.
- David Greenberg: And that's been good and then we've kind of kept in touch over the years and kept refining and changing the design and now we're kind of set on a design that we both really like, which is a 16 foot wide, Gothic arch shaped, high tunnel that's made out of one by two steel and it's really light, it's easy to move. The one by two profile fits more forgivingly on the rebar than the one by one. I used to get kind of get jammed up on the rebar if the rebar wasn't at just the right angle. With that rectangular slot it just pops right on.
- David Greenberg: And sort of the key secret ingredient to our high tunnels, is we have this very simple custom fabricated bracket that's just a piece of one eighth inch galvanized steel that has a three quarter inch hole that fits over the rebar and a smaller hole, probably a quarter inch hole that the spare beam fits onto. And you slip that on over the rebar and your spare beam or your twine that you lace the plastic on and that just locks onto the rebar really nicely. The harder you pull on your twine the more that bracket sort of kinks onto the rebar and won't let loose, and then the other secret thing that we're doing is we're making a little pad underneath each hoop so the hoop can't jam into the ground.
- David Greenberg: I find with these rebar foundations hoop sitting on rebar greenhouses that they'll kind of push into the soil, especially when it's wet and muddy and, you know, if it goes down a few inches on each side, you can lose six inches of headroom, but also more importantly your ropes will keep loosening, so we had this corrugated plastic we got at a dump, but you could also use plywood or even a piece of two by four. Just something to keep that hoop from working down into the soil and then using strips of landscape fabric along the rebar is really nice too.
- Chris Blanchard: Something to give it a little bit of flotation and then a little bit a weed control.
- David Greenberg: Yeah, just a little bit of weed control, a little bit of flotation. We stopped this year, we won't be growing tomatoes or peppers outside. We grow them all in the hoop house and we're getting awesome production and it's super cheap. And then having it mobile of course is great. You know, we grow our tomatoes and peppers and we can keep harvesting them into November and then at the same time we're growing beautiful winter crops next to it and when they finally get killed by the frost we just cut everything down and me and two employees we can move an entire house in a day, which is almost 5,000 square feet of growing space.
- David Greenberg: They're really good in the wind. They're really cheap to buy. It's just a flexible, attainable system. I say one drawback to them is they're had to ventilate compared to things that grow outside. And the way we manage that is we spend some time in the spring and the fall ventilating them, especially in the spring and then once the settled warm weather comes we ventilate them. We just roll up



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the sides and we keep them rolled up, even on cool nights, where we probably should drop them we don't and we're still getting such good production that I figure okay, that's good enough. But I'd love to figure out a way to have a mobile house that has automatic ventilation, that would be great.

Chris Blanchard: And an inexpensive mobile house...

David Greenberg: Yeah, that's right you get like a Rimol Rolling Thunder at however many dollars a square foot. These houses cost around a dollar a square foot Canadian delivered soup to nuts.

Chris Blanchard: And who's the manufacturer on that? I don't think you mentioned that name.

David Greenberg: No, it's Multi Shelter Solutions in Palmerston, Ontario, and they do ship to the States.

Chris Blanchard: So you said you wanted to talk about employees?

David Greenberg: Yeah, and it's funny. I heard a podcast of yours from Chris of Two Onion Farm, and I just loved that podcast, by the way, it's such a great one. And he talked about delegation and when I heard him talk about delegation I was like "Ah, someone else is doing what we're doing." We just take it to an extreme. What we do is we give each of our foremen and employees a field that they're responsible for and we do a careful crop thin in the winter, usually before they show up, give them a crop plan, and I say okay, this is your field. You're in charge of whatever it might be, let's say plasticulture is one, hoop houses and seeding production is another. The front field where we do our high value crops with the tarps is another, and then row cropping is another.

David Greenberg: And we choose our employees and fit them to what they're interested in and what they really want to learn about it and we say okay, let's just make pretend you are farming and this is your farm and you have to do everything. Everything. So they are responsible for all the seeding, managing the weeding, know the crops in the field when we're discussing what we're going to put in our CSA boxes or bring to market. Everything about that field they're responsible for and then I just kind of buzz around helping people and discussing things, and hoping to catch inexperienced mistakes they make before it ends up costing us.

David Greenberg: And this system has worked so well. I'm just thrilled with it and it's not without its challenges, but if it seems to motivate people in a way that I just ... it's unbelievable. Like for instance one year, deer had got into our row crop field and this young man who's 21 years old and he looks at me with wide eyes and he says, "Deer have made it into my field and they've eaten three cabbage plants." And he rallied his other friends who were working on the farm, and by 10:30 that night a deer fence was up. My wife and I are just like, this is amazing. And they strung deer fence up, they baited it with peanut butter and tinfoil. I said to him, you know, if you get a deer fence up right away, they'll get the message, but if they get used to it we might have a real problem on our hands. I was expecting him to get it done within a few days and they worked by headlamp and it was done.



- David Greenberg: And I didn't have to work to motivate them. I didn't have to say much, I just gave them a little touch of information and he ran with it, because he wasn't going to lose all of his crop, and I tell people it's really important to irrigate the spinach during a dry spell and I'll see them running out to the field during their lunch break and turning their sprinkler on because they want to grow spinach and have it at market in the middle of August.
- Chris Blanchard: So they've really got a sense of ownership over the portion of the farm that they're responsible for.
- David Greenberg: Totally, yeah. And it takes a lot of letting go and there's a lot training that has to go into it. You know, we'll get people who don't have experience with tractors and I have to show them how to use the bucket loader and how to load compost and how to use our field equipment and do all this stuff that a lot of friends just don't delegate, and we delegate it all. And people feel like they're getting a lot of value from that, and they so far have reciprocated beautifully.
- Chris Blanchard: So I think of myself as a young farmer and I certainly went through an evolution from the first farm that I worked on to the fourth farm that I worked on. But I certainly had as a young man and I think this is true of a lot of young people, I was kind of cocky, I felt like I knew it all. I didn't really want to listen to what anybody else had to say. I was oftentimes careless and distracted. You know, I hear you talking about this and it kind of gives me the heebie jeebies.
- David Greenberg: Right. Well, there is some of that. Like sometimes people make mistakes and it hurts. We do try to carefully hire people who are not too headstrong, like if you're going to give them an inch they might take a mile. So we do have to find people who have a cooperative spirit, who appreciate it, who have clear expectations. We've run into trouble with people who wanted more direction than they got and felt sort of lonely and isolated out there on their own field.
- David Greenberg: And then something that seems to be really important is that we get people who want to work as a team. So like at work meetings, it's typical for the person who's doing the hoop house people to say, "Okay, I'm a hoop house person and I need to get the trellising done on the tomatoes." And then the front row person will say, "Well I have a ton of compost to spread." and then the other person will say, "Well, I have seedlings to put out, and I have to plant the leeks." And then I might sort of jump in and say, "Okay, well, why don't we trellis the tomatoes in the morning, before the hoop house gets too hot and then we'll spread compost and then at the end of the day will plant the leeks so that they're not planted in the heat of the day."
- David Greenberg: And then we'll all help each other, and the tomato trellising person will actually be looking over their shoulder and making sure everyone's doing it the way they want it done, and the compost person and the leek transplanter, the same way. So they kind of get to be the crew boss, and they're working for each other, which creates like this really nice sort of positive peer pressure. You know, come on, get my work done and then I'll get your work done, and so far it's worked really well. And we have really good retention too. Like this year, we have all returning employees, which is really nice.



- Chris Blanchard: So that first year, how does that tomato person know how to get the tomato trellising done?
- David Greenberg: I show them.
- Chris Blanchard: Okay.
- David Greenberg: And oftentimes what I'll do is I'll hire someone who's worked on a farm that did really good greenhouse tomatoes. Like in 2016, I had a young woman who had two years of greenhouse tomato growing under her belt and I was like oh, goody, do you want to do the greenhouse tomatoes? And her eyes like light up and she's like, "Yes, I want to do it right and I want to be in control, and I'm about to buy a farm and I want to do a dry run on this because I really want to grow greenhouse tomatoes." and I'm like great, go for it. And she taught me how to grow greenhouse tomatoes better and they were amazing. She grew more tomatoes than I've ever grown and now she owns her own farm and, you know, there you go. So that happens a lot.
- David Greenberg: So I'll choose someone that way and then it's actually just a benefit to us. Sometimes I choose someone to do a job where I know I'm going to have to work with them a lot and that works to a greater or lesser degree, depending on the relationships we can get going and how focused I can be on being a good mentor and, you know, it's never perfect, but years of having inexperienced people who it's hard to delegate to and they're just kind of disengaged and don't feel motivated.
- David Greenberg: And I think there's a certain self-selection too. Like when you advertise a job where you're going to be in charge of the field, I think that's a way for us to attract people who are later in their cycle of farm apprenticeships. So we get to kind of jump to the top of the queue. And we get people applying who are like, I really like the way you manage your farm, I really want to work for you. I really want to experience running my own farm because I want to have a farm in a few years. So I want to come stay with you and do this. But I was just going to say to make this work, especially in an isolated rural area like us, we had to have build cabins so that we can advertise nationally and have people come from all over.
- David Greenberg: So I don't think this would necessarily work if we're only pulling on local Nova Scotians because we really need to get those people who are about to have their own farm and want that kind of responsibility. You know, there's a lot to it. Like we have a separate house for employees with a kitchen and a bathroom and a living area, and then we also have individual cabins for each live on employee, so they have their own personal space. So it's been a lot of investment to get ourselves set up to do that.
- Chris Blanchard: How are you compensating your farm labor? I mean, you talk about the housing, but what else is there?
- David Greenberg: Well, if you were asking me about how this apprenticeship, you know, teaching people so much and giving them so much responsibility, one of the things we've had to struggle with to get right is how we pay people. We started off we were paying everyone by the hour. And we had some people who really wanted to



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farm and they're like I really appreciate it, I really appreciate being paid fairly, but I want more training and I'm like well, I can't give you the kind of training you want, like i.e. teaching you how to weld with my equipment and sitting there and showing you how to do farm welding or training you on how to use the bucket loader carefully and safely. I can't afford to do that while I'm paying you twelve bucks an hour. That's just not going to happen.

David Greenberg: So then we started doing minimum wage on salary with a bonus at the end, and that has its drawbacks but it seems to allow people to not sort of watch the clock and just feel ... It's interesting. It's not so much that we can't do it, there's a sense that we cannot afford to train people, but it's also that people don't feel guilty. Like if someone's on the clock and they're struggling to use a bucket loader to load compost for the first time in their life, they're going to get really flustered and scared that me and Jen are going to be angry at them for wasting our labor. But if it's 5:00 and they've been working all day and they're on salary and they struggle using a bucket loader for the first time in their life or learning how to back up a trailer, you know, it's often equipment related things, or learning how to weld and they work till 7:00 at night doing it, they're relaxed and they just know they're okay.

David Greenberg: And it's funny, my dad who has a lot of experience in business said, "Managers are always on salary for that reason." So this year what we do is we pay minimum wage salary and then once Jen and I make our income goal we pay out up to a \$5,000 bonus per employee. So it works out that they get free room and board and they make eighteen and a half thousand dollars for 35 weeks of work and that seems to be so far the best solution we can find to that problem.

Chris Blanchard: So I've always found with employees ... I shouldn't say I've always found, because I was a really lousy employee manager for a long time before I got good at it, but I found that it was really important to set expectations. To make sure that people knew what outcomes they were supposed to create at work. You know, whether that was you need to be bunching 60 bunches of kale an hour or the spinach that we harvested out of greenhouse has to be weed free, or I can imagine in your situation, you know, the tomatoes when you trellis them need to end up looking like this. It seems like you must be communicating a lot of fairly high level information to people about what your expectations are. How do you go about doing that?

David Greenberg: I walk around and talk ... We do field tours, and we're trying to implement this on a really regimented basis where we're on a set weekly schedule, everyone will have a certain amount of time with me and generally go over everything. I find a field plan is crucial. If our plan is really accurate and we have everything on Google Drive so everyone can have it and update it and see it whenever they need to, so people know what they need to seed and what they need to do. And in the plan we have every detail we can imagine about the crop production, you know, what compost is used, when the ground has to be worked, what implement is used to work the ground. You know, every little ... How many runs of drip tape go underneath that layer of mulch. Yeah, every little detail we can think of we write it down, and then it's just a question of just being present with people and looking at things, and also accepting that things are not always going to be done to the highest level.



David Greenberg: Even though the crops look great year after year and we're making money and, you know, it's working, but still there's going to be mistakes made and that's just part of that trade off. You know, I think this last year we didn't have one person show up five minutes late all year. Every single person showed up for every single shift, except a few incidents of someone having a cold. What's that worth? And then almost everyone comes back. You know, we had a few employees who didn't come back and then we had an employee who came back from the year before, so this planting team is a fully returning crew. That's worth a lot of little, small mistakes. And I make mistakes.

David Greenberg: That was that thing from the Two Onion Farm episode where you're saying that put someone on the seeder and how that person is trusted to seed and they're not going to screw up because they're trusted with this job, or he was very humbly saying, you know, and I'm sitting there thinking of 13 other things I have to do at lunch and I'm more likely going to space out on that seeder and you were kind of incredulous when Chris was saying it and I was listening to that going yes, amen brother, that's it right there. And you know that has been my experience totally.

David Greenberg: And we delegate so much. Like I even delegate most of the crop planting. We have an employee who's coming back for his fifth year this year, and he does a lot of the crop planting, and he's really good at it and I just go over it with him and sort of just check and discuss and then he does the bulk of the work. And he did the whole crop planting this year in about four days of work, five days of work and then I kind of look at that and do the seed orders, do the certain things that I like to do.

David Greenberg: So yeah, I really believe in trusting young people and giving them a chance to soar. You know, that's like for me what farming is all about. It's all about the fabric of society. It's about believing in people. It's about creating space where people can feel healthy and strong and that's what energizes us. We've also have a lot of people come to the farm in places of crisis. And, you know, talk about accepting less than optimal work, like we had one person show up at our farm that's been in his apartment pretty much nonstop for two years having debilitating anxiety. And he was a customer of ours and he showed up with his wife and spent almost a whole season with us and it was hard, but he made it. Got over his debilitating anxiety, came back to the city, started working full time. He's doing great now, going to have a baby. It's a turned around life.

David Greenberg: And yeah, we definitely had to exercise some patience with him, but, you know, that's to me why I find that's what love. And I think our customers know that too. We give away all our food that we don't sell, but we don't promote that we do it, blow our own horn, but it gets out every now and then and we get customers come in. We were giving away a lot of food and hearing messages and this woman who has a really well-known nonprofit in the community took a picture of it and put it on Facebook and her 4,000 followers outside and suddenly we had all these CSA shares coming in. That's kind of where we're at and so that radical delegation is just an extension of that.

Chris Blanchard: Thank you for sharing that. David, you also mentioned that you have an off-farm job, but it's a farming job, right?



- David Greenberg: It is. It's really cool. So we work with this community called the Sisters of St. Martha, who are a very large, established, Catholic religious order in a town in northern Nova Scotia, two and a half hours from us called Antigonish, which is a small college town and also sort of the center of Catholic culture in Northern Nova Scotia. It's like the archdiocese town and the university is St. Francis Xavier, which is a Catholic university, and so these sisters are very prominent in their region and they have a 350 acre property right in town. And there's very few women who are entering into religious life, so the average age in the convent is probably 80 years old or something, and they have this beautiful farm property and they hired Jen and I, I guess five years ago now, to turn it into an ecological farming training center.
- David Greenberg: So now we have two acres of land, greenhouses, hoop houses, BCS, walk-in cooler, wash pack room, everything you need to be a beginning market gardener. And we bring people in, giving them basic training, go over the crop planning a lot with them, that seems to be what these people need a lot, and then just say, go at it. You know, take a section of the field, plant crops, do your best to sell them and enjoy. And so far it's been fantastic. We have had I think all but one of our graduates is either farming for themselves or in the process of setting up a farm.
- David Greenberg: And yeah, people just ... Again it's like that thing of just giving people trust and autonomy with solid information and guidance and people, they learn something. It's this intangible sense of just the confidence it takes to just get up in the morning and just start working and making decisions, learning from your mistakes, going to bed, waking up in the morning, do it again, over and over and over and over again, and before you know it, you're a farmer. And we certainly don't bill it as a replacement for working at other farms or studying the art of agriculture, but we sort of see it as a stepping stone between someone who's been working on other farms and someone who wants to start their own farm. Kind of like a dry run where you can just start your agricultural career. And so far it's worked really well that way.
- Chris Blanchard: But having a part-time job that far away from the farm ... I mean, I guess that's a function of the radical delegation that you're doing, right?
- David Greenberg: Yeah, totally, and it's hard. Like that is hard. There's many days in the middle of a spring planting day where I'm up at St. Martha and my cell phone is ringing, you know, at least once an hour and people are like, "On the crop plan it says that broccoli is supposed to be at one and a half feet per bed, but didn't you say at work meeting it's supposed to be one foot per bed in the spring or something?" And I'm like, "Oh yes, yes that's a mistake. Put it at one foot. Good one, good one." Or that kind of stuff. "I can't get the such and such to start." and I'm like, "Oh, did you pull the choke? and they're like, "Oh, yeah, that's right, I forgot."
- David Greenberg: So a lot of kind of stuff happens and it's a tremendous frustration and inefficiency, but we're paid well for the job, the job's meaningful, we're committed to it and it also when we come back, you know, come back from being gone all day and the crew is often really stoked and proud of all the work they did while I was gone. And again, that's that whole thing of trust. Mark Twain said, "The best way to find out if you can trust someone is to trust them." So, you



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know, we just have a whole employee attitude based on I trust you, I trust you, I trust you, and I'm going to walk around and hold you accountable and see what you're doing and try to have really clear goals.

David Greenberg: We use a lot of things I picked up reading about Paul Arnold's ideas from the 90's when I first started learning about benchmarks of how many dollars an hour you harvest, how many dollars per square foot or acre, you know, those kind of benchmarks so on our farm, they know that if we're not harvesting \$80.00 an hour of produce, we're in trouble. For instance, or like in my front field, each bed has to yield \$500.00 per crop and we want a double crop, so we want to hit, you know, roughly \$1,000 per bed per year. You know, those kind of things and they know that and we talk about it.

David Greenberg: And in the beginning of the spring we'll do a harvest and I'll total up the value of the harvest and I'll total up how many hours went into it and I'll be like, "Look, we're at \$48 an hour. If we continue at this speed all year, I will be bankrupt." Inferring or you will be fired. You know, so it's not like all love dovey, and so basically either people are moving too slow or being too fussy or there's a combination of the two, or you're being fussy in the wrong way.

David Greenberg: Then I'll be like okay, let's go over bunching these Hakurei turnips together. And you know and I'll kind of like set the pace and people will be like, "Oh, I see, I'm inspecting each one way too much." And I'm like yeah, it's better, but I know there's no maggots in these turnips, you don't have to look. The last one you're one might have had bad maggots, these have been row covered since the day they were planted. Just go. You know, kind of giving them the contacts and the people are like oh, we didn't use row cover at the last farm. And I'm like yeah, well, we do here and there's no maggots. You don't have to look at each one. And suddenly they're harvesting turnips three times faster.

Chris Blanchard: Correcting people is one of the hardest things to do, I found. You know, to really be able to do it effectively, because so often we have a tendency I think to save that stuff up and so it really is you're sitting down to that weekly meeting and you're going, you know, you guys are all lazy, slow and stupid because we're at \$48.00 an hour instead of \$80 on the harvest and so what the hell's going on with that. And did you go through a learning process when it came to correcting people?

David Greenberg: I still ... We're deep in it, and we make mistakes a lot. But yes, I think what we're learning is I'm a gregarious person who likes to talk a lot and I'm often telling people stuff randomly. That does not work. There's a place for structured feedback and correction, and in a farm like this even more so. So we're finding and we started doing this last year and we're getting more and more rigid about it, it's a weekly check in where I go over the crop plan, we walk through the person's field, we sit down, we give them a chance to talk, so I generally say to the person usually, how could we be managing you better? You know, tell us what's on your mind. We listen first and absorb that and answer their questions, what's going on.

David Greenberg: And they often have fantastic feedback, especially a lot of shy-er people won't necessarily just burst out at lunch and say, "The fertilizer injector that you're telling me to use is clogging all the time with the compost we're trying to put



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through it, and it's a bad idea." You know a lot of people just won't say that, but if you sit down and look at them in the eye and say, "Tommy, what's going on?" they'll say, you know, "Your compost key injector idea isn't working for me. I'm taking way too much time dealing with it."

David Greenberg: Okay, you know, listen and then once you let that person say what they need to say, you can say oh, and by the way I've noticed, whatever, you're taking too long bunching your turnips. You know, your turnip bunching speed could be better. And we make that space and the person expects it and it's the same way like stress that is moderate and anticipated, creates strength. But like if you work out three days a week you won't experience that as a sort of traumatic stress, but if something suddenly happens, it's very hard to cope with.

David Greenberg: So if I'm an employer who just randomly gives painful feedback, that creates a lot of jitteriness and resentment and fear in our crew, but if it's coming and they know okay, every Wednesday, I meet with David and Jen and you think about it ahead and you're ready for it and you know there's going to be changes that you're going to have to make and you're going to be able to tell them what you think, then it actually creates trust and relaxation and strength. So that's kind of where we're aiming for this year. And as much as we did it last year with a lot more success.

Chris Blanchard: David, with that we're going to turn to our lightning round, but first we're just going to get a quick word from one more sponsor.

Chris Blanchard: Our annual support for the Farmer To Farmer podcast is brought to you by Vermont Compost Company. When you talk to Carl Hammer, the company founder, he'll remind you that potting soil is a set of promises about a product that has to do a really hard job, produce a healthy plant in a restricted, medium volume.

Chris Blanchard: When I started farming I focused on the cheapest ingredients I could get so that I could make my own potting soil, but as my farm grew and as I saw the challenges we were having getting great plants out of the greenhouse, I gave it a second look and I came the fairly obvious conclusion that success in the greenhouse depends on the success of the plants that are growing there and that just like in the rest of farming, that success rests on the stuff that the plant is growing in. The cost of your potting soil isn't insignificant, but it's a small cost relative to plant material, heat and labor. If that media fails, the rest of the enterprise is a sunk cost. So get media that works year, after year, after year and grow some great transplants. Vermontcompost.com.

Chris Blanchard: So David, what's your favorite tool on the farm?

David Greenberg: I would say without hesitation it is silage tarp.

Chris Blanchard: I have a stupid silage tarp question, because I feel like this whole thing has come along since I got out of farming. Where do you actually go to get silage tarp?

David Greenberg: I get it from farm supply stores that specialize in servicing dairy farms. They've got the best prices, so I shop around and where we do our farm apprenticeship program in Antigonish, there's almost exclusively dairy farms there, and so every



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feed store is a major silage tarp seller, and so I just call out, call out, call out, and find the cheapest one and if it's there, I find too like if I was buying a whole bunch at once, I would pre-book and I'd order it at this time of year, and you can usually save, you know, five or 10% because they're bringing it in on their major truckload.

David Greenberg: And, you know, we repair it with tuck tape and we get some damage to it over the winter where rodents or some animal chews through it because they're kind of eating the worms that are underneath the tarp and then they want to get in and out, so they'll chew a path in and out of it, like moles will chew it, and I just wait for sunny dry day, come along with some heating tape, we call it tuck tape in Canada, it's this red super sticky tape, it's like way better than duct tape, so we use this red tuck tape and it's good as new, done.

David Greenberg: So we can keep it going for years and years and the cost per square foot, the weed control is just the same and then we do something too that's kind of cool. We sandbag it along the edge and then in the middle rows I'll take a shovel and I'll dig a little divot, because there's like a slight slope towards you, like maybe a 1% slope, and I'll dig a divot out from the middle of the path and put that soil on the downhill side of that divot to make like a little dam and then when it rains or if I can even irrigate it, it will make a several hundred pound pond of water in the middle of the tarp that will hold the tarp down so tight that it will not move in the rain.

David Greenberg: And then when it comes to unrolling it, I just take the sandbags off the middle, and we get two or three people to just roll the tarp off and that water will ... Kind of like learn how to make a divot that's not too heavy, and then we can just kind of roll the tarp downhill. Squish that all out, just, you know, take a shovel or a rake or something and just fill in that divot again, and we just saved a lot of sandbag carrying. Then by having full coverage of the whole field, I don't have to move sandbags around. It's not moving the tarp isn't that bad, but moving the sandbags gets old.

David Greenberg: But by having enough tarp and sandbags to cover the whole field we just, you know, take the sandbags off into a pile, roll up the tarp, leave it in one path, and then what we'll do too as we multi-crop, we'll pull the tarp to the left, which will kind of make a really clean edge to that part of that section, you know, kill all the weeds and then the next time we'll roll it to the right and smash the weeds on the other side. And, you know, we try to keep it really well mowed and tidy all around it. It's sometimes hard to mow right up to the tarp, so by flipping the tarps one way and then the other we kind of keep our field edges really tidy.

David Greenberg: And I feel like the high value crops are where the profit is on the farm, you know what I mean? People like Richard [Griswold] and many people have figured that out and I think all of us have figured it out who stay in business is that we're making a lot more money on cilantro than we are on winter squash.

David Greenberg: And I grow all those crops, I have what the customer wants and I never, ever want to lose a sale on those high value crops. I want to have them year round as much as possible. You know, I want to be their cilantro guy in my marketing, and having a bomb proof system, you know, where it can be ... Like we got a lot of rain here. And it could be raining, and raining, and raining, and I can uncover a



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bed and plant, you know, as long as it's not a thunderstorm, I can pretty much plant whatever I want to and that combination of the peat moss and the tarps just pretty much takes the wet weather out as an excuse for not getting the planting done on time. There's just no excuse. So we can have perfect arugula week after week unless we have a great deal of problems. A perfect bunching green, a perfect mix spinach, radishes, hot radishes. Just solid.

Chris Blanchard: Such a powerful tool.

David Greenberg: I mean man, I mean that's just, you know, to pull out over \$100,000 out of an acre and a half with over probably 60 or 70% of our labor in that field as harvest, it's just so profitable and then we do things that aren't profitable. Like growing potatoes and things like that, but I love doing it and it gives the experience to the crew and course our customers love eating really good root crop. There's some money to be made in it, but to keep that, you know, I know what my profit in it. It's a fun field and it's a greenhouse crop, and so I just really take care of those profit centers. I don't starve them out. It's kind of Brian Bates was talking about like he said to me, "If it isn't salad mix, peas, or greenhouses, then don't bet money." or something.

Chris Blanchard: Yeah.

David Greenberg: He said this thing like there's three things, if it's not those things, they're not getting fed until those things are maxed, and that's how I kind of feel about that field. So like dropping \$20,000 of compost on it, I'm like if that's what it takes to go spinach all year, go for it.

Chris Blanchard: We're in.

David Greenberg: And it's funny like with that compost, two bags of spinach pays for a whole truckload of compost. Before that compost occupation, we couldn't really grow spinach and now I'm off to making close to \$2,000 on two beds of spinach, which then buys a 50 yard load of compost.

Chris Blanchard: I had invited you and your wife Jen to be on the show and Jen declined, passed it off to you. So I'd like to ask you, what's Jen's superpower on the farm?

David Greenberg: Oh, man, multitudes, but Jen is the CEO. So her superpower is keeping us financially solvent and, you know, she basically runs the farm. She does all our social media, she does all our customer affairs. She is sort of a very nurturing and calm, loving personality on our crew. She's just really the rock and she's the one who never gives up. She says her totem animal if she was an animal would be a terrier. She's like super quiet, gentle of person. To her it's just like fierce, and I tend to go up and down more, and she's just this steady rock.

David Greenberg: We are going to farm, we are going to succeed, we're not going to quit, we're going to keep investing in the farm, we're going to keep doing what we believe in, and she manages all the money impeccably, does all the taxes, all the payroll, all that stuff. And it's a real tension and sadness on our farm that she's stuck in the office so much, so we're always trying to figure out ways to spring her free and get more and more efficient with her bookkeeping, so that she's not saddled with all that. It's hard.



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- David Greenberg: She also does the chickens. We have free range chickens, and she loves doing that. And tries to get out and harvest with the crew as much as possible and we try to make sure she does that more and more. And she's not a woman of many words, and I asked her repeatedly if she wanted to take part in this program and she said no, I'll pass it off to you.
- Chris Blanchard: And finally David, if you could go back in time and tell your beginning farmer self one thing, what would it be?
- David Greenberg: It would be to pay more close attention to what established successful farmers are doing and not be such a creative iconoclast, but instead do something that's proven, that works, learn it, and then try to improve after you've learned the baseline best accepted practice.
- Chris Blanchard: David, thank you so much for being part of the Farmer To Farmer podcast today.
- David Greenberg: Thank you, Chris. It's been a pleasure.
- Chris Blanchard: All right, so wrapping things up here, I'll say again that this episode 157 of the Farmer To Farmer podcast, you can find the notes for the show at FarmerToFarmerPodcast.com by looking on the episodes page or just searching for Greenberg. That's G-R-E-E-N-B-E-R-G.
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