



FARMER TO FARMER

podcast



EPISODE 156

Steven Beltram of Balsam Gardens on Farming without Infrastructure, Growing on Plastic, and Selling Wholesale

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Chris Blanchard: It's the Farmer to Farmer podcast episode 156. This is your host Chris Blanchard. After starting out in 2008 on a homestead in the country that grew to a market and livestock farm on several different parcels, my guest Steven Beltram and his wife Becca Nestler, moved to Balsam Gardens, two large parcels right in the city of Asheville, North Carolina. They farm on 30 acres of certified organic ground, selling their produce to wholesale distributors. Steven digs into how he has developed a large efficient farm, without any infrastructure. At Balsam Gardens the crew field pack all of the crop, and Steven explains how they do this in a way that has helped them pass their GAPs audit, while maintaining good quality. We also discuss Balsam Gardens blast filter system, including how they manage weed between the plastic covered beds. Steven shares how they've worked to structure their crops and their labor pool to maximize their efficiency.

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- Chris Blanchard: Steven Beltram, welcome to the Farmer to Farmer podcast, really happy that you could join us today. I'd like to start off as we usually do by having you tell us about your farm, Balsam Gardens, where you guys are located? How much you're farming? How you guys are selling it?
- Steven Beltram: Okay, so we're located in Asheville North Carolina, which is a mountainous area, it's in the western part of the state. So that puts us in well zone 6A, they've been saying, we're probably nudging up now, although this winter's been cold. But we actually started the farm in 2007 or '08, 2008 really I guess when we first started going to farmer's markets. About 45 minute west of Asheville, we bought an old homestead out there, you know, 1800s kind of house and three acres. So we started on an 16th of a acre in the front yard, and just started going to the small town local farmers market. Here about 10 years later we've moved to Asheville. So now we're actually fully in the city limits of Asheville, but we're farming on about 30 acres of certified organic land, and we're wholesaling everything. At this point it's all vegetable, so we're not doing any animals, although we've done that quite a bit in the past.
- Chris Blanchard: 30 acres of organic produce in the city, that's not your typical urban farming setup.
- Steven Beltram: Right, yeah. It's pretty unique. It's kind of weird the way it worked out. We wanted more land and we had to move into the city and leave the country to get it. So like I said, we're in the mountains. So we're on two different watersheds, but the way it works out is we're in the flood plain riparian areas on the sides of, in one case, the river, and on the other field a pretty large creek. So we're farming in land that's not develop able, so that's how we ended up with it. One of the properties we purchased in 2014, and that was really the impetus for us to move. It's actually 34 acres, but I think I can till about 20. The other property is actually owned by the city of Asheville and we lease it from them. I guess that's about 10 acres of tillable land. So that's how that kind of works out.
- Chris Blanchard: Then you said that you're selling all of your produce wholesale. What kinds of markets are you selling your produce into?
- Steven Beltram: So the thing that we've done in the past three years is there's a company in a town right next to Asheville called New Sprout Organic Farms. They started out farming I guess around the same time we did. But they've transitioned over to just focusing on distribution and co-mingling products, and stuff like that. So we partnered with them the past three years since we moved, and everything has gone through their warehouse, and then they handle the marketing end of it. So they're selling it to the major grocery stores. That's the way we've managed to sell produce, because we don't have any infrastructure on our farm, it's just flood plain land at this point.



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We've got no pack shed, we don't even have electricity or potable water, so that partnership has really made it so that we can sell our stuff.

Steven Beltram: Then this year we're going to be partnering with a couple of other companies doing a similar thing, just so that we have a little bit of diversification in our marketing strategy, but that's the way we managed to do that.

Chris Blanchard: So when you say you don't have any infrastructure on your farm, no potable water, how are you getting your crops clean enough to go to market? How does that even work?

Steven Beltram: The way that works is that we field pack everything. Everything that we're growing right now is on plastic, so we're doing plasticulture for everything. So that helps keep things pretty clean. Then we field pack all the produce. So if we're bunching kale, the way that works is our crew's out there harvesting kale, they're piling the bunches in the middles on the clean plastic, between the ... We've got two rows of kale. So they're piling the bunches in the middle. Then someone else is coming through and putting that stuff directly into a wax box. Then when it goes back to our buyer's warehouse, it runs through a really simple hydro cool line, which is just like a conveyor belt with some water sprayers on top. Then it gets iced. So we're not really washing anything at all.

Chris Blanchard: Does that affect the selection of crops that you're growing?

Steven Beltram: It does, so you know, we're not going really any root vegetables. We're going to do some this year for a small local company that we used to work with a lot in the past, they're good friends. They do grocery home delivery. So we're going to grow some carrots and beets and stuff for them, and they're actually going to wash them themselves. But yeah, for the larger wholesale market we focus on things that are grown above ground. So we're focused on leafy greens and lettuce, like head lettuces. We're not doing baby leaf lettuce that you got to wash three times, or anything. Then fruiting crops. If we're picking squash or tomatoes, or something like that, and they have a little bit of ... We try to wash them as little as possible, but if they're a little bit dirty then we just wipe them off with paper towels before we put them in the box.

Chris Blanchard: It's such a different approach than ... Well then specifically what we took on our farm, because everything got washed, and left the farm extremely clean. So it's really interesting to me. I know that when we experimented with field packing it was a complete disaster.

Steven Beltram: Yeah, you know when we started our farm I did the same thing. We were at our three acre homestead site, and we had a little garage off the side, and I put in the three-hole sink and the walk in cooler, and all that. We ended up with five locations around there. But everything came back there and got washed, like you're saying. But we really had to figure out a different way of doing it, because we just don't have any way to do that on our farm the way it is right now. Even on the farm that we purchased, the city has some flood ordinances that make it highly restricted for building anything at all, and so we just haven't been able to work out the kinks to putting in any sort of infrastructure at this point.



- Chris Blanchard: Now when you're harvesting those crops out in the field, and then moving them to the distributor, are you using a refrigerated truck, or anything like that, to start removing the field heat? Or are you guys just packing stuff up and really relying on your wholesale distributor to cool stuff down for you?
- Steven Beltram: Yeah, we have a 20-foot refrigerated truck, and that's ours now. When we first started actually they owned the truck and they came to our field and got the stuff, and took it back. Now the way we do it is that we own the truck, and it's refrigerated, and we haul the stuff to their warehouse. Then our staff handles all the post-harvest handling also, in their warehouse. So yeah, we get a little bit of field heat off, but you know, a lot of it is also just time management. We can't harvest lettuce past usually 10:00 AM. We usually try to get out of crops like kale even by lunch. So that also affects our crop selection. In the sense that I try to have some fruiting crops, or something. Something like squash that we can pick in the afternoon to keep my crew going past noon working. My crew likes to work from about 6:00 AM until 3:30, so we try to have some afternoon jobs by crop selection in that way.
- Chris Blanchard: Again, to kind of just keep talking about that harvest, and the post-harvest handling aspect of it, have you gone through a GAP audit, has that been a requirement of New Sprout and these other distributors that you're working with?
- Steven Beltram: Yup, we're GAP certified. Started out just USDA GHP GAP, or whatever they call it. Now last year we went to harmonized, and next year it looks like we probably, because we're going to be working with a new buyer that requires global or GFSI equivalent anyway, so we might even be doing a primus audit, so yeah, we're doing the GAP thing for sure.
- Chris Blanchard: I think about again, you said you guys don't have any potable water on the farm, how are you handling things? I think about those most fundamental requirements like hand-washing and bathroom sanitation. How are you guys managing that on your farm?
- Steven Beltram: We use portable toilets, and we contract with a local company to do that, just like you would on a construction site, or whatever. So that part's just handled by them. Then the hand-washing stations you know we just use those blue water jugs, you know that have the ... You lay them on their side and you can turn the handle open and the water flows, and then you can turn it back and it turns off.
- Chris Blanchard: Yup.
- Steven Beltram: So we just haul in potable water for hand-washing, and for drinking water, and for cleaning tools and stuff. Then I use those IBC totes to haul in water for spraying.
- Chris Blanchard: You say IBC totes, those are those big pallet-sized plastic water totes, right?
- Steven Beltram: You got it. They hold 275 gallons and I fill those up at a well that we have access to down the road. One of the fields that we're at now, that we're actually giving up this year has a well nearby. The same owners that we lease the field from own the well. So they've been letting us use that water for spraying. So I haul that in. Or one of my irrigation pumps that I'm pumping out of the river with has a chlorinator on it, so I



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can use that for spraying as well. But that's the way we handle that. We need to have potable water for spraying as well.

Chris Blanchard: Of course you have to have the potable water for hand-washing, because obviously you don't want to be washing your hands in water that's contaminated in any way, shape, or form.

Steven Beltram: Exactly. Then our harvest buckets and stuff we wash in back at our buyer's warehouse, where we've been doing that. Yeah, the new farm that we're moving into I've been toying with the idea of putting in a water meter. We could do it, but we'll see where we go with that.

Chris Blanchard: Yeah. That's going to be interesting to think about that living in the city. My experience with farming has almost all been rural and being able to make those decisions about I'm going to drill, or whatever, without it really having to pay any consideration to zoning laws, or things like that. But I guess farming in Asheville you've actually ... You don't have options like that.

Steven Beltram: Yeah, we could drill a well, but that would cost more than putting in a water meter right now. So I don't know, a well would probably cost 8,000 and putting in a water meter with one of those frost-free hydrants I think would cost a little over three. Because we're irrigating on surface water, it's not like we need volume of water, it's really just for hand-washing and drinking.

Chris Blanchard: I do a lot of work in the area of food safety and education for farmers around that. I know that this hand-washing requirement is something. So two things about it, first I think it's the most important thing that you can do on the farm, in terms of actually having an impact on food safety, right? People hands touch everything, good, bad, and indifferent. So I'm interested in exactly what kind of a setup you've got. You said you've got like a blue jug, it's got a little twisty knob on it, so that you can open up the water so the water's flowing over somebody's hands. What else do you have with that setup? Obviously just rinsing your hands and having that water drain out into the field is not sufficient.

Steven Beltram: Yeah, okay, so the things that we have right now, it's like a little stand. If you can picture four two by fours with a little plywood top on it. Then on top of that there's a couple of two by fours sticking up with some, I guess what was probably a 20 gallon blue plastic barrel cut in half, so it's kind of got a little lid on top of it. Then the water jug sits on that platform, and then there's a soap dispenser mounted on the front of the platform as well. It's just one of those plastic ones that you put the flexible plastic soap bags in, and you push it and the soap comes out.

Chris Blanchard: Right.

Steven Beltram: Then underneath that it's just a ... It's like a piece of half-inch pipe held on with a couple of hose clamps, and that holds some paper towel. Then there's a trash can next to it. We keep those things, they're not in the field. So all of our fields are kind of small enough or broken up enough that there's always some area. Like we set up a designated break area, and those things are always 15 or 20 or 30 feet from any actual ... Probably more like 30 feet from any actual production area. It's usually on the other side of a farm road, or something like that. So we don't have those things out in the middle of the field. Then we have a bucket underneath that we can collect



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the water from. I don't know if you're really supposed to do this, but we just dump it, like make sure we're dumping it far away from the break area, and the production area in the woods, or whatever, and that's that.

Chris Blanchard: In a place where people aren't going to be walking through, and getting that water on their boots, and then tracking it into the field.

Steven Beltram: Yeah, exactly. Exactly.

Chris Blanchard: I just think it's interesting how you've made this all work in a setup that doesn't include a lot of infrastructure. I think that's pretty elegant that you've got something that's satisfying the auditors, and is clearly going to meet any of the requirements for the produce safety rule when that's coming into effect. Yeah, so I just think that's nice and smooth, and I like hearing about it.

Steven Beltram: It's all really simple, you know? Because we're field operations only, our GAP audit is probably a lot simpler than someone who's trying to manage a warehouse packing facility as well. The auditors kind of look at those two things as separate operations, which they are in our case. So the field operations requirements are ... Well they're pretty straightforward. It's wash your hands, don't drop your boxes in puddles, stuff like that.

Chris Blanchard: How long have you guys been going through the GAP auditing process?

Steven Beltram: We started, we did our first GAP audit in 2015, and that was when we moved our farm. So 2015 we scaled up quite a bit, and we switched over to ... Well we'd already been wholesaling a lot, but we switched over to the more commercial side of wholesaling, larger grocery stores and stuff through this distributor we're talking about. That's when we started on the GAP. We weren't actually certified organic before then either, we were just farming organically, but since all of our markets were farmer's market and CSA and local restaurants, and small local grocers, we weren't required to have all these certifications for those kind of buyers.

Chris Blanchard: Right, but once you start getting further away on the distribution chain, you really do have to have that, because that's the only way that consumer can had assurance that you're doing the practices that they think that you're doing.

Steven Beltram: Exactly, yeah. I mean it's definitely the only way to sell it as organic, and get the price that you need to farm this way. Then the food safety stuff is just, it's been like a tidal wave over the past few years, where buyers are really requiring it in a big way around here. The buyers themselves are getting stricter and stricter. I mean we've had some buyers ask us to get more water tests than we normally do, and stuff like that. So we'll see where it all goes.

Chris Blanchard: I think it's going to be one of the interesting effects as a produce safety rule comes into effect, is more and more buyers, even for growers who aren't subject to the rule, are probably going to be pushing for compliance with the rule, whether we like it or not.

Steven Beltram: Yeah, I'd say that you're not going to get into a chain grocery store without some sort of food safety certification at all in the near future. If not already now.



- Chris Blanchard: What kind of changes did you have to make in your operation? I think it's interesting, especially because you do just have the field side of things, what kind of changes did you have to make to make that change to I guess both certified organic and to get the USDA GAPs audit and pass that.
- Steven Beltram: A lot changed when we moved, but how much really changed specific to the organic certification, I'd say not much changed on our production methodologies that is specific for that. I definitely started taking field record keeping seriously. I'd been pretty lackadaisical about that in the past. But as far as our approach to farming and materials and stuff that we use, I'd say that nothing on that end changed the organic certification. For GAP certification, I'd say again, the biggest thing that changed is the record keeping. We have to keep all kind of log books and things that in the past I didn't do any of that. So, you know, I'm trying to think about what else might have changed specific before that. Just a lot changed when we moved to the farm. So we started being able to make sure that the ... We separated our animal ... We don't have an animal operation now, but we did have one for the first couple of years after we moved to Asheville. We made sure to keep that a lot more separate.
- Chris Blanchard: Let's talk about making that change, because you started farming in 2008, and then you make this move to Asheville in 2013, right?
- Steven Beltram: '15's the first year we farmed in Asheville.
- Chris Blanchard: Okay, and it seems like, from what you've said, that you really went from being a rural farm, doing direct marketing to consumers, to making this transition to being an urban farm on a larger scale, marketing your product primarily to wholesale distributors. Can you talk a little bit about how and why that arc happened at Balsam Gardens?
- Steven Beltram: When we were in Balsam, which is where the farm started, that's the rural area we're talking about, we were going to farmer's markets. There was two towns nearby, so we were going to two farmers markets, really three a week, but two locations. As well as doing the CSA and selling to restaurants, and all that. At a certain point we just kind of maxed out our local sales potential. So our farmer's market after a year or two plateaued. Let's tell the story like this. In 2008 and '09 it was just a part-time gig for me and my wife. So I was doing construction full-time, and our market garden was like a 16th of an acre. So our first farmer's market we sold some soil blocks in April, or whatever, made 30 bucks and thought that was awesome. So that's kind of where we started with it. We just kept going to those markets.
- Steven Beltram: 2010 is the first year that I started farming full- time during the season, so I was still doing construction in the winter, and my wife Becca had a job at that time as well. So 2008 and '09 I say we started the farm for sure, but we only sold \$1,300 worth of stuff, so it was a small enterprise, mostly a home garden that we were selling excess from. 2010 the construction industry really fell apart, so that's why I decided to make the garden a little bit bigger and actually try farming full-time. It was always kind of a dream, but I didn't think it was possible to make a living this way. So that was the impetus to try it. Having no work for the first time ever in construction.
- Steven Beltram: Then we just kept getting bigger, so 2010 we had a half acre of vegetables, and I started raising some broiler chickens and stuff. 2011, I don't know, we leased some



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more land from a neighbor and we raised more chickens, and started raising Turkeys and some pigs, and made our gardens bigger. Our last year at that location was 2014, and we were up to four locations with about five acres of vegetables, and we were raising, I don't know, maybe 1,200 broilers a year on pasture, and a few hundred turkeys, and 20 or 30 pigs. I'd say that the biggest thing that changed is when we found this land. We kept wanting more land, I wanted to expand the operation a little bit. But we were having a hard time collecting any nice, decent sized tracks where we were at.

Steven Beltram: A lot of it had to do with topography, there just isn't a lot of large flat pieces of ground, especially in the county that we were in at the time. A lot of that is old family land, people they might be doing nothing but hanging on it, but they don't want anything to change. They want it just the way it is. So we spent about a year and a half in communication with the seller of the land that we purchased in Asheville, kind of negotiating with her. We had one failed attempt to buy it as soon as we found it. Then about a year and a half later we finally purchased it. So that's really what drove us to move was finding 34 acres of bottom ground all in one continuous location. I was kind of tired of farming on five different places. I wanted to farm in one place. That's not what ended up happening. Now we're farming in multiple locations again. But that's just kind of what happened.

Chris Blanchard: Why the marketing change? What prompted you to go from doing those kind of direct consumer sales, to selling to wholesale distributors? That's a pretty big change.

Steven Beltram: Yeah, so even at our previous location, the side of our business ... I'd say the last maybe two, three years that we were in that location and we were still doing the CSA and the farmer's markets and all that, the only part of our marketing side of our business that was actually expanding was our local ... I mean it was still direct sales to local companies, but our wholesale side of it. So like the local grocers, and home delivery service, and all that kind of stuff. That was the only side where we could get any growth in sales. We just couldn't get more CSA members. In fact, our CSA started declining in membership. The farmer's market sort of plateaued. So we were already accustomed to doing some wholesale.

Steven Beltram: Then the switch to the more bigger, commercial type wholesale really had to do with the fact that we didn't have a packing and storage facility. So when we set up this partnership with New Sprout, it closed that link for us, where we were trying to figure out how, without any buildings or storage, or potable water, how are we going to sell our stuff? I couldn't even really figure out how to put together a CSA that way, you know? So yeah, I'd say that was our biggest motivator to go that direction.

Chris Blanchard: But making that sort of a change has a pretty big impact on your economics. I mean you're really changing the prices that you're getting for the product when you go from selling direct to consumer, even changing from selling to restaurants and local stores, to selling to a wholesale distributor. Did you guys really sit down and pencil that out as part of the decision making process?

Steven Beltram: Yeah, we knew that the numbers had to work. Our buyer, who's acting as our marketing agent, they're taking the revenue split. So we are giving up some money in that way. But you know, the price point that you can get from retailers in our area for produce is actually the same, or even higher than you can often get from restaurants and stuff. In our area, the restaurants, that industry isn't really paying much of a



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premium, and so yeah, some of the prices are going to be lower, but the volume is so much more. Instead of delivering two cases of something, we want to deliver 150 cases of that same thing in a day. Yeah, the numbers have to work, but I think that the increased efficiency of growing less things on a larger scale has really worked out. Has worked out to make it so that those lower prices are fine.

Chris Blanchard: Where have you gotten those efficiencies? Is that from not having to train a crew on 40 different crops?

Steven Beltram: Yeah, that's definitely part of it. You know, the other thing is that we're paying our crew now by the hour. Whereas, previously we were doing the intern type program. So we were housing people and all that kind of stuff, and trying to provide ... We were providing more than just a job. But our payroll numbers were a lot lower. Like most everybody in the business, we still weren't really making very much money in that way. So I think that the efficiencies of getting that volume done. The training is part of it, part of it is when you go out there, and you harvest kale for four hours straight, you can get a lot more done per minute, than if you're switching tasks 18 times in a four hour period. So I think that's most of where the efficiency comes in. Then also being on a larger scale, we've gotten into a lot more mechanization, so that has made a big difference as well.

Chris Blanchard: When you say you've gotten into more mechanization, what does that look like?

Steven Beltram: Well we're doing everything with four-wheel tractors now. When we started I had a rototiller, and then I went the walk-behind Grillo kind of thing. Now we're doing things with tractors, or we switched everything over to plasticulture, so our weed management and our watering is a lot more labor efficient. We're taking wagons through the field when we're harvesting, so we're moving the product out of the field on shaded wagons. So we're moving, we can put like 200 cases on a wagon and move it all out of the field at once and load it on the truck. So our weed management is basically just like cultivating the middles between the plastic. Maybe we have to hand-weed the holes like one time, but my crew is not out there hoeing all day.

Chris Blanchard: Right, that probably makes them happy.

Steven Beltram: That makes them happy, yeah. I mean ideally they plant and harvest, and that's what the crew does, and we do a minimal weeding. Yeah, we're spraying with a tractor, a Jacto Cannon sprayer, as opposed to I used to spray with hump backpack sprayers. You can imagine how much time that would take to cover any ground. So yeah, that's what I mean by mechanization.

Chris Blanchard: Are you doing any mechanical harvesting of crops?

Steven Beltram: We are not, everything is harvested by hand.

Chris Blanchard: Which, given the crops that you mentioned, I was assuming that that was the case. Are you using anything like a Veg-Veyer conveyor system, or anything like that to get stuff out of the field?

Steven Beltram: No, I don't have anything like that. It's something I've thought about before. I don't know how hard it would be to move that thing around the city.



- Chris Blanchard: Yeah, I guess there is that, right?
- Steven Beltram: Yeah. So everything is just ... Like I said, we hand-harvest it, and we put it in boxes, and then we hand the boxes up to the wagon, and that keeps them in shade too, you know, so that's an important aspect of that wagon system. But it's all handled by hand.
- Chris Blanchard: Tell me about the covered wagon, what does that look like? That seems like again, for you guys, anything that you can do to keep from adding heat after you've harvested has got to be just critical, because you don't have the cooling facilities right there on the farm.
- Steven Beltram: Yeah, exactly. I mean it's incredible the way that a box of kale that was boxed up at 7:30 in the morning, at 11:00 is still cold on the inside if you stick your finger in there, if you can keep the thing in the shade. So what we do is we've got hay wagons, I've got a couple of them, I have one at each location where we're harvesting, I keep one there. I've gone through several iterations of how to do shade structures on it. Starting with wood, and like building a wooden roof over it with a tarp. What I've switched to now, they're like the best, let's see if I can describe it, I'm standing right next to it now. I drilled holes in it with a hole saw, in the side, and then I put a metal pipe sticking down through it, sticks down about eight inches, with a bottom on it.
- Steven Beltram: Instead of one of the caps, you screw on a reducer, so that the water can come out. Then on the top there's a plate, and then I've got that bolted down to the wagon. Then in that pipe I can stick the top rail for a chain link fence. Then I got those 90s for the chain link fence. So I just made a U-shaped structure, three of them, on that wagon, and then we just put a tarp over the top of that. So it's lightweight, and it's like a hoop house.
- Chris Blanchard: Almost like a hoop house, right. That seems like a nice easy, logical thing to do.
- Steven Beltram: Yeah, the wood kept coming apart. Like that thing moves a lot when you drive, and the screws in the wood would fall apart. By the end of the season I'd have a huge mess. This is a lot more lightweight, so I'm pretty satisfied with it. I need to replace some of those plates that I screwed down with screw bolts, and that'll make this thing even better. But yeah, then that tarp just we throw it on in the morning, and then it can come right off. So when we're loading the truck you can just pull that tarp off and get it out of your way.
- Chris Blanchard: Oh really? That's kind of slick. I guess that way too, when you leave those wagons parked, you're not having to worry about high winds grabbing onto that tarp that's secured to the wagon and blowing it over, or something like that.
- Steven Beltram: Exactly. When we need it to stay put, if there's a little bit of wind while we're harvesting, they just take the strapping from ... You know, the wax boxes come in those bundles, and there's that plastic strapping.
- Chris Blanchard: Yeah.
- Steven Beltram: They just use pieces of those to tie it onto those rails temporarily. That's how we keep it on there when it's a little bit windy. Otherwise it can just kind of sit on there.



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Then at the end of the day, or when we're done harvesting, we take it off and ... The other thing I like about that is that it allows rain and sunshine and stuff to get on those hay wagons. It's pretty hard for me to hose a piece of equipment like that down, because I don't really want to use river water for that.

Chris Blanchard: All right Steven, with that we're going to stop here, take a break, get a quick word from a couple of sponsors, and then we'll be right back with Steven Beltram from Balsam Gardens in Asheville North Carolina.

Chris Blanchard: Perennial support for the Farmer to Farmer podcast is provided by Vermont Compost Company. I used Vermont Compost Fort Vee as a blocking mix, and potting soil for over 12 years on my farm. We grew great transplants with it year after year in soil blocks, and in traditional cell flats. We even grew rosemary plants in pots for multiple years, a real testament to the structure of the soil, which can keep the microbes alive over an extended period of time, and provide good aeration for the root. When you put plants in containers, whether it's a five-year-old rosemary in a 20 gallon nursery can, or a 24-day-old lettuce in a 10/20 cell tray, you need an optimized matrix of materials that can provide a healthy plant with a restricted media volume. Vermont Compost potting soils provide just that, consistently, year after year. VermontCompost.com.

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Chris Blanchard: And we're back with Steven Beltram from Balsam Gardens in Asheville North Carolina. Steven what's the weather like down there? How are things going here late in January in Asheville?

Steven Beltram: Well today we're in the 40s and it's sunny. Yesterday was 55, and sunny. Then dipping down into the 20s at night. So we've had, for us, we've had some actual cold this year in early January and late December. We got into the single digits several times, and in December we had maybe eight inches of snow, so we've had a couple of snows happen. The past several years it seems like it hardly ever gets into the teens. But around here the wintertime always is ... You always have those warm days up in the 50s. Every now and then you get into the 70s. Not every year, but ...

Chris Blanchard: But you're not doing any production at this time of year, are you?

Steven Beltram: We are not. We are not. So everything we're doing's in the field, so we don't have any high tunnels or anything right now. I don't even start my own plants right now, so we've got ... Right now, what I do this time of year is I've been doing plenty of book work, and then today I'm at the farm loading up trailers of equipment, working on moving out of a farm that we're finished leasing now. So just kind of staging the scene for next year.



Chris Blanchard: Now we've talked some already today about the plasticulture setup that you've got on your farm. Can you describe a little more about how that works from beginning to end? I mean what kind of tillage are you doing ahead of the plastic? How are you getting it laid? Then kind of just what happens as we go through the season with it?

Steven Beltram: Yeah, so depending on how big our cover crop is, or if there's a cover crop at all, usually I have a good cover crop in the winter. But some of our fields this year I seeded too late, and then it got so cold that they're open. So anyway, we come in, in a case like that we'll come in with a disc harrow, if I've got a lot of residue that I need to deal with, then I'll mow it down and I'll run a turning plow through there, like a bottom plow. I have a four bottom plow that can do that, and then I usually don't have to ... Our fields are light enough, and they're all kind of sandy loam, that in most of our fields I don't have to use a rotovator before I lay plastic, I can get by with just the disc harrows. I've got a nine-foot, three-point hitch disc harrow, a finishing type harrow. I don't have an offset harrow at all. That can usually get things broken up and smooth enough to run that better through.

Steven Beltram: So then after I disc harrow, I usually drive through and lay out my beds. So most of our beds are ... Well most of our pattern, I'm thinking about standardizing the pattern, but we've been running on two patterns. One pattern is seven beds per drive row, and then another pattern we use is nine beds for a drive row. Those are crop specific. So crops that are taller, like tomatoes, trellis crops, or things like squash that really have a lot of foliage, we'll do seven because of the mechanics of how far our sprayer can get in there. Then something like kale or cabbage we've been doing on nine, because that sprayer can blast all the way to the middle of the four and a half beds, or whatever.

Chris Blanchard: Right.

Steven Beltram: So I lay out the beds by driving the tractor back and forth. The reason I do that is because then I have a fertilizer applicator. It was an old machine made by [inaudible], it was made for gypsum. A friend of mine picked it up in southern Georgia for me, really cheap. It's 12 feet wide, so centered on the back of the tractor it covers a bed, and then half of a bed on either side. Then we put these plates on the bottom, so that it's just dropping the fertilizer into the beds, and not into the tire tracks. So that's the reason why we lay them out first, just so that I can accomplish that. It's only do a half bed on either side, so you have to come back. You skip a bed and then come back and drive the other way. Yeah, so that's what we do next.

Steven Beltram: Then we come through and we run the bedder. I just have one of those little red ones, I think they're made by Nolt's, so it's not a real tall bed. I originally bought that because they're cheaper for getting the bed layer, and they can run on a smaller tractor. At this point, I think I'd like to have one that makes a taller bed, but I don't. So that lays the plastic out, puts the drip tape underneath it. Lays the plastic and buries both ends. Now you've got your plastic beds out there. Then we just use blue lay flat, and we use some of that black poly line for headers. We just go through and hook it all up and we can water quite a bit at once with a system like that. So then we're pumping out of the river, so we've got an irrigation rig. I've got a couple of them, and they're on trailers, so they're mobile. We just back it up to where we need it to be in the river, drop a pipe in, and then on those irrigation rigs, on all them, there's a pump obviously, and then the sand, media filters. One of them has a



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chlorinator on it, because of the river there, we kept failing water tests. Then they've all got those Mazzei injectors so we can pump whatever we want into there.

Chris Blanchard: So that if you need some extra fertility during the year, you can run ... What kinds of things are you running through there?

Steven Beltram: I'd say I don't do a lot of fertigation. Most of our fertility is provided through that three-plant application of granular stuff. But the thing that I use really consistently is potassium sulfate or sulfate of potash, however you say it. I use that in my tomatoes, because they just need so much potassium. So you know, when we're growing tomatoes we're putting in ... Once they start to fruit, I'm putting in a bag of that 0-0-52 to the acre per week. But I don't do a lot with fish emulsion or I don't do much with Chilean nitrate, or any of that sort of stuff. I mean I can, but I don't do much of that. So I tell that potassium sulfate's the main thing that we regularly use, and it's really only on tomatoes.

Chris Blanchard: Then once you've got that all set up, then ... Now you've got the plastic laid, the drips underneath, you've got your irrigation set up, working, how are you actually getting the plant into the plastic?

Steven Beltram: So we're using the green waterwheel, what's it?

Chris Blanchard: The Rain-Flo, right?

Steven Beltram: The Rain-Flo.

Chris Blanchard: Yeah.

Steven Beltram: We use a Rain-Flo waterwheel, then we put them in that way. We transplant everything except for cucurbits. So when we're doing cucurbits, I just take the wheel off of the waterwheel and the axle and I stick it through the three-point hitch in the tractor, and put a hose clamp on either end, and I can poke holes that way. Then we come through and direct seed the cucurbit. Yeah, otherwise we're transplanting with that waterwheel.

Chris Blanchard: Where are you growing your transplants?

Steven Beltram: So we buy them all, or we have someone contract grow them for us. I guess, is a better way of saying it, because we have to pre-order them. So there's a company called Banner Greenhouses that I guess they're about 45 minute east of us. They've got a large greenhouse operation, and primarily what they do and have done is they grow flowers in pots that end up at Lowe's and things for homeowners. They started several years ago doing organic transplants. So that's worked out well for us, we just tell them what we want, and when we want it, and then they deliver them to the field and we plant them.

Chris Blanchard: That's a whole other management headache that you're not having to deal with.

Steven Beltram: That's right, and a whole other set of infrastructure that we don't have.



- Chris Blanchard: Right. Now once you get those crops out in the field are you covering with roll cover, or with clear plastic, or anything like that for crop protection, or for moving things along more quickly?
- Steven Beltram: No, well you know, we've got one field where there's enough crows over there that I do cover some things sometimes just to keep the crows off until the plants are established.
- Chris Blanchard: Interesting.
- Steven Beltram: Yeah, but I'm not doing much with any sort of cover for season extension. Maybe I don't kind of start quite as early as I used to on certain things, I don't start transplanting anything until April 1st, and I wait until after Mothers' Day to plant things that would die from frost. So instead of covering stuff, we just work around the season.
- Chris Blanchard: Then what are you doing for weed control on the ... One of the things that I really hated about growing on plastic, and I think this was a personal problem, because I know that people do it successfully, but man getting the weed control right on the edges of the plastic is not as easy as you might think.
- Steven Beltram: It is not as easy as you might think. The best thing that I've got right now is a three-point hitch cultivator that goes on the back of the tractor. I have two of them, but the one that we've upgraded to has gauge wheels. It just has the ... It has sweeps on it, you know, coming down off of the tool bar. A friend of mine put it together for me just for this purpose. So it's got gauge wheels with the parallelogram and that's an improvement over just when I had the sweep on the tool bar on the three-point hitch, because I don't have to worry about the undulations in the field, either going too deep, or not deep enough. We just drive that thing through there until the crops are too tall to be able to do it. If you get in there at the right time, and you go the right speed, it can kind of throw some dirt up on the edges a little bit, and just bury the little weeds.
- Steven Beltram: Even with that system, once the crops get big enough, we end up with weeds in the middles without question. Where it really gets challenging is in stage crops like tomatoes, and they're in there for so long that managing those weeds in between there, I end up doing a lot of just, once the weeds get too annoying, and hopefully before they go to seed, I rent one of those walk-behind brush mowers, and we can go through and mow them down. I'm thinking this year about planting maybe some rye grass or something in between there, to out competed with the weeds, so we don't have as much of a mess. But just getting in there and mowing it really helps a lot.
- Steven Beltram: We used to do it with weed whackers, but we figured out those walk-behind brush mowers are way better. Then something like lettuce, I mean if you just ... Sometimes we miss a cultivation and we still get a lettuce crop. So it's such a short crop in there that it just doesn't really matter.
- Chris Blanchard: Right, then the other thing that I hated about growing on plastic was dealing with it after the crop was done.



- Steven Beltram: Yeah. So we have ... If it's something like lettuce, you can just go down through and actually you can just pull on the drip tape that's centered in the middle, and rip it in the middle and pull the plastic up. If there's a lot of weeds, then you really need to have a bed lifter. So we have one of those Rain-Flo bed-lifters too, and then you drive it, it's got a coulter in the middle, it splits it down the middle, and then it loosens the plastic on both sides, and our crew can pick it up pretty quick. So it's a lot of waste, it's a lot of trash, but it's not hard to deal with.
- Chris Blanchard: Where are you disposing of the plastic from the fields?
- Steven Beltram: We just have a local hauling company come and bring us those roll-off dumpsters, and we just put them in there, and then they haul it to the landfill. So you know, well I hauled some the other day in my box truck, and I shouldn't have done that, because I got stuck at the dump and they had to drag me around.
- Chris Blanchard: I like to call that stupid farmer tricks.
- Steven Beltram: Yeah, exactly. First they had to drag me back to where I needed to dump it, and then they had to drag me back out.
- Chris Blanchard: Oh man, yeah, when you do that it's like you look at what the price of the roll-off would have been, you're not coming out ahead, that's for sure. So are you using different kinds, or different colors of plastic for different crops?
- Steven Beltram: We're not really using different colors for different crops, but we are using different colors seasonally. So when we start laying plastic in March, it's all black. Then for stuff that we're transplanting in June or later we switch to white. But in the spring everything goes on black, and then in the fall everything goes on white. They did some research though, I know a lot of people are doing tomatoes on white late plantings and stuff. But even later plantings on tomatoes, the research I've seen, if you can get them established it seems like maybe black all the time is better. But anyway ...
- Chris Blanchard: Well so you mentioned tomatoes, and that seems like a big crop for you guys.
- Steven Beltram: Yeah, it's not our biggest crop, but I really like to grow tomatoes. We do grow several acres of them.
- Chris Blanchard: What kind of a trellising system are you using for the tomatoes?
- Steven Beltram: We use what I guess is called the Florida weave, it's a wooden stick, two plants, stick, two plants, stick, and then you just come back and loop it around from both sides. Yeah, we grow determinates and indeterminates. This year I'm buying new sticks for the indeterminates because last year I tried putting two of the small sticks together, and they kept breaking and falling over. So I'm going to buy some big, bean sticks for those.
- Chris Blanchard: You said that you're actually succession cropping those field tomatoes?
- Steven Beltram: Yeah, oftentimes we do. I think this coming year we're just going to put in one, but around here you can ... The people who really specialize in tomatoes they do two or



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three crops. We can plant in May, and then we can plant once a month until July or something around here. This year I think I won't, I think I'll just put in one, just because what can happen is the way our season goes, you can end up just building and building and building in your harvest. Because you've got the same stuff in the fall as you had in the spring, plus all the fruit crop. So I think we're just going to do that one succession and fill in ... I'm trying to get as even labor as I can through the season.

Chris Blanchard: Right, so that you're not having to hire in surges.

Steven Beltram: Exactly, yeah. That's something that happens to us, and it often turns into a disaster.

Chris Blanchard: Tell me about your labor situation, where are you guys pulling employees from?

Steven Beltram: Okay, so our farm workers are all local, year-round residents. They all live about 30, 40 minutes to the east, kind of down off the mountains into the foothills. So we're hiring through word-of-mouth. It's all immigrant, Spanish speaking population, but it's all year-round residents. So we don't do any sort of labor contractors, or anything like that at this point. It's all W2 on our staff, and it's just seasonal jobs. So we'll have ... In April we have a few people come on and help start transplanting and stuff, and then once we start harvesting in mid-May we need 10 plus people.

Steven Beltram: I guess we're trying to manage those surges, so that we don't ... Like last year we ended up for a few weeks when we had too much squash all at once, we had 26 people and I'd rather have more like 10 people just for six months straight. It's worked out pretty well for us so far, we get a lot of repeat people every year, and hopefully that'll continue. Once your crew's trained and they know what to do, and they know you and you both trust each other, things can go pretty smoothly.

Chris Blanchard: Yeah, I mean having a returning staff is such a huge thing.

Steven Beltram: It really is, yeah. I wish we could do year-round employment, that would make the management so much easier of personnel if you could do year-round employment. But I haven't figure that out.

Chris Blanchard: Yeah, that's a whole business structure question. What are you doing, what are you selling, and how are you growing it, all has to fit into that in a seasonal climate. You guys are in a really highly visible location. I know one of the pictures that I saw on Instagram looks like there's a strip mall across the street from your fields. I'm thinking about the ... What's the right neutral term about this? The contentiousness over immigration right now. Do you guys get any push-back from having Hispanics working in the field? Is that something where people look and go, "Ooh, that must be a bunch of illegals. That must be a bunch of bad hombres." Or whatever.

Steven Beltram: Yeah, you know I've never had any of that to my face, so I don't know how much people are really thinking that. For one thing, we're in agriculture and I think people just sort of ... There's a big tomato industry around here, people are kind of used to seeing Latinos and stuff picking tomatoes. So I think they kind of expect it in agriculture. But then the other thing is just that North Carolina really has attracted a lot of immigrants over the past 15, 20 years. I don't know, you got the people out there that might think that, but I think most people are, I don't know how to put it, most people are accepting. I don't know what to say there.



- Chris Blanchard: Most people aren't getting up in arms about it.
- Steven Beltram: Yeah, exactly. You know, Asheville is ... We're in the south, there's no question, but especially in the city it's a pretty unique demographic that lives in Asheville. It's a pretty progressive type city. So people are less likely to worry about ethnicity in that way, I guess that's the right way of putting that.
- Chris Blanchard: Right. Working with a Hispanic crew, are you a Spanish speaker? Is that something that you've picked up over the years, or that you came with that skill?
- Steven Beltram: I am not a Spanish speaker. That is one of the biggest skills I have lacking as a grower at this point. We have enough people on the crew that speak really English well. We have some leadership on the crew that is good at English that everything can get translated and it works out. Like I said, our population that we're hiring is stationary, stable, long-time residents, home owners, whatever. So a lot of them do speak English perfectly, or at least quite a bit. We just end up with a handful of people now and then that don't speak any English, and then the translating just goes through the people who do.
- Chris Blanchard: Is your family involved in the farming operation?
- Steven Beltram: My family is less involved at this point than they were when we lived on the farm. We don't live on any of the farms at this point. But certainly the kids come to the farm and play, and stuff like that. My children are small, they're three and six, so they're not really out there bunching kale all day, or anything. My wife Becca does the payroll and handles a lot of the books, and helps make the big decisions and things like that. So yeah, the family's involved in that way, but I'm certainly the one that goes to the farm every morning and runs the day to day operation.
- Chris Blanchard: All right, with that we're going to turn to our lightning round. We're also going to get a quick word from one more sponsor.
- Chris Blanchard: This lightning round, as well as perennial support for the Farmer to Farmer podcast is brought to you by BCS America. A BCS two-wheel tractor is the only power equipment a market gardener will need. With PTO driven attachments like the rototiller, the flail mower, the power harrow, rotary plow, snow thrower, log splitter and more. You name it, you can probably run it with a personal BCS two-wheel tractor. The first time I used rototiller way back in 1991 it was mounted to a BCS two-wheel tractor and it spoiled me for life. When you get behind a BCS you can tell that it's built to the same commercial standards as four-wheel farm tractors, and it has many of the same features. I've used other tillers and mowers, and I spent most of the time thinking about how much easier it would be with a BCS. Check out BCSAmerica.com to see the full lineup of tractors and attachments, plus videos of BCS in action.
- Chris Blanchard: So Steven, what's your favorite tool on the farm?
- Steven Beltram: Well what's my favorite tool on the farm? I guess I'm like everybody, I like new things. I don't have it yet, but I'm shopping for a flail mower right now, so I'm hoping that's going to be my new favorite tool.



Chris Blanchard: I like it. Nice.

Steven Beltram: Yeah. Now that we're getting into a lot more intensive cover crop management I have hope that that's going to be great.

Chris Blanchard: What's your favorite crop to grow?

Steven Beltram: My favorite crop to grow is probably tomatoes. Maybe kale, I like to grow kale a lot too, but I think I like tomatoes because they're so difficult. They're the crop that keeps ... They oftentimes really whack me in the face, but I keep coming back, so I must really like it.

Chris Blanchard: You know, I meant to ask earlier, how you guys are harvesting the tomatoes, because when you're selling direct to consumers you're picking vine ripe tomatoes. Stuff that's ready to eat. But once you start, again, backing up that distribution chain, that really changes.

Steven Beltram: That really changes, yeah. So our tomatoes we try to pick them at what we call breaker stage. The fruits don't really get, from my understanding, anymore sugar into them after that breaker stage. So we're not picking them green, but we're not picking them fully ripe either, because we need that ripening time in the box. They can't be soft when they get to the retail level. So that's what we do. We try to pick them at breaker, and we pick them into buckets, and we take them back to our hay wagon where we have to sort and grade them. They have to be sorted ... The box has to all be the same size and the same color in a box. That's how we do that. Then we have a new customer coming online this year, for whom they're really big in the tomato business. They mostly sell conventional tomatoes. I think we'll probably be one of their only local organic growers. We're going to pick them into RPCs for them, and then they have mechanized sorting grading equipment. So that's how that'll work for that customer.

Chris Blanchard: Wow, that'll be an interesting change for you guys.

Steven Beltram: That'll be really interesting, yeah. It'll be interesting to see how that goes. But you know, we've spent a lot of time sorting and grading these things. It's really very difficult to get a four by five box that's all the same color, it takes quite a bit of time. They've got these machines with cameras and all that kind of stuff that'll do it. We're going to do grape tomatoes for them too, because I really ... I don't know how to wash those and sort those by hand, that I think would be impossible.

Chris Blanchard: Right, a little too much. Yeah.

Steven Beltram: Yeah, yeah.

Chris Blanchard: Finally Steven, if you could go back in time and tell your beginning farmer self one thing, what would it be?

Steven Beltram: Probably to get a four-wheel tractor sooner. To not worry so much about taking on payments for equipment and to focus on mechanizing as many things as you can. I think that's what I would tell myself.



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Chris Blanchard: Steven, thank you so much for being part of the Farmer to Farmer podcast today.

Steven Beltram: Absolutely, thanks Chris.

Chris Blanchard: All right, so wrapping things up here, I'll say again, this is episode 156 of the Farmer to Farmer podcast. You can find the notes for this show at FarmertoFarmerPodcast.com by looking on the episodes page, or just searching for Beltram. That's B-E-L-T-R-A-M. The transcript for this episode is brought to you by Earth Tools, providing the most complete selection of walk-behind farming equipment and high quality garden tools in North America. And by Osborn Quality Seeds, a dedicated partner for growers. Visit OsbornSeed.com for high quality seed, industry leading customer service, and fast order fulfillment. Additional funding for transcripts is provided by North Central SARE, providing grants and education to advance innovations in sustainable agriculture.

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