



**“ Worm Composting in Trenches for Massive  
Garden Productivity ”**

**Bentley Christie**

**\*FULL TRANSCRIPT\***

**Hosted By Marjory Wildcraft**  
**[www.TheGrowNetwork.com](http://www.TheGrowNetwork.com)**

## NOTICE

You do not have the right to reprint or resell this transcript.  
You may not give away, sell, or share the content herein.

© 2019 Copyright The Grow Network / Grow Your Own Groceries.

**ALL RIGHTS RESERVED.** No part of this report may be reproduced or transmitted in any form whatsoever, electronic, or mechanical, including photocopying, recording, or by any informational storage or retrieval system without the express written, dated, and signed permission from the author.

**DISCLAIMER AND/OR LEGAL NOTICES:** The information presented herein represents the view of the author as of the date of publication. The author reserves the right to alter and update his/her views for any reason and at any time. This report is for study and discussion purposes only. While every attempt has been made to verify the information provided in this report, neither the author nor his affiliates/partners assume any responsibility for errors, inaccuracies, or omissions. Any slights of people or organizations are unintentional. If advice concerning legal or related matters is needed, the services of a fully qualified professional should be sought. This report is not intended for use as a source of legal or accounting advice. You should be aware of any laws that govern business transactions or other business practices in your country and state.

# **“ Worm Composting in Trenches for Massive Garden Productivity ”**

## **Bentley Christie**

Marjory: Hello, and welcome to the Homegrown Food Summit. My name is Marjory Wildcraft. This Summit is brought to you by the Grow Network which is the premier community people who are growing our own food and making our own medicine and becoming extraordinarily healthy. Every year we always try to have information about composting and different ways to compost and different ways to make soil amendments because, of course, everything comes from the soil. I'm so glad to be a part of a community that recognizes that.

Our next presenter is Bentley Christie, the worm guy, and you got to hear his back story because while he was working at an environmental consulting firm like 20 years ago he had a chance encounter with a coworker's worm bin, and it changed his life. He actually went back to the university to study soil biology and compost science. I wasn't even certain that degrees existed like that, but I'm so glad they do. In 2007 he started the Red Worm Composting blog where he's been sharing his vermicomposting passion with the world, and he's been doing that for a long time now. He hasn't looked back since. In this presentation, Bentley is going to show us a technique of composting vermicomposting in trenches. If you have ever wanted to go to a local restaurant and start using their refuse, or maybe your elementary school or something like that, here's a way to do it. This is a way to handle a little bit larger scale of composting material. Also, I just love the before and after photos. You got to watch for that in this presentation. Here's Bentley Christie on vermicomposting in trenches.

Bentley: Hello, everybody. Bentley Compost Guy Christie, here. First of all, I just want to say thank you to Marjory and her team for inviting me to participate in the Homegrown Food Summit. I have been a huge fan of the Summit ever since it got started a number of years ago, and some the presentations have actually had a pretty major impact on

some of my own work. We'll discuss one example of that a little bit later on.

The topic I want to talk to you about today is one that's very near and dear to my heart. That topic is, of course, vermicomposting trenches. If I had to come up with one major thing that has had the most impact on my vermicomposting journey, it would definitely be vermicomposting trenches. You could even break down that journey into two distinct stages, before vermicomposting trenches, and after vermicomposting trenches.

Before vermicomposting trenches, I tended to look at vermicomposting the way that most people do. It's this cool process where you basically have some sort of worm bin, and you have these bedding materials and these food scraps and, of course, composting worms. If you took care of it, you could end up with this beautiful black gold, basically this worm castings or vermicompost. You could use that material to fertilize plants, and have really, really positive effects. So it's a really, really awesome process, but kind of a standalone, isolated process.

What trenches introduced me to was this idea of integrated systems, where you're basically connecting different systems for mutual benefit. This before and after stage idea can definitely apply to my yard as well. Before vermicomposting trenches, my yard was in pretty rough shape. We had really, really heavy clay soil that didn't seem to grow all that much other than thistly weeds as I recall. Once I started using trenches in my backyard, everything kind of changed. The fertility of the yard just kind of exploded. It wasn't just even right in close to the trenches. It seemed to have this spillover effect all around the property. That continued on from year to year as I continued to employ this method in my yard.

So that should give you at least some small idea of why it is that I'm so excited about vermicomposting trenches. Before we start actually getting into the nitty gritty details of how to set up a vermicomposting trench, and all these sorts of things, I think it's valuable if I provide you with a little bit of a backstory about how

these trenches actually came to be. Back in the spring of 2008, I had this crazy idea to approach a very, very popular local restaurant to see if I could take all of their compostable food scraps off their hands. Now for whatever reason, the owner seemed to think that I knew what I was talking about, and he loved the idea. He was totally on board. Just a couple of things to mention, first of all, I lived in the suburbs, so I didn't exactly have a lot of space, and I only had a very small selection of backyard systems to even use to handle these wastes.

So, needless to say, I quickly realized that I was in way over my head. I was literally picking up hundreds of pounds of food waste every single week, if not more. The systems, these backyard systems I had going, were overloaded in pretty much no time flat. My next strategy involved digging holes all around my property. Basically, just going around digging these little holes, and burying the waste. Unfortunately, it got to the point where I didn't even have any good spots to bury the waste anymore.

So, the situation was starting to get a bit ugly. These wastes were accumulating in the plastic bins, and this is sort of getting towards warm summer weather at this point. Needless to say, it started to stink. It was amazing. You could even just go out into my backyard, and you'd get hit with this wall of stench. I'm amazed to this day that the neighbors didn't end up calling the authorities. They didn't even actually say anything to me either. I think I kind of lucked out in that department. But, fact of the matter is, I was really starting to panic. I had no idea what I was gonna do, but I knew I needed to do something fast.

And then it hit me, what if instead of a small hole, I dig a gigantic hole, a big gigantic trench that I could just bury everything in? Thankfully, I thought about it a little bit more. I thought, what if we set up that giant trench like a giant worm bin? I got to work, started digging this trench. I think it was about 20 to 30-feet long, I can't remember exactly, and about three-feet deep. I wanted it nice and big.

I started with a lot of bedding material down in the bottom, paper waste and shredded cardboard, and really all I did was alternate these with the rotting food wastes all the way up to the top. I didn't take any pictures, probably because I was trying to go so fast to get this done before the neighbors caught me. But once I got up to the top, then I added several different cover layers to help kind of contain everything.

It just so happened that this trench ran in front of a row of tomato plants. I can't remember exactly if I did this on purpose, but I do think that I was just kind of thinking, let's see what happens. I'm really, really glad that I did. That garden was actually extended even further down the fence line, and the trench in front of it was later added as well. I ended up with a pretty long trench along the one fence in my yard. I also converted an old sandbox, which was pretty much a local cat litter box at the time, into a raised bed. I ran a vermicomposting trench through the middle of it as well. Literally, just having a place to put the waste materials was a miracle to me. I went from having all this horrible rotten stuff sitting around in bins, to having this system that had no odors, and it was handling all these compostable scraps that I was picking up from the restaurant.

But, of course, it got even better than that. I should mention up to this point I had been a sort of so-so gardener. I wasn't all that passionate about it, and my results were pretty mediocre. Well, that first season of vermicomposting trenches completely blew my mind. You can see the tomato plants and zucchinis obviously did very, very well. Just in general, it was a very, very productive year, not like nothing I had ever had before. I grew lots of tomatoes, lots of zucchinis, and even a giant pumpkin for Halloween. You can see my daughter who was very young at the time, she fit right inside there.

So that's pretty much the backstory. Gives you, again, some idea of why I got excited about this, and why I kept going with it. Let's now talk about some of the whats, the whys, the wheres, when it comes to vermicomposting trenches. What exactly is a vermicomposting trench? Well, I think by now you have a pretty good idea. Essentially, it is an extended hole in the ground, or a trench obviously, that you

set up like a giant worm bin. You have your bedding materials. You have your food scraps, or other food materials, and of course you have your composting worm.

Why use vermicomposting trenches? Well, it's an inexpensive and very effective way for processing large amounts of organic waste. It's a great option for those who are wanting to raise composting worms outside, just because it offers a lot of protection against hot, cold, and dry conditions. As touched on earlier, vermicomposting trenches are integrated systems, so it's a great way to tie together your vermicomposting and your gardening efforts.

One thing I've been asked a lot over the years is whether or not you can add composting worms to your garden. The short answer is yes, you can, and they may survive. The fact of the matter is they're adapted for living in really, really rich environments, and for processing waste materials and converting them into this rich compost. So you're gonna be much better off if you have an actual vermicomposting system that's right there in the garden, and the plants can benefit from that directly.

One thing that a lot of people may not realize, or may not think about, is the fact that a vermicomposting trench can actually be a great source of compost, or mulch. Over the years, I have harvested a lot of this material. Anytime I have excavated one of my trenches, I usually end up with yards of the stuff. It's obviously not worm castings. It's been sitting around and plants have been taking some of the nutrients. I like to refer to it as vermi-mulch. It's basically this rich, composty type stuff that works really well as a mulch. You can just kind of spread it around your garden beds, and it can have a really positive impact.

One other reason for vermicomposting trenches is that they can be a very important water bank during drier periods. They sort of act like a sponge. Lots of rain coming down, they can soak up a lot of that moisture, and obviously when you're using water rich food materials that can add water to the bed as well. Then during the drier times of

the year, that ends up being a very important source of moisture for plants and the local ecosystem in general.

So we're talking about why we should use vermicomposting trenches. I think it's also important to look on the flip side. What are some of the situations that aren't quite as ideal for vermicomposting trenches? Well, if you happen to have a very small waste stream, only a handful of scraps maybe being produced, you may be better off just to start with a worm bin rather than a trench just because these systems do tend to take a lot of waste materials, and the last thing you want is this big gigantic trench that is half full. In situations where you don't really have any soil to work with, a prime example up here in Canada, there might be certain spots on the Canadian shield, basically a big slab of rock with not all that much soil over top. If you can't dig down, it's probably gonna be a bit challenging to create a trench.

Similarly, in areas where there is very, very rocky soil, it's gonna be a lot more difficult to dig down, and unless you have some sort of machine, or you're an incredibly patient person, but I think for a lot of people it might be a bit more hassle than it's worth. In cases where the water table's very high, if you happen to be very close to a lake or a river or something like that. Obviously, you don't wanna be digging down and ending up with the hole filling up with water. That's not gonna work very well. On a similar note, in these regions that have these crazy rain events at certain times of the year, they have monsoons and torrential rains and flooding, obviously that's not gonna be very good for vermicomposting. So that might not work out all that well either.

If you happen to live in a very remote location, and you're using food wastes, this may attract certain animals like bears or other animals you just don't necessarily want right close to your house. So that may be a situation that won't work out as well. Lastly, if you happen to be in poor health, or not in great shape, these things do require quite a bit of upfront labor if you're gonna dig it by hand. So it's a situation where you wanna either get help, or you may wanna try another approach.

All right, let's talk about how to set up a vermicomposting trench. The good news right off the bat is that there are no strict size rules when it comes to trenches. This is actually one of the things I love about trenches. You can adapt them to your own particular situation. But I do have a few guidelines. Starting small, one of these recommendations I repeat multiple times here. I usually recommend somewhere in the range of three to six feet if you've never done this before, and you kind of wanna get a feel for how much waste you have available.

That's not a bad way to get started. But one to three-feet wide is a good size range. Any wider, and you're probably going to end up having difficulty working with the middle zone, and I definitely don't recommend walking in a vermicomposting trench. So you're gonna have to reach over. And it just takes up too much space. Anything less than a foot, and you really don't have enough volume, or enough space to kind of work with.

I would recommend that it be no deeper than three feet. The problem with really, really deep trenches is that you're not gonna have a lot of oxygen down in the lower reaches. That can really, really slow the processing times, so it won't be quite as effective. But at the end of the day, I don't want people to overanalyze, and be totally bogged down trying to think about all this, and get it all perfect. The fact of the matter is if you just try some sort of trench, and put in an effort, I think you will see a lot of the benefits.

As far as digging goes, I'm not gonna take up time talking about that here, just because we do want to keep things moving along, but it's pretty straightforward. It's just like digging a hole. There's a variety of tools you can use to help out. Obviously, again, it is pretty labor intensive, if you're digging a sizable trench, so it's not a bad idea to have help, ideally, but I think you can figure out how to dig a big hole.

Some may wonder if a vermicomposting trench needs to be lined. That's a great question, and I would say that it depends. Basically, it's not a bad idea if you happen to have a lot of moles in your area, or some other burrowing animals that might invade the trench. Or if

you have fast draining soils, like gravel or sand, where moisture is gonna be leaving the trench way too quickly. In that case, something like a thick felt liner, maybe one of those ones that you use a pond liner, might work well just to kind of slow things down, and hopefully block some of these animals from digging into the side of your trench. Whatever you decide to do, I strongly recommend you stay away from these poly-V plastic tarps down the bottom. The problem with these tarps is that over time they'll just start to break up, and fragment, and you'll end up with all these little tiny pieces of plastic mixed in with the compost in your trench, and obviously nobody wants that.

All right, let's talk about the three key sections of a vermicomposting trench. Down in the bottom you have what's known as your false bottom. In the middle you have the active zone. That's where the worms are, and where a lot of the waste processing happens. Then at the very top you have the cover layer, ideally a thick cover layer. The one that you see pictured here is actually a bit of a hybrid system that we'll talk about later on, but it was used to illustrate these three key sections that are very important for a vermicomposting trench.

Now let's look at each of these in a little bit more detail. So what is a false bottom? Well, the false bottom is essentially this buffer zone between the active zone, where the worms are, and the very bottom of the trench. This can be very, very helpful when liquid is starting to accumulate down in the bottom. Obviously, you don't want your worms just sitting in a puddle. It gives them a bit of space. That's why it can be good to use these resistant bulky materials down there. But it should also be able to soak up and hold a lot of moisture, this idea of a water bank that I talked about earlier.

Because of those bulky materials down in the bottom, it can actually help with airflow, especially in the case of open-ended trenches, something that we'll look at briefly a little bit later on. False bottoms can also be a nursery zone for worms. They can lay a lot of cocoons down there, and in cases where maybe it gets really, really cold, and a lot of your worms get killed off, this can be a good way to replenish the population in your trench.

I really love false bottoms in my trenches. It usually seems to work out that when I'm setting these things up, it happens to be a time of year when I'm also doing a lot of yard cleanup. So what I like to do is just basically chuck all kinds of woody debris, brush, coarse weeds, even big chunks of wood for that matter, down in the bottom. Just a great way to get rid of it, and it's gonna have some benefits over time. I'm sure a lot of you are familiar with the concept of hugelkultur, and this is kind of like a short-term version of that. With the actual hugelkultur you're usually using heavy duty wood, and it's over a longer timeframe, but same sort of basic idea. These materials over time are gonna break down, and they're gonna hold water, and offer nutrients and everything else. So it's really kind of a cool strategy.

It's also important, as touched on, to use some absorbent materials. I really, really love shredded cardboard, and various types of paper waste, just because they do hold moisture really well. They're great for the worms in general. Straw and hay are also great down in this zone as well, if you happen to have any of that material on hand, and as we'll see a little bit later on, I also love these in the cover zone.

So the active zone is basically the main zone where a lot of the composting's happening, where a lot of the worms are living. We have to set it up with a bit more care and attention than we do a false bottom. You wanna find a good balance of bedding materials and food materials, and I've touched on earlier, a very simple way to do this is just to do alternating layers between your bedding materials and your food materials all the way up to the top.

Some food examples include compostable kitchen scraps, livestock manures. Ideally, these should be aged or partially composted. Various green waste, things like comfrey, weeds, even grass clippings. These can all work really, really well in a vermicomposting trench. One of my favorite trench foods is aged and bedded horse manure. This is a fantastic material. It offers not only good food value, but also a really nice habitat value because it tends to be quite structurally robust. If you do want to use the fresher manures as more of a food, I recommend leaving that till later on when you're

actually feeding the system, and those can be layered on at the very top without any concern about causing harm for the worms.

Not all manures are created equal. There are definitely some manures I don't really, really recommend, at least adding fresh anyway. Poultry manure is not ideal. It tends to have high salt levels and it just releases ammonia quite readily. Feedlot manure can have a lot of urine in it, and various other things that can harm your worms. It's not the best stuff usually. These bagged manures that you get at the garden center, I don't even know why they call them manure. I don't even know if you'd call it compost for that matter. Totally sterile stuff. It's generally not gonna offer nearly the same sort of benefits as type of manures that you're gonna get from an actual farm.

A new material for me than this past year has been wood chips. In the past I've tended to steer people clear of wood chips for vermicomposting just because it's such a high carbon to nitrogen ratio material. It doesn't really absorb much in the way of moisture, so it's not exactly ideal for most worm bins. But since starting to work with it in a larger project, I've been absolutely loving it. Especially these hardwood chips that happen to have some leaves chipped in with them, it's fantastic for loosening up the worm zone in a trench or a bigger bed. It provides more airflow. And even, especially in the case where you do have the leaves chipped in, it can offer the beneficial microbes, a bit of a food source for the worms as well.

Ideally, if these are wood chips that have been sitting around for a long time, and have had a chance to rot, that's even better. It's gonna be a richer material that's gonna have more benefits. Important to note that wood chips certainly aren't gonna be getting converted into pure worm castings anytime soon, but you can screen them out later on, and either cycle them back through the same system or through another system, or they can be a fantastic mulch material to use in your garden.

Some may wonder about using them in an active crop-growing garden. There's some debate about this. Some say that wood chips

can lock up nitrogen in gardens and stunt the growth of plants. I'm not gonna offer any commentary on that, but, again, I haven't experimented enough myself. I do know that there are some people that swear by using big, thick beds of wood chips for all their gardening, so I'm gonna leave it up to you, but just something to keep in mind.

Comfrey, comfrey is definitely my favorite green waste by far. It's one of these materials that you would say is almost perfect for composting. It grows incredibly quickly, and produces a great deal of biomass. You can easily get multiple harvests per year. I live in an area that's sort of a temperate region, so I'm sure in a warmer region you could probably get even more harvests every single year. It's just fantastic stuff for your composting systems.

Some report it to be a dynamic accumulator, basically this idea of sucking up all kinds of nutrients in the soil, where other plants wouldn't necessarily be able to accumulate them. There is some debate about this. But, regardless, it's a fantastic source of nitrogen either way, and it breaks down really, really nicely in a composting system.

Some additional tips to mention, one thing about filling up your trench, I highly recommend to bring the level of the material well above the soil level. It's important to note that there's gonna be a lot of settling down, and of course volume reduction as these materials start to decompose. It's important to do that, so you don't end up with this sort of sunken hole later on.

Watering is something you may be wondering about. Rather than filling the whole thing up and then just kind of turning on the hose and soaking the thing down, what I actually recommend is to water every single layer as you are setting up your trench. I personally prefer to use a watering can, rather than a hose. I use either rainwater or aged tap water, something like well water would probably be great as well. Again, just every single layer as you're moving up, it's gonna be a good way to distribute the moisture all the way up to the top.

I'm sure some of you are wondering about the worms by this point. The one thing that I would highly recommend is that you don't just toss the worms in as you are setting up this system. There's gonna be a lot of heating, especially with a larger trench, and there can be ammonia release as well, other hazards. And it's not a good idea to be adding the worms at a time when there are dangerous conditions, obviously.

If you happen to have a long-stemmed thermometer, this can be a very, very good tool during the setup process, or during the aging process. It allows you to monitor the temperatures in the bed. As far as worms go, I highly recommend aiming for about 20 to 30 degrees Celsius, or 68 to 86 degrees Fahrenheit. This is sort of the ideal range of temperature for these composting worms that we're gonna be working with.

Speaking of these worms, you're probably wondering what type of worms work really well in a vermicomposting trench. There's a number of different types of composting worms out there. Absolutely the most versatile, and the one I recommend by far the most, would be the red worm, or red wiggler, which is *Eisenia fetida* and *Eisenia andrei*. These are two very closely related species that tend to occur in mixed populations. This is just such a mellow and easy to work with worm. It's very effective and very tolerant of a wide range of condition.

A lot of people buy these worms by the pound or by the count. If you're gonna do this, you wanna make sure you time it properly, and you get this bed set up ahead of time, and you monitor the temperatures. Get it to the point where it's ready for the worms before you add them to the system. I myself prefer to stock systems with worm rich material from an existing vermicomposting system. This is a great way to do it because you provide the worms this high quality habitat that they're actually used to, and it gives you sort of like a safe zone for the worms. If you add something like this up near the top, just under the cover layer, you can pretty much do it the same day that you set up your trench because the worms probably

aren't gonna get harmed in this habitat material when they're so close to the top of the bed.

I'm sure many of you are wondering about your typical garden worms, your soil worms, whether or not they can be used in a vermicomposting trench. Well, the short answer is they can certainly be used, but there are definitely some things to keep in mind. These are very different worms. They're adapted for different foods and conditions from the composting worms. So the waste processing more than likely going to be a fair bit slower. Composting worms are specialized for life in rich, organic waste, for situations that are very crowded with higher temperatures, and they tend to reproduce a lot more quickly than a lot of these soil worms. All of these factors combined lead to them doing a lot better in one of these composting trenches than a typical soil worm.

Some of you may wonder about invasive worms. This is a concern that's been brought to the attention of the public a lot more in recent years. Invasive worms are definitely a problem, but the key thing to remember here is that the worms that have been causing most of the problem aren't common composting species. They tend to be what are known as litter worms, like *Lumbricus rubellus*, that will thrive in a forest ecosystem. Red worms on the other hand, thrive in habitats like manure heaps and composting system, not your typical natural system. Again, they require this really rich, organic waste to really do their best. If you do happen to have *Lumbricus rubellus* or any of these jumper types of worms in your area, and they are pretty widespread in North America, you might as well take advantage of them because they will probably offer some benefits different from the composting worms, but still some beneficial effects on your trench if they are already in your yard.

Let's talk about the cover zone. The cover is often overlooked, but very important part of your vermicomposting trench. It helps to protect the trench from hot, cold, and dry conditions, and can even block precipitation to a certain extent. The best materials are ones that are very easy to spread and won't blow away. I find that straw or hay, meadow grass, soft weeds and grass clippings, can all work quite

well. You don't wanna use things like shredded cardboard or fall leaves because a gust of wind comes along, and suddenly these things are all over your yard, which is certainly not what we're after. Some of these richer materials like the grass clippings can add more food value, but all cover materials are, basically, a sort of slow food. They're gonna break down over time, and they'll also add a lot of structure as they sink further and further down into the bed.

Earlier we talked about the fact that tarps do not work very well in the bottom of a trench. Well, the fact of the matter is, they are actually excellent as a cover for your trenches during colder times of the year. I don't recommend them during hot times of the year, but during colder times of the year, they can be excellent for blocking cold winds and rain. When it gets even more serious, they can be good for keeping the snow off as well. This is especially helpful if you plan on continuing to work with the bed during the winter. The snow plus the tarp is actually a fantastic insulation.

One thing to keep in mind with tarps is that they can attract rodents. Rodents love a sort of cover, and if it's getting later in the season, and they find this bed with a nice wind and rainproof cover over top of it, they may wanna set up a nest. I recommend waiting as late as you can in the season before actually adding them. Hopefully, by that point they will have found somewhere else to kind of set up shop for the winter.

Let's talk about feeding your vermitrench. Something that I've hit on earlier is that vermicomposting trenches tend to be very hungry systems, especially during warmer weather. The greatest volume reduction is gonna be with water-rich materials like these food wastes. Something like manure, which has already kind of gone through a breakdown process in a sense, is gonna be less reduction. And any other bulky, resistant materials, obviously, those aren't gonna be reducing in volume quite as much as well. Again, not a bad idea to get a feel for your waste stream. I keep saying this, but just if you do start small, you're gonna have a better idea for how much waste you're producing, and sort of how much space you're gonna need to process all of it. Then you can always expand as need be.

When I add materials to my trench, it's usually just a very basic layering process. That's what I love about trenches. You can just kind of toss in worm you got, whenever you happen to have it. I usually just layer it on top, or just under the cover layer. Something like food waste, I do recommend more of a burial type of approach. Pocket feeding you might call it. This is a good way to help mask some of those odors that can attract various unwanted critters. If you use something like the aged manure or composted leaf litter, these sorts of things I call living materials, that could actually almost act like a sort of bio-filter. It can help to reduce those odors. It can be a great way to start the breakdown process because of all those microbes that are in those materials.

All right, well, it's finally time to talk about vermicomposting trenches for plant growth. As you might imagine, this is one of the big reasons that I'm as excited about vermicomposting trenches as I am. Right off the bat, I do wanna mention that I myself am far from a gardening expert. It was, basically, vermicomposting trenches that got me into gardening in the first place, and I'm really a gardening hack at best. So please do take any of the advice I offer with a grain of salt. I'm basically just going on my own experience.

One of the things that really gets me excited about all of this is the idea of someone with a bit more serious farming or gardening experience actually putting these methods to the test, and seeing what it can do for you. Some things to keep in mind with vermitrench gardening, the maturity of your trenches can be a very important consideration. Not all trenches are created equal for various different types of plants. In my experience, these first season or active trenches, ones that you're still adding food materials to, can be great for some of these heavy feeders, plants like tomatoes, squash family, corn, and various leafy greens seem to do really well. It just so happens that these are all my favorite types of plants to grow, so that makes me happy.

But as far as some of these root vegetables, things like potatoes and various other crops, you may be better off to work with a trench that is a second season or later trench, and basically a trench that is no

longer being added to anymore because these ones are gonna have a lot of rich compost material in there. You could even, literally, plant something like carrots or potatoes or worm right in the trench itself, and they could do well. Obviously, some of these active plants can do very well in these older trenches also, but it's just important to note that you don't wanna be adding something like potatoes right into an active vermicomposting trench, it probably won't do very well. At the end of the day, my big recommendation is basically just to try things out for yourself. See what works. Everybody has a different experience level. Again, these are just sort of rough guidelines based on what's basically worked for me.

If I had to come up with a single word that would apply to the effect that vermicomposting trenches have had on my property, it would definitely be abundance. It's just amazing the impact that these trenches had not only on plants that were growing directly beside them, but just this overall spillover effect. They've really had a positive impact on pretty much everything growing around my property. I've had a ton of fun out in my yard in the years since starting with vermicomposting trenches. It's been, actually, a great opportunity to see my kids in a lot of these pictures. It's been a fantastic learning experience for them, and just a good way to spend time with them out in the yard growing fun stuff. They definitely have more of an appreciation for growing your own food, which I happen to think is very, very important for kids these days.

All right, let's talk about a few gardening tips related to using vermicomposting trenches. Very important to keep in mind that the plants are probably gonna really take off, and there's gonna be a lot of vegetative growth, which can be exciting, but it's important to keep these plants under control. One of the mistakes I guess you could say that I've made over the years is just kind of letting things get too wild and crazy, and not really managing the plants very well. This can definitely lead to some disease issues and pest issues if you let it go on for too long.

Also, important to note that actively growing plants can remove a lot of moisture from these trench beds. This can have a negative impact

on the habitat quality for your worms. If you are kind of serious about keeping lots of worms, or worm farming, you may wanna do some trenches that don't have plants involved, and having some backup systems, in general, is never a bad idea.

Gardening with vermicomposting trenches can be addictive. I do have to warn you of that. Seeing all that plant growth can be very, very exciting. You don't want get too, too carried away with it. You still wanna have responsible gardening management practices. So just plant what you know you have time for, what you know you're gonna be able to keep under control, what you have space for, and you're probably gonna be much better off as a result.

I also recommend getting an early start with your trenches, that way they have time to process some of the waste, and you're also not running the risk of damaging any plants. If you're digging in beside plants that are already there, you can damage the roots obviously. It just, it makes a lot of sense if you can get started earlier in the season, or even the season before for that matter. That way it'll be ready, essentially, for the plants by the time you get started.

Just generally, it's not a bad idea to plan ahead. Get a feel for where your plants are gonna be growing, maybe help them grow in certain directions, what not. Just so you can have access to the trench. Once those plants get into jungle mode, it can be a lot more difficult to access the trench to add new food materials and things like that. So you may wanna add some structural elements to kind of help the plants grow in a different direction, and also maybe to contain some of that trench stuff, just to make things a little bit easier for yourself.

Once again, I know I've said it a lot of times. I've been beating you over the head with this, but starting small and really just keeping things simple is always a good way to get started with something new like this. It just makes it a lot easier, and it's probably gonna be a lot more fun if you don't get too, too carried away with it right off the bat.

Also, some important cautions that I do wanna mention. If you are bringing in materials from other sources, for example, grass clippings and other yard wastes, manures. Some of these things can contain pesticides, or in the case of the manures, pathogens as well. You wanna make sure that you're not adding something that's gonna be potentially harmful for you, obviously, but also something that could potentially harm your garden plants. Just something to keep in mind.

This one might be pretty obvious, but I definitely don't recommend using dog, cat, or human waste materials in a typical vermicomposting trench that's gonna be used for edible crops. You can put them in other vermicomposting systems, ideally, if you do have a bit more experience anyway. But generally speaking, this should be a separate system, and I usually recommend using the finished material for ornamentals rather than for food crops.

One other caution I have is to be careful with coffee grounds, especially if you're planning on using a large quantity of this material. I ended up connecting with a local coffee shop after the restaurant project, and I took a lot of their material off their hands, and put it into my beds. I didn't really think about it at the time, but looking back, there was a definite decline in the productivity of my garden in the years after that. What I've learned more recently is that coffee grounds can have an allelopathic effect on plants, so it can stunt growth, and just generally lower the productivity of your gardens. In moderation, mixed in with various kitchen scraps, probably not gonna be a big deal, but I don't really recommend you going out and getting heaps and heaps of this stuff, and using that as your primary waste material.

Okay, before we wrap things up today, I do wanna talk about a couple of my hybrid vermicomposting trench projects. The hay bale trench garden and the walking windrow trench. The hay bale trench garden was something that I started back in, I think it was 2015, pretty sure it was the first year that the Homegrown Food Summit got started. I'm gonna blame Joel Carson and Marjory Wildcraft for getting me so excited about this idea of straw bale gardening. It just totally blew my mind. This was something that I hadn't heard of

before. I started thinking about all these ways that you could kind of incorporate this into a system with composting worms, and ideally create something that's even more effective. Now I wasn't able to track down actual straw bales, but I did get a large quantity of hay bales to work with in my yard.

Well, me being me, I couldn't just do it on some tiny little scale. I had to make this the biggest project that I'd ever done before. So I did this gigantic trench that had bales all around it as well as, I guess you could call it a trench, or more likely a pit, that also had some bales around it as well. I even had a set of regular hay bale gardens that were just sort of off to the side where I was experimenting with those as well. Well, it didn't work out quite the way that I had imagined it would in my brain.

Unfortunately, I got a very, very late start. The presentation that I watched, I think that got published sometime in May or something like that. I ended up even delayed further than that. So it was a very, very late start to the season, and that certainly didn't help. I didn't properly set up the bales ahead of time. That's an important part of straw bale gardening is to actually prepare these bales before you even think about planting anything. I didn't get a chance to do that. Needless to say, the young plants that I put into these bales didn't really get off to a good start. That's not a good way to start off your gardening season.

Earlier on, I touched on this idea of trenches being hungry systems. They take a lot of waste. It can be difficult to keep them full. Well, this was another challenge that I faced with this project. I figured that if I could at least keep these beds all the way filled to the top, worst case scenario, the plants would be able to extend their roots out into that zone, and maybe benefit from that a little bit more. Unfortunately, it was very, very difficult to keep the levels in these beds up to the top because there's so much volume in these beds, and for most of the season, they were sunken down, at best, up around the soil level. I didn't ever hit the mark that I wanted really with keeping the levels up.

I think that kind of had a negative impact on the results. Overall, I would say I did okay. Some plants did fine. It definitely wasn't as earth shattering as some of my earlier years of vermicomposting trenches, but all in all, it was definitely a valuable experience. I'm glad I did it. All of that organic material from the bales was certainly beneficial in my beds over the next couple of years.

So let's talk about the walking windrow trench. This was a very different project. It started up last August. I had connected with the owner of a 100-acre country property not too far from where I live. It just so happened that this person had a real interest in vermicomposting. So long story short, he invited me to start up a project on the property there, and I got busy with putting something together. We wanted to produce a large quantity of vermicompost, and ideally worms, obviously, for the 2019 spring season. So I knew that I wanted to get something started pretty much right away, even though it was getting somewhat late in the season.

Because it was gonna be going through a winter, and there would obviously be some summer weather at some point along the way, I wanted this system to be set up in a really robust manner to protect against some of these hot and cold extremes. Just so you know, I'm in Zone 5A, so we get a pretty decent winter with lots of snow, and extended periods of really cold, so I knew that it was gonna be something that I would need to make a pretty serious system. That's why I decided to come up with this hybrid idea of a walking windrow that is inside of a trench. First of all, a walking windrow, in case you're not familiar, is basically a windrow that gets built out over time. You start with this initial heap, and once that heap is established, you start adding new materials to one side only, and then you continue to extend it into a typical windrow gradually over time.

These are particularly effective for worm composting because what the worms will do is they will follow that leading edge, follow that rich source of food, and over time, eventually the worms are gonna end up down on the one end, and the end that you started at is gonna be all this rich compost that's gonna be ready to harvest. It

shouldn't have nearly as many worms in it. It makes it a lot easier to harvest the material.

I also wanted to take advantage of the local resources as much as possible. Things like horse manure from local sources. Wood chips, there's a lot of wood chips on the property. Leaves and grass, and these sorts of materials. They've proven to be very, very important for the overall success of this trench windrow system.

This is a project that involved an incredible amount of manual labor, took a lot of time and effort to dig the trench and get everything ready for the cold weather, but it's been just amazing. It's been the most exciting project that I've been involved in. The results have been awesome. It's done very, very well in the cold weather, and I'm really, really excited to see where it goes this spring. I'm quite optimistic that as things heat up towards summer, that it'll also be a great system for protection against the hot weather as well. Haven't done any harvesting yet, but I'm optimistic that we're going to be able to start harvesting some really nice compost from this bed sometime this spring.

All right, well, that brings us to the end of this presentation. If you made it all the way through, thank you very much. I hope you found this topic interesting. As narrow a topic as vermicomposting trenches is, I still only feel like I've actually really just scratched the surface of what these trenches are all about. Hopefully, I've peaked your curiosity. Hopefully, some of you are interested to learn more about vermicomposting trenches, and maybe about vermicomposting in general.

So if you do wanna learn more about vermicomposting trenches, please head on over to [vermicompostingtrench.com](http://vermicompostingtrench.com). For more information about composting with worms in general, my [redwormcomposting.com](http://redwormcomposting.com) website is a good source of information. Don't ever hesitate to reach out via email or by leaving a comment, if there's a comment option on the page where this video's posted thanks once again to Marjory and the team for inviting me to participate here, and to all of you for taking the time to watch this.

Once again, this is Bentley Compost Guy Christie, and I hope to talk to you again soon.

Marjory: Well, I'm going to have to ask Bentley to start writing some posts for the Grow Network blog. If you need worms, who doesn't need worms, I'm going to need worms here actually just pretty soon as it starts to get springtime to get some of mine vermicomposting projects going again, click on that button to the right. Bentley's the best source for worms. He's a wonderful guy as you can see. Very, very knowledgeable. Very passionate. The button on the right will take you over to Bentley's website where you can order some worms, and then also find a lot more out about vermicomposting.

Then below that, of course, is the button if you want to pick up the full Summit package. We would sure appreciate if you did that. This is a user supported community. As you'll see there's not a lot of ... There's actually no outside advertising other than our presenters and ourselves, and your purchase of the Summit package makes a huge difference and allows us to keep doing this year after year. So, pick up that Summit package. Then, of course, come join me on some more of the Summit presentations here at the Homegrown Food Summit.