

# **The Bait-O-Matic 6000**

## **Complete 'How-To' Guide**



**By: Bentley the "Compost Guy" Christie**

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## The Backstory

I grew up as a child of the 80's. An avid TV-watcher, I was *especially* fond of comedy shows such as Saturday Night Live – this alone played a major role in making me the undeniable goofball that I am today. I also happened to be (and still am) a bit of an infomercial junkie. The lure of their “limited time offers”, the magic of their amazing “free bonus gifts” (if you pick up the phone “in the next 20 minutes”) – it was all just so hard to resist! Thankfully, I was much more of a *watcher* than an action-taker, so I'm happy to report that I don't have a closet-full of useless junk (well, ok yes I do – but it's NOT infomercial stuff!)



***But is there method behind this goofiness? Some sort of sensible rationale involved?***

*Of course!*

I also happen to be a fanatically-obsessed vermicomposter, and if you are reading this guide (and have watched the video) you will almost certainly know about my 'RedWormComposting.com' website (especially since that is the primary location for downloading this guide! haha), where I rant and rave about Red Worms on a reasonably regular basis. I also have a bit of a gift for alliteration, in case you hadn't noticed. ;-)

Speaking of “watching the video” – if for whatever reason you have not watched my original “Bait-O-Matic 6000”, video you might want to

do so before continuing on since it provides a good overview, and some of the info I've included here in the manual will likely make a lot more sense.

By the time this guide is available I should have embedded the video on this page:

<http://www.RedWormComposting.com/bom-6000/>

Also – if you want to learn more about vermicomposting in general, and/or stay abreast of any updates to this or similar systems, you might want to sign up for my email newsletter (typically goes out about once a week):

<http://www.RedWormComposting.com/vermicomposting-newsletter/>

OK – getting back to the *WHY* of creating this system – apart from the self-indulgent, silly humor aspect, in all honesty I wanted to share my idea for a cool DIY worm composting bin. The Bait-O-Matic 6000 (the BOM – or “da bomb” if you prefer) can be called whatever you want – the name of course is a complete joke. The system itself however is not a joke (as far as worm composting goes, that is).

In a couple of my other videos and on my website in general, I typically recommend that vermicomposting beginners get started with some sort of DIY plastic “Worm Bin” – such as those easily created using plastic tubs readily available at most hardware/department stores (the Rubbermaid “Roughneck Totes” happen to be my personal favorite). I cut my vermicomposting teeth on these sorts of systems, and have continued to use them to this day. They offer the would-be worm composter a very inexpensive opportunity to try out the “hobby” (or “obsession”, if you are not careful! haha). They are also very durable, easy to use, and help to provide the necessary conditions for the vermicomposting process.

All that good stuff aside, over the years I've found, time and time again, that these enclosed bins are often not all that *awesome* over the long-haul. They tend to work very well early on, but gradually over time, conditions become less and less optimal for the health of the worms, and the production of good vermicompost (basically the same thing as “worm castings”). Moisture levels tend to increase, and materials get packed down, impeding vital air flow - and if left long enough without intervention, it can even lead to what I call “mature worm bin syndrome” (something I talk a bit more about later).

I've always recommended that people drill lots of holes in their plastic bins to help improve the flow of air, and I myself have actually switched over to using mostly open systems. Neither of these approaches is necessarily the ideal solution however – hence my creation of da BOM! 😊

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**NOTE:** Before I go any further, I just want to point out the fact that I am definitely not trying to be all high and mighty with my “revolutionary” new creation here! haha  
Plenty of people before me have clued in to the fact that using various types of souped-up air vents in a worm bin can really help, so I don't mean to imply that I have invented this concept.

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Due to the fact that these plastic bin systems have a tendency to impede air flow, I generally recommend that people use fairly shallow tubs – less than 10” is definitely ideal. My favorite Rubbermaid tub (in case you are curious) is a Roughneck Tote with the dimensions: 24” x 16” x 8.75” – it's large enough to hold lots of worms and process a fair amount of food scraps (once it gets going), but shallow enough (and with enough surface area) to help avoid the gunky anaerobic stuff from happening down below – especially when a lid is not used.

The BOM 6000 bin is actually 12.5” deep, but with the big lower vents I really think this could be a fantastic worm composting environment – still plenty of moisture, but with a lot more oxygen available in the lower reaches.

A quick note about stacking systems – some of you might be wondering why the BOM isn't a double bin like my “Deluxe” worm bin featured in one of my YouTube videos (ironically, the most popular of my videos at time of this writing). In all honesty, I really don't like that type of system! There, I said it! 😊

Don't get me wrong – I'm sure that approach works really well for some, and many likely love their stacking bins, but I am very much a “K.I.S.S.” kinda guy (NO, I don't put on black and white make up, stick out my tongue and sing! I am of course referring to “Keep It Simple *Stoopid*”!). I love the simplicity of grabbing a regular ol' bin and making a worm composting system out of it (and this is why I typically point people in the direction of my “Basic Worm Bin” video now).

So what is special about this so-called BOM 6000 anyway?!

*Aside* from the fact that it is an all-in-one drink holder, coffee table, pet bed, home gym, mobile work station, and foot rest?!? Haha

Seriously though – it's all about the VENTS. They provide the bin with much greater air flow than drill holes can provide. One thing to mention though – the number of vents used for the BOM is NOT set-in-stone in any way. You may opt to add even more vents than this – and perhaps even change up the size of them a bit as well.

Another smaller system (that I actually used to make and *sell* locally – and which will be featured in another how-to video soon) uses four smaller vents in the bottom corners and one bigger one in the lid.

The BOM may very well do even better with some side vents as well. Again, this is all about the K.I.S.S. philosophy – don't take ANY of what I say as 'gospel'. I love hearing back from people who take one of my ideas and add their own twists to it.

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## **Making a BOM 6000**

### **Da Vents**

Obviously we need to discuss the vents used in this and similar systems. They are not exactly the easiest things to track down – and this is likely why they are not more widely used by DIY worm folks. These plastic vents go by multiple names – “soffit vents”, “louver vents”, and “siding vents” seem to be some of the main ones. I'm sure most self-respecting do-it-yourselfers will instantly recognize them and have no issues tracking some down.

For those of you who are like me (and a wee bit clueless about this sort of thing), let me share some helpful info. I use Duraflo “mini louvers” – these larger ones used in the BOM are 3” (61PML301) white plastic, if you wanna get really specific.

If you are in Canada like me, these can be purchased from Home Hardware (that's where I got mine). Easy peasy!

I couldn't find anyone carrying Duraflo products in the US, but there seems to be one "Maurice Franklin Louver Inc" (imagine if your entire life's work was dedicated to creating the best louvers? Oh wait – my life is dedicated to *worms!* Haha) that produces a similar product. Look for the **PLW-100** series.

Check out 'Aubuchon Hardware' – on their website (<http://www.HardWareStore.com>) do a search for "Maurice Franklin" and you should be in business!

With the vent specs out of the way, let's chat about your full parts and tools list, then cover some basic worm composting how-to.

### **PARTS (What I Used – Again, NOT Set In Stone!)**

- 1) Rubbermaid "Roughneck Tote" – 24" x 16" x 12.5" = ~ 21 gal = ~ 79 l
- 2) 4 Duraflo 3" "Mini Louver" white plastic vents (61PML301)
- 3) 4-8 thick produce elastics (ie those found on broccoli etc) – I do recommend using these to seal and stabilize the vents even if you don't make fly screens.

#### ***Optional***

- 1) Nylon stocking (for fruit fly / fungus gnat screens)

### **TOOLS**

- 1) Pencil and/or Marker
- 2) Utility Knife (aka "box cutter" etc)

#### ***Optional***

- 1) Drill with hole cutter bit – I have one of these but don't use it for the 3" holes (prefer exacto knife – I DO use this approach when I do 1" vents though)
- 2) Hole tracing tool (I really lucked out – one my my daughter's old "sippy cups" happened to have a lid that was the perfect diameter).

**Note:** None of this is rocket science. The holes don't need to be perfect (as mentioned in the video!)

## **Quick and Dirty Instructions**

Again, this is all VERY easy, and I'm sure the video was probably enough, but for what it's worth, here is a quick run-down of the guidelines for putting together the BOM.

- 1) Decide where you want to position the vents
- 2) Draw/trace your circular outlines for vent holes
- 3) Cut out holes (thus creating your set of "beautifully hand-crafted drink coasters")
- 4) Insert (or at least attempt to insert) the vents. Obviously better to be too small than too big with the hole cutting (although you might be surprised by how nicely the elastics can seal and support a loose vent).
- 5) Tweak holes with knife as needed – mine worked beautifully on the first try (that's how talented I am!)
- 6) Add the nylon screens on the inside (optional – but one incentive is that you will also be able to create a "polyfiber power band" while you are at it)
- 7) Done and Done!

Congrats!

## **Now what?!?!**

(reminds me of that funny scene in "Finding Nemo" when the fish roll down into the ocean in their plastic bags.....<crickets chirping>.....ok, that was probably lost on most of you! Haha)

Now, we vermicompost!

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## **Worm Composting Overview**

I have little doubt that a fair number of people will end up reading this guide simply out of curiosity after being lured here by my crazy antics. In all honesty, if I manage to get a lot of curious people this far I will be super excited! A big part of my overall mission is to get as many people involved in and excited about worm composting as possible (ahh, the "dream of taking vermicomposting 'mainstream'" ☺).

As such I certainly don't want to leave anyone hanging here. An empty BOM 6000 may look awfully nice, and still be able to do all those other amazing things (may need rocks for the "home gym" though), but it's not much use as a worm composting system if it is not set up as such.

Most of my loyal readers and worm pals, will likely disperse at this point, confident in their abilities to set up their own worm bin.

For the rest of you (and anyone who needs a refresher), the second half of this manual is dedicated to the topic of setting up and maintaining you BOM system (or plastic worm bin in general).

What follows is essentially a beefed up version of my "Getting Started" section of the site (<http://www.redwormcomposting.com/getting-started/>). You might wanna take a peek to get an overview or to use as your instructions instead of reading any further if you are in a hurry. Whatever your course of action, I DO highly recommend you also check out my "Setting up a Basic Worm Bin" video on YouTube: <http://www.youtube.com/watch?v=aFFTNv2cE34>  
This should provide you with a helpful overview as well.

## **The Basics**

What is "worm composting"?

The "duh!" definition of course is "composting with worms". If you are looking for something much more technical and geeky – check this one out:

***"Worm composting is the process involving the oxidative biodegradation of organic wastes via the joint action of earthworms and microorganisms, resulting in a stabilized, value-added end product know as vermicompost"***

Of course, we are NOT just talking about any sort of "earthworm" (that name in general is very misleading), so don't go running out to your garden with a pitchfork, or start cruising the sidewalks after a rain!

These are specialized composting worms – adapted for life in rich organic matter, crowded conditions, and warm temperatures (although some are certainly also very tolerant of cold temps as well). If you want to get all technical and geeky again, the worms we are after are what's know as "epigeic" worms – in a nutshell, this refers to those

earthworms living at or near to the soil surface – most often in some sort of organic matter, like say for example that heap of stuff we sometimes call a “compost pile”. ☺

The garden-digging-sidewalk-crawling worms tend to be “endogeic” (mid-level soil dwellers) or “anecic” (the deep burrowers). Both of these groups of worms can generally be kept alive (sometimes for quite some time) in an indoor worm bin – but they certainly won’t thrive. Especially not the anecic worms! *Although*, if you happen to have a sweet set-up like the guys from “Dumb and Dumber”...well, then you *might* be in luck! Haha

The worms I highly recommend for the BOM 6000 system are **1)** Red Worms (*Eisenia fetida*), aka “Red Wigglers” or simply “Reds” and **2)** European Nightcrawlers (*Eisenia hortensis*, or the older name, *Dendrobaena veneta*), aka “Euros” or “ENCs”. These are probably the two most versatile composting worms (especially Reds) available since they can tolerate a very wide range of temperatures and conditions.

If you happen to be taking this “Bait-O-Matic” stuff extra serious, and *do* intend to grow bait worms in this system, you might want to lean towards the Euros since they are a larger worm, and well-known for their fish-catching prowess. That being said, I’ve been told that the Red Wigglers (did I mention they are also called “The Cadillac of Worms” by some?) are excellent bait worms for BIG trout, and panfish. They don’t call em “wigglers” for nuthin!

In terms of composting potential, my biased viewpoint is that Red Worms are definitely a better all-around waste processing species. They grow and reproduce more quickly and, pound for pound, will generally process wastes more quickly as well. But the Euros are still a lot of fun!

By the way – if you are wondering about the potential for creating the ultimate turbo-charged system by combining these two species, in all honesty I would recommend against doing so. I’ve found that in my outdoor worm composting beds associated with gardens (a whole other topic unto itself, by the way) they seem to do quite well together. In enclosed bins I have not found this to be the case. Over the long-haul, the Reds are generally going to out-compete the Euros. I have also observed that Euros seem to shrink in size when they share a system with Reds – it’s totally bizarre! I’m sure there will be others out there with different experiences, and I acknowledge and respect that fact – please do write in and let me know your thoughts.

Again this is just another example of one man's opinion, based on his own experiences. ☺

## **Basic Components of a Worm Composting System**

Something I really like to emphasize with vermicomposting is the "flexibility" of the process. While there are certainly some important requirements to keep in mind – namely **darkness, oxygen, moisture, food/habitat**, and **warmth** – there are a "lot of ways to skin a cat" (who comes up with these sayings, anyway?!). Nevertheless, I think it is really helpful if we once again beat ourselves over the head with our trusty K.I.S.S. stick and consider for a minute some of the key components of a basic worm composting system:

- 1) Container**
- 2) "Bedding"**
- 3) "Waste" material** (aka "Worm Food"),
- and of course, **4) Worms**

**Container** – Well, the good news is that if you have taken the time to create your very own BOM 6000 (or something similar), this one is taken care of! Whoohoo! In a nutshell, your container is basically just some sort of a vessel that...uhhh...contains everything. It should be opaque (not "see-through") and preferably durable. I personally like the Rubbermaid bins because these meet both of these needs. I've found that the harder plastics tend to crack over time, especially if left outdoors.

Again, there are certainly LOTS of other container options (eg. trenches, pits, beds, or even bags!), but it is beyond the scope of this guide to talk about all of those – especially since this is supposed to be all about the BOM-6000 bin. If you DO want to learn more about other vermicomposting systems you will find plenty of information posted on the website (and I am also just an email away if you have questions).

**Bedding** – Apart from the worms themselves, this is almost certainly the most important component of your system, and really when it comes down to it there is no point adding worms to a system that doesn't have anything that would fall into this category. Of course, as per usual with worm composting, there is plenty of gray area here. Bedding is really just a long-term "food", and what's more, there are certainly "food" materials out there (such as aged manure) that can serve as pretty fantastic bedding materials. IN GENERAL, and for the sake of keeping things simple, most good bedding materials are

carbon-rich (ie have a high "Carbon-to-Nitrogen Ratio"), are absorbent, and preferably are a little bit 'chunky'! ☺

Let me explain...

I generally designate potential bedding materials as either "primary" or "secondary". The primary bedding materials are those that are excellent, stand-alone materials – they can be enhanced by the presence of secondary bedding, but it's not a requirement. As you might guess, the secondary bedding materials are all those materials that can still be considered really valuable C-rich stuff, but that would be better off accompanied by one of the primary materials.

My favorite primary bedding materials are shredded cardboard (corrugated, egg carton, and drink tray cardboard are the best) and newsprint (black and white definitely preferable to color). These definitely fall into the "chunky" category I mentioned above, since the individual particle size is quite large, thus promoting air flow.

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**NOTE:** Some people will likely wonder about *regular* paper. While paper in general *can* be an excellent bedding material, and brown paper specifically, is fantastic if you can get enough of it, the white office paper we generally associate with the term is not the ideal for the job. In moderation, sure no problem – but I definitely don't recommend using it as your main bedding. It can contain bleach and other chemicals that can irritate or harm your worms. I can remember setting a big system using shredded computer paper, back when I was a worm composting "newbie". I thought the worms were going to love their new home, but they ended up trying to escape *en masse* shortly after they were added to the bin.

There are *some* types of paper which are totally fine – so don't take all this TOO seriously. Again, these are just my recommendations! ☺

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Some might assume materials like peat moss and/or coconut "coir" would be considered primary bedding – and I have little doubt that many seasoned vermicomposters will even feel this way. I personally prefer to treat them as secondary bedding because their particle size is so small. Materials in a worm bin tend to be compacted and reduced in size enough as it is (which impedes air flow) – so there is no need to get off on the wrong foot right away by using these materials on their own. If on the other hand, you mix them with shredded cardboard,

you will have a bedding that combines the great water-holding ability of the peat/coir with the air-flow-promoting ability of the cardboard. (newsprint and paper can get matted down, thus eliminating this "chunky" advantage – but if you use a hand fork to periodically fluff things up a bit, you should be fine).

**"Waste" Materials – aka "Worm Food"** - As you've likely noticed by now, I prefer to use the term "waste" in quotes quite a bit (although, for the sake of preserving my sanity I will likely stop doing so by the time we reach the next paragraph. haha) – of course the term "waste" is quite misleading! The saying "One man's trash is another man's treasure" definitely applies here – as others (far wiser than me) have observed, all "wastes" are simply "misplaced resources". Anyway, for the sake of K.I.S.S., we won't get bogged down in details – "waste" is a lot easier to type than "resource" – haha!

Generally, the materials in this category tend to be water- and nitrogen-rich in comparison to the "bedding" materials (although again, both are technically "food"). Probably the most common food materials for a home worm bin are fruit and vegetable scraps (and all those fruits and veggies that have become rotten in your fridge drawers!). Tea bags and coffee grounds are also good materials to use – but you might want to be a *little* careful with the latter. If you have a LOT of it (obtained from a local coffee shop for example) you may want to add it a little at a time, or mix it with a bulky bedding material (making sure everything is nice and moist) then let it sit for awhile before starting to add it to your system.

Below, I have outlined the three basic categories of wastes. As per usual, these are just guidelines - I don't want people to consider these as strict rules or anything. There are plenty of materials that can be in all three categories depending on your perspective, the quantities being used, and the size of your system.

**YES!** (go nuts – but still be careful not to overfeed)

- most fruit and veggie waste
- coffee (small amounts from your coffee machine are totally fine)
- tea bags
- bedding materials (you can never add "too much")

**MAYBE!** (can definitely be used, but do so in moderation)

- spicy/potent foods like hot peppers and onions (cooking helps both of these, especially the onions), citrus peels
- really acidic materials like citrus fruit, pineapple and tomatoes
- starchy materials like bread, pasta, rice

**NOT RECOMMENDED!** (best to avoid – unless you are experienced)

- human / pet waste (if you have special, designated systems for these you should be ok – but definitely NOT in a small indoor worm bin)
- meat/dairy
- really oily foods and oils in general

### ***Some thoughts on Farmyard Manures...***

Something needs to be said about “manures” since they are often reported to be an excellent food material for worm composting systems (something I myself have written about on my website). For starters, it is important to mention that not all manures are created equal. Poultry manure, for example, is far more potent (and thus dangerous as a worm food) than say, horse manure - so it is highly recommended that this material be well aged (preferably after moistening, and mixing with something carbon-rich) before it is fed to worms.

In general, any “fresh” manure should be treated with considerable caution. If you have a large (and established) open system, layering fresh manure on top should create no problems. Adding manure to an enclosed bin on the other hand, can be a much riskier proposition since there isn’t enough airflow (even in the BOM 6000). In other words, toxic gases like ammonia can potentially build up in the system and cause harm to the worms (composting worms are extremely sensitive to this noxious gas – and it becomes deadly toxic at relatively low concentrations).

The only time I would recommend adding manure to an enclosed plastic bin is when it has been allowed to aged for quite some time (preferably outside). It should basically be more like a “compost” than

a manure. If you have more air vents or use a lidless system, you won't need to be as careful.

**Composting Worms** – We covered this topic fairly well early on. Again, it is important to use one of the composting species, NOT your run-of-the-mill garden/lawn species. Apart from the Red Worms and European Nightcrawlers mentioned already, there are some other species commonly used – such as Blue Worms (*Perionyx excavatus*) and African Nightcrawlers (*Eudrilus eugeniae*). If you happen to live in a hot location (i.e. warm year round), then one of these might be a good choice – otherwise I don't personally recommend them. They will both perish below a certain temperature (generally, once temps dip below 55 or so), and are known for their tendency to be temperamental – sometimes leaving a worm bin/bed *en masse* for no (apparently) good reason. I myself have worked with Blue Worms before, and really did not enjoy the experience at all.

AGAIN...just one man's opinion! ☺

Some may wonder how worms should be added to the system. One recommendation I have is to set up the bin ahead of time – say 5-14 days prior to arrival of worms – so as to allow the food waste to decompose nicely, and the microbial community to become established. Worms actually derived most of their nutrition from the microbes feeding on the waste materials, rather than on the food material itself. Think of it as a “microbial soup” that the worms come along and slurp up. Worms tend to be somewhat restless when you add them to a new system regardless, but if you add them to a system you literally just set up, this can make them want to wander even more, since there will be little in the way of food for them (and will just seem like a very foreign environment in general).

How many worms you start with is totally up to you. The common basic amount is a “pound of worms” – for Red Worms this translates into approximately 1000 worms (of course, this is an approximation at best, since it totally depends on the size of the worms!). You don't absolutely need this quantity to get started of course – it depends on what you are trying to accomplish, and how patient you happen to be.

I conducted a fun experiment (written about on the blog) called the “50 Cocoon Challenge”. Basically, I just added 50 worm cocoons (in this case, Red Worm cocoons) to a “regular” worm bin then let it sit, in

order to see how long it took for the worms to hatch and mature. In all honesty, I thought it would be 2-3 months. As it turns out, there were adults present in the system within 5-6 weeks.

The moral of the story (haha) is that worms can hatch and develop quite quickly, so even if you only get started with some material (with worms) taken from someone else's worm bin, you may be surprised by how quickly the worm population develops. My number one recommendation, regardless of how you decide to populate the bin, is to let the worms "be your guide" when it comes to deciding how much waste you will add to the system. In other words, feed according to the rate at which the worms are consuming the wastes - *not* based on some sort of hair-brained "worms eat exactly half their weight in food per day" guideline. Making assumptions about how much worms *should* eat, more often than not leads to overfeeding - *especially* early on. Later on (in the section on "feeding", I will discuss various methods that can be used to help speed up the processing of waste materials.

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## **Setting Up a Worm Composting Bin**

I am actually not going to spend too much time on this topic, simply because I have created videos outlining this, step by step. Again, I highly recommend that you check out my video called my "Setting up a Basic Worm Bin" on YouTube:

<http://www.youtube.com/watch?v=aFFTNv2cE34>

In a nutshell, the idea is to mix up "food" materials with "bedding" materials (adding more bedding than food), moisten everything, then leave to sit for a period of time before adding your worms.

### ***Some info NOT mentioned in the video...***

**Things to do while you wait** – In retrospect, I definitely regret not including (in the videos) some suggestions for monitoring and adjusting the system during the aging period – I definitely didn't mean to imply that the bin has to be left alone until the worms are added. After a few days I would actually recommend opening up the bin and seeing how things are looking. It's also probably not a bad idea to mix everything up a bit, and even to spray down with water if it seems like

it could use some more (again, the key here is to make sure everything is nice and moist, while not allowing water to pool significantly on the bottom).

You'll likely notice some serious fungal growth taking place during this time – don't worry too much about this. Really, it's just an indication of organisms taking advantage of a low-competition, food-rich environment. Mixing the bedding up will help to break up the mycelium (white furry stuff) and prevent it from getting out of hand.

You may also want to add more bedding! There will very likely be some settling of materials during the aging period, so topping the system up with moistened bedding is not a bad idea at all. As mentioned earlier, there is no such thing as "too much" bedding, and in fact, I tend to think of bedding - again, we are talking here about those "chunky" bedding materials in particular - as something of a "cure all" when it comes to keeping things moving along smoothly in a worm composting system.

**Quick-Start Bin Set-up** - If it turns out that you *really* need to add worms the same day or very soon after setting up the bin, I highly recommend you make sure to add some "living" material to help kick-start the microbial population as quickly as possible. Some examples include leaf litter (decomposing material on a forest floor), well-aged manure (should smell earthy NOT like manure), and/or decomposing material from a backyard composter (just be careful about the introduction of fruit flies – if you see any in the composter you might want to avoid using it).

You should also make sure to mix everything up really well, so as to create a bit more of a homogeneous environment.

I would *ALSO* recommend adding a lower proportion of food materials than you would if you were going to let the system age – so beef up on the bedding! Rather than a 60:40 ratio, you might opt for something more like 80:20 (bedding:food). This way you have less chance of overfeeding the system (very easy to do early on since the worms take some time to get settled in).

You may also want to keep a light shining over the bin (fluorescent or LED to save energy ☺) for a couple of days. Worms do NOT like light, so unless conditions are *really* bad for them, this will encourage them

to stay down and get settled into the system. By the way, I should probably take this opportunity to assure everyone that it is in fact *totally* normal for some worms to want to roam around on the sides and lid of a worm bin (even in older bins). This seems to be one of the most common concerns voiced by new vermicomposters who email me. To me, “normal” means just a handful of worms (although not literally – since that would likely be hundreds of worms – haha) – maybe 10 to 20. If, on the other hand, you notice gobs of worms concentrating in one area of the bin (such as in the handles) or trying desperately to escape, there is a decent chance that something is going wrong down below.

My suggestion in these sorts of situations is to take the lid off completely, add as much moistened bedding as you can (making sure to gently mix it in as well), and leave the system to sit (lidless) for perhaps a day or to. The abundant airflow will help to get rid of “bad” gases (such as ammonia) and just generally oxygenate the system. Again, it’s not a bad idea to keep a light on over top during this time just to make sure the worms don’t get any wise ideas about making a break for it! ;-)

If you are looking for a food material that the worms will eat pretty close to “fresh”, melons and cantaloupes may be a good choice. I’m always amazed by how quickly I see worms congregated beneath an overturned piece of melon added to my systems. Further along in the guide you will also learn about various methods that can be employed to make food materials more microbe-friendly (and thus worm-friendly). Even if you only have fresh materials available when you set up the system, at least this way they will start to break down a lot more quickly.

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## **Ongoing Worm Bin Maintenance**

This is another topic I really haven’t written about all that much (at least not on the website) but certainly one worth covering in this manual. There is no doubt that the first few weeks after setting up a worm composting system ARE pretty important (hence my habit to focus mostly on this time period), since this is when the worms are getting settled in their new home – and often a time when new vermicomposters are still just trying to figure everything out.

Nevertheless, it is often during the weeks and months *after* some sort of “equilibrium” has been reached that things can really go awry. I suspect that this is partially due to the fact that worm bin owners tend to become a bit more lax about their maintenance, once they get the hang of it and everything seems to be going well. In all honesty, this “mellow” approach is actually highly recommended in general, since there is less chance that you’ll overfeed the system or bother the worms with too much “fiddling” – BUT, *some* periodic worm bin upkeep is still not a bad idea.

I should mention though, that there are a number of different approaches here. If you stop feeding altogether and simply leave the bin to sit unattended for a couple of months, you might actually be surprised to find a bin full of healthy looking worms and worm compost the next time you open it. If you left the bin to sit for MANY months, you might just find a container of nice worm compost. While this will certainly save you the hassle of having to separate the worms from the compost (something we’ll talk a little later), this probably isn’t the most economical way to produce vermicompost! ☺

It is generally the bins that continue to receive food, but little else, that tend to suffer over time. There is a lot of emphasis on adding a healthy amount of bedding when you first start a worm bin, but I think a fair number of people forget to *continue* adding these valuable materials. You can likely get away with this for quite some time, especially when you do add a lot of bedding at the start, but eventually you will start to notice the symptoms of the “mature worm bin syndrome” I mentioned earlier in the guide. Here are some of the signs to look out for:

- The worms may start to seem sluggish and unresponsive or, on the opposite end of the scale, more restless than usual
- Worse still, the worms may start dying off and/or show signs of “protein poisoning” (look like a string of sausages, with constricted and thickened zones)
- You may start to see other organisms in much greater abundance (eg. mites, fungus gnats etc)
- There is little in the way of visible bedding, and the bin is generally more than half full of dark, sludgy worm compost (if you can even call it that – down on the bottom you’ll likely find all sorts of unprocessed materials due to the lack of oxygen)

Likely the most obvious (and effective) thing you can do to extend the “life” of your worm bin is add bedding materials on a fairly regular basis. A very easy way to do this is by simply making sure the bin is topped up with this material (i.e. keep the space between the worm composting zone and the lid filled with bedding) at all times. Aside from helping to ensure that there is always a lot of carbon-rich absorbent material in the bin, this can actually also help to keep the worms down (assuming you add dry bedding) since it tends to dry out the upper region, thus making it more inhospitable (by worm standards).

Keeping the bedding on top (rather than mixing it with material already converted to compost) will also make it easier when it comes time to harvest your worm compost, since the unprocessed material can simply be removed by hand quickly before dumping out the dark vermicompost down below.

### **Feeding Your Bin**

Obviously something needs to be said about the actual feeding of your worm bin – this is probably one of the key areas of vermicomposting where people tend to stumble a little bit. There seems to be a common misconception among newcomers that worms need to be taken care of like “pets”. I’ve definitely received a lot more emails from people worried about starving their worms than those worried they are feeding them too much - the irony of course being that...

***It is FAR easier to harm your worms by overfeeding them than it is to harm them via neglect!***

That’s an important one to remember (hence the emphasis!). I have left *more than a few* bins completely unattended for weeks, even months, only to find a thriving population of worms living in well-processed vermicompost the next time I open them up. These are always enclosed plastic systems though. If you get lazy or forgetful with an open and/or a wooden system, this sort of neglect will likely result in the bin contents drying out on you (which, *alas*, will certainly kill off your worms more quickly than starvation!).

As I mentioned earlier, I always recommend “letting the worms be your guide” in terms of helping you to decide when to feed. In general, it is probably also not a bad idea to err on the side of caution - at least

until you start to get a really good sense for how quickly your worms are consuming the wastes. Keep in mind that there are so many different variables that can have a major impact on the speed at which vermicomposting proceeds. So it is always a good idea to observe the process in your own bin and decide how to proceed from there.

The manner in which you feed the system is up to you, but, as per usual, I do have some recommendations. I personally prefer burying all the materials I add to a worm bin/bed – unless there is a REALLY thick layer of bedding over top (and this is basically still burial anyway). This not only helps to expose the materials to a lot more microbes and other helpful organisms, but it also helps to keep odors down and reduces the likelihood of an invasion of fruit flies (among other annoying “pests”).

Using this method with your BOM-6000 (or similar) bin, I’d recommend having no more than three or four food pockets on the go at any one time – and make sure to stagger the creation of each one (i.e start by feeding in one zone, then for your next feeding bury in another part of the bin, and so on). If by the time you have created your last pocket, there is still a fair amount of unprocessed material in first hole, it’s probably not a bad idea to hold off from feeding for a little while just to give the worms some time to catch up.

### Methods for Speeding up the Processing of Wastes

There are a number of waste-handling methods that can help to speed up the worm-processing times. Basically, it all comes down to optimizing the materials for microbial colonization. A fresh (and intact) broccoli floret or whole fresh carrot, for example, are VERY resistant to microbial attack – especially the carrot (when you grow in the soil it is pretty darn important to have strong microbial defense system in place!). If you cook or freeze either of them, this will inflict some pretty serious structural damage, making it much easier for microbes to invade. Taking things one step further – if you finely chop or blend these materials, you basically render them defenseless, as well as greatly increasing the surface area, which also allows for a LOT more microbes to get in on the action.

The “aging” I’ve referred to previously is also an effective method for helping to speed up the vermicomposting of wastes. I often add my waste materials to some sort of “scrap holder”, where they generally sit for at least a few days before being added to a worm bin/bed.

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Of course, any number of combinations of the above suggestions can work really well. During the winter I will often toss my bags of food scraps outside so they'll freeze – the combination of aging and freezing renders the materials even more worm-bin-friendly (once they've warmed up again, that is).

One thing to keep in mind with the water-rich fruit/veggie wastes. When you start breaking down the structure of these materials, a lot more water can end up being released all at once. This is great in an outdoor bed during the summer (frozen materials can also help to cool these systems), but not quite so advantageous when the materials are going into a relatively small, enclosed plastic bin! Make sure to offset with a lot of dry bedding added at the same time.

Also, keep in mind that when you grind/chop/blend wastes you reduce the size, so it becomes easier to accidentally overfeed (eg. you probably wouldn't add 10 whole apples to your bin at one time, whereas 10 blended apples would likely look like a reasonably quantity of apple sauce to add to your bin)!



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### **Harvesting Vermicompost (and Worms)**

Unfortunately, the BOM-6000 offers no real advantage over most other enclosed plastic tub systems as far as separating the worms from the compost goes. Hopefully the compost material will at least be somewhat easier to work with (less sludgy etc) due to the increased aeration – but it will all depend on how the bin has been maintained.

I won't get into too much detail here about the specifics of harvesting since there are a fair number of blog posts (and some videos) featuring some of the various approaches. Here are links to the harvesting articles you can also access from my "Hot Topics" page (in the "Harvesting Vermicompost" section):

[Garbage Bag Harvesting Method](#)

[DIY Worm Harvester](#)

[John's Homemade Worm Harvester](#)

[David's Tub Harvesting Method](#)

[Turbo Light Harvesting Method](#)

Here now is a very brief overview of the approaches you can take, along with some of the pros and cons of each.

- 1) **The "Do Nothing At All" Approach** ☺ – If you chose to simply dump out the contents of your mature worm bin into the garden your plants will almost certainly benefit. The main advantage of this approach is that it is VERY easy, and the main disadvantage of course being the fact that you end up losing all your worms (remember, these are not garden worms). If you happen to have a vermicomposting trench (or some other type of *in situ* worm composting bed) nearby this can work just fine since the worms will simply migrate into the trench.
  
- 2) **Light Harvesting** – This approach relies on the fact that worms do NOT like light, and will tend to move down and away from it fairly quickly. In its most basic form, the light method can involve a "dump and sort" operation, perhaps out on a tarp in your backyard (preferably on a warm sunny, for obvious reasons). There are however some more advanced versions of this method that can work quite well. Again, I recommend checking out the links to those harvesting articles listed above. In particular, you may want to have a look at "David's Tub Harvesting method", since I think this is one that a lot of people will find easy and effective. The advantage of light harvesting methods is that they are inexpensive, and they CAN be pretty easy (namely in the case of the more advanced versions, since as far as I'm concerned, there is nothing "easy" or particularly enjoyable about getting down on all fours and spending hours brushing away compost until you end up with mostly worms - haha). The downside of these light-based methods is that they can take a fair amount of time.
  
- 3) **Mechanical Separation** – The last major harvesting approach, and definitely the most advanced, is of course mechanical separation. By this I am simply referring to the use of some sort of screening device to separate the worms from the compost. Most large-scale worm farmers and castings producers use what is known as a trammel (sometimes spelled "trommel") screen harvester – basically a cylinder of metal screening that rotates slowly, with castings falling through and most worms making it to a container at the end. Not to sound like a broken record here, but again, I do recommend checking out the harvesting section mentioned earlier, since there are links to a couple

articles written about home-scale systems created by do-it-yourselfers. (see “John’s” and the “DIY” harvester articles)

The question of ***WHEN*** exactly to start harvesting your vermicompost certainly comes up a lot (and understandably). Similar to the “how much can I feed” question, there is no really solid, set-in-stone answer here – since there are many, many variables that can have a major effect on this. If you have a very efficient system with lots of worms, sitting in a warm location, the compost production speed is obviously going to be quite bit higher than a system sitting in an unheated garage in the middle of winter, for example.

Generally speaking, it will likely be *at least* 2 to 3 months before you will have enough vermicompost in your BOM to make harvesting worthwhile (but could be much longer if conditions are not optimal). You will notice that over time the level of dark, processed material (which basically look like rich soil) will increase. I’d say that once the level of this material hits the half-way mark or so, you might start to think about harvesting.

### **What About “Splitting” The Bin?**

If you happen to be more interested in continuing to build your worm population than using the compost, you may opt for an approach known as “splitting” your worm bin. In this case you will want to get a second bin ready to go, in the same manner as when you set up your first system. Once the aging period is complete, you simply split the contents of the active bin – half going into the new system (along with half of aged *new* material) and half remaining in the same bin, then topped up with the rest of the material you’ve prepared. This can be continued indefinitely until you have as many tubs as you want.

Some use this same splitting method to separate worms from compost as well, but given the fact that the new material is in the same bin as the old material, I suspect you will end up with quite a few worms remaining in their original habitat.

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OK – well there is certainly a lot more that can be said about setting up and maintaining a worm bin, and vermicomposting in general – but I don’t want to bog people down with information overload here. I have little doubt that I will tweak this guide over time, especially once

I hear back from those who have read it (with suggestions, additional questions etc) – and just so you know I DO also have plans to put together a much more *complete* vermicomposting manual as well.

Feel free to [email me](#) anytime if you have any questions, comments, suggestions etc. Also, once again I'd like to encourage all those interested in vermicomposting (and wanting to receive BOM 6000 updates etc) to sign up for my [weekly newsletter](#) as well.

Thanks for your interest in the BOM-6000. Hopefully you have found this guide helpful!

Happy Worming



