# Guide to Worm bin Common Questions and Troubleshooting

## Troubleshooting Your Worm Bin

Your wormbin is a complex ecosystem, with its' own set of ecologic conditions and inhabitants. Trouble shooting a bin system is based on experience and experimenting. Think of your worm bin as an ongoing science experiment. Check it often and monitor conditions. Think about the basic habitat needs of your worms and try to figure out how the needs are, or are not being met. Here are a few common issues you may encounter with your worm bin.

## Smelly Bin!

When air doesn't get to part of the bedding, it can get really stinky. Once you experience an anaerobic (oxygen deficient) bin, you'll try your best to make sure it doesn't happen again!

A stink can be caused by a matted-down, wet layer of bedding, which stops the flow of air and oxygen. If your bedding tends to mat down, use several different kinds of bedding material together, which will help keep air spaces open. Also, try to prevent bedding from becoming too damp.

When a bad smell happens, it's important to get the material in your worm bin aired out. If there's just one offending item remove it. If it's a whole layer of the bin that smells a little bit, try mixing the bedding it to get air in there. Add more shredded paper or cardboard to promote better aeration. If the whole thing is nasty, you may just have to start again.

## A Wetland in the Bin!

We love wetlands. They help keep our water clean, are nurseries for fish and wildlife, and provide many other values. But what if you have a couple of inches of water on the bottom of your worm bin? Uh oh, red worms don't like wetland habitat!

Rescue your worms and move any waterlogged castings from the bottom of the bin. Put these in some kind of porous container (a flower pot works) to let the castings dry out a bit before using them.

Next, figure out how the excess water got into the bin. You are going to have to improve aeration:

- Did you recently add a lot of very wet waste, like an entire watermelon in rinds? (If this is the case, problem solved...remove some of those rinds and vow not to do this again.)
- Is very little evaporation happening through the bin's air holes? You can correct the problem by adding more aeration holes. Get out a drill bit and make some new holes.
- Does your bin just seem to collect moisture? Some bins, particularly plastic ones, do. To improve its aeration, add some 1/4" holes on the bottom and sides of your bin.
- Are there holes in the lid of your bin and was it exposed to rain or a leak. Get a lid with no holes in it.

Now put some new bedding in your bin and monitor conditions to see if you have solved the problem.

## Worm Crawl

Worms that are uncomfortable will try to move on to a new location. It is pretty disturbing to see your worms all over the place. This is referred to as *worm crawl.* What to do if you have worm crawl? Well, the birds in your yard may be very happy, and you will hopefully capture the survivors and try to determine what caused them to crawl!

- Were your worms new to the bin? When worms first arrive in a new environment, worms will be inclined to crawl around. It takes time for them to settle down, especially if they bedding is different from what they are used to. Leave the bin in a bright place, (light on at night) for a couple of days to encourage them to burrow down into the bedding.
- Was something awful added to the bin? Too much of something?
- Is there a source of vibration near the bin? Worms are disturbed by vibration.

Address the causes for your worms' move and they should stay put.

## Fruit Fly Invasion!

Fruit flies seem to be a vermicomposting "fact of life." When you have a lot of them, especially indoors, fruit flies can really *bug* you, flying in your face each time you open the lid of the bin!!

Fortunately, there are several things you can do to keep their numbers down. Your first line of defense is simply, try not to bring them in. Fruit flies come into the home as wee egg cocoons in the peels of fruit or vegetables. One way to kill the eggs- if you want to go to this much effort - is to either drop the skins and peels into hot water, freeze the peels, or microwave them a couple of minutes. These techniques will kill the fruit fly eggs.

Always bury your food waste several inches deep in the worm bin bedding. As one more line of defense, you can place a layer of newspaper, or a few inches of dry leaves over the surface of the bedding. These techniques help to keep any hatchlings down, and prevent the adult fruit flies from getting to the buried food, where they'd love to lay their eggs and continue their life cycle.

Finally, it you still have fruit fly problems, you can make a fruit fly trap by baiting a small jar with some cider vinegar and making a funnel with a piece of rolled paper leading into the jar. Fruit flies will be lured to a vinegary drowning.

## Eeew Maggots

If you haven't added animal proteins to your bin, then in all likelihood the maggots you are seeing will be harmless black soldier fly larvae. This type of maggot is a beneficial insect which feeds on decaying organic matter and is often seen in worm bins and compost piles. The larvae, which at first sight are rather alarming looking, will not harm you or your worms. They are effective decomposers and, like the redworms, produce

castings as they munch their way through food scraps. In fact the castings that they produce are munched by redworms! Some people use them for home composting or manure management systems, or raise them to feed birds, pet reptiles and amphibians or use them for bait.

Black soldier fly larve are plump, grey brown and about 1/2" long.

Adult soldier flies are non-biting, in fact they have no mouths! They often visit flowers in the carrot and daisy family.

If you have lots and lots of soldier fly larvae in your worm bin, your bin could get very moist as they churn through the bedding and leave less oxygen than is good for your worms. If the bin gets too moist, add more bedding. Your best tactic is to simply allow them to grow out of the larval stage (they are short term guests) and go away. If you really can't stand these larvae, you can harvest the worms and get rid of all your vermicompost material (put it in an outdoor compost pile, or bury it in the garden). Then put your worms back into fresh bedding.

## Other Critters in the Bin? Mold and Mites and Sowbugs Oh My!

**Mold and Fungi** : Molds and fungi are a natural part of the composting process, helping to break down the food waste. Mold and fungi are not a problem unless you have allergies or are sensitive to it. Mold will eventually be consumed by the worms and other organisms. If you do get a lot of mold or fungi, you may be feeding too fast for your worms to keep up with, or feeding too much acidic food. Try decreasing the feeding rate or keeping acidic foods out. If the mold bothers you, you can keep it out of sight by covering it with bedding.

**Mites:** The vast majority of the reddish or tan-colored mites you see in a worm bin or compost pile are either some species of tortoise mite, a beneficial decomposer of dead organic matter, or they are predatory mites which feed on other small invertebrates, helping to maintain a balanced ecosystem. Mite species which damage living plants are not found in the worm bin, otherwise they would not be in the worm bin as there are no plants there for them to eat! Control of mites should only be considered if your worms seem to be stressed. Mite populations can be controlled by removing the upper few inches of bedding, or by placing potato or melon wedges- fleshy side down on the bedding. This is a favorite mite food, and they will collect on the melon, which can then be removed from the system. Leaving the bin lid open and exposing the bedding surface to drying and UV light will also help reduce mite populations.

**Sowbugs:** These animals are actually crustaceans, related to shrimp and crabs! In the worm bin, they shred and eat the toughest plant materials, those high in cellulose and lignins. Sowbugs are most commonly found in the loose surface layers of your bin. Sow and pill bugs are omnivores, meaning they will feed on both living and dead organic matter. They are sometimes considered garden pests. In the worm bin they are considered beneficial organisms and help speed up nutrient recycling.