



## How to Breed Superworms

Breeding superworms is actually a very simple process and it's highly recommended if you have a lot of hungry mouths to feed. We use plastic drawer systems to raise our colonies and separate the various life cycles while others like to use regular plastic containers or even aquariums.

It is a good idea to remove the pupae into their own container until they have turned into beetles at which point, you can move them in with the rest of the beetles. It is not uncommon for the worms and beetles to nibble on the pupae - thereby killing a potential breeder. If you want to start breeding your own superworms, we suggest you start with a culture of approximately 100 worms to get a good start at it. We keep our feeding colony separate from our breeding colony just to make sure we are not dipping into our food reserves.

As discussed earlier, the worms will turn into pupae (those little alien-like creatures). These pupae after approximately 10 to 15 days, they will emerge as beetles. It is these beetles that will breed and lay the eggs. The beetles start to mate and lay eggs within several days (roughly 1 week) of pupating and will continue to do so for approximately 4 months (after which they die).

The female beetles tend to be significantly larger than male beetles. These females can typically lay up to 500 eggs throughout their lifetime. Each egg is roughly 1/20th of an inch and sticks to the substrate so chances are, you will not see the eggs - some may also lay their eggs on the egg crate or pieces of wood. The eggs hatch about 1 week after they were laid. These worms will achieve optimal growth rates when kept between 75 and 80F. Be careful when cleaning and replacing substrate/food that you do not accidentally throw out the eggs or baby worms!

## How to Get Beetles Faster

Unlike with mealworms, it may take a while longer for the superworms to turn into pupae if you leave it up to them. We like to speed the process up a bit using the method below. You will need to invest in some containers for this. We have found embroidery floss boxes, nuts/bolts drawer units or even film canisters work well. We prefer to use the embroidery floss boxes. Melt or drill a ventilation hole in each compartment and then include a bit of the substrate mixture in each. Take approximately 50 adult-sized superworms. Place one worm per compartment in the container of your choice. Do not add any food other than a bit of the substrate. Place container in a warm, dark area and leave alone for about 7-10 days. In the dark, the worm will start to curl up into a ball and then change into pupae. Remove the pupae to its own container until it has turned into a beetle. By removing it to this separate container, you prevent worms and beetles from nibbling on the pupae, thereby killing a potential breeder.

After approximately 1 to 2 weeks, the pupae will change into beetles. At this point, move them into your breeding container.

## How to House Superworms

Superworms are one of the easiest feeder insect to house and can take up very little space. Many people opt to keep their superworm colonies in:

- Small glass aquariums
- Plastic storage boxes
- Plastic storage drawer systems
- Plastic food containers

For your colony, you will want to use a container that:

Has smooth sides to prevent the worms from crawling out and escaping.

Is easy to disinfect periodically.

Allows ample ventilation and air to circulate freely to avoid the buildup of potentially harmful mold and bacteria.

For providing the necessary ventilation you can:

Use a screened lid for your aquarium.

Cut a large section out of a plastic lid (you can also cover this with mesh).

Or leave the lid off the container completely.

It's important to provide roughly 3 inches of high-quality and nutritious substrate for the worms to burrow in and eat.

Many people keep their superworms on a simple substrate of oat bran. We prefer to maximize the nutritional quality of the substrate since the superworms actually eat it.

We include a mix of: 12 grain cereal mix, baby rice cereal, rolled oats, white bran, wheat germ, red bran.

We also sprinkle in the following items to boost the nutritional quality of the substrate even further:

Alfalfa flakes dandelion flakes spirulina flakes , Bee pollen dried sea kelp tropical fish flakes

Unlike mealworms, you cannot keep superworms in the fridge - this will kill them. Superworms (at all life stages) thrive best when kept at a temperature between 80 and 85F. It's always a good idea to periodically replace and replenish the substrate as well as remove any fecal matter that has accumulated on the bottom. We do this at least every 2 months here. You should also remove on a daily basis, any dead superworms/pupae/beetles that you might see. We also include pieces of egg crate and wood for the worms and beetles to climb on in each container.

## What to Feed Superworms

As with any feeder insect, it is critical that you provide your superworms a high-quality diet. When you purchase your superworms, they are often lacking in the vitamins, minerals and nutrients that your pet needs. Feeding your insects a high-quality diet is called gut-loading and is critical to the overall health your pet - you want to ensure that you providing the maximum nutrition possible. You are what you eat!

In our discussion about housing superworms, you will have come across the substrate mixture that we like to use here. With this method our superworms are constantly gut-loaded. Some individuals though will want to raise their superworms in a basic substrate and will want to gut-load small amounts separately. This works just as well and you can use the same substrate as we mentioned. You can also mix in with your basic substrate the Ultimate Feeder Insect Diet which we highly recommend. There are also many commercial diets available. Superworms will eat the substrate that you house them in.

Providing moisture is also necessary. We like to provide moisture by using the fruits and veggies that can be found in the Ultimate Feeder Insect Diet. Some individuals choose to provide moisture with something as simple as a slice of carrot. Simply rest this slice of food on the surface of the substrate.

Be sure to remove and replace fresh fruits and veggies daily to prevent the harmful buildup of potentially dangerous pathogens such as bacteria/mold. Do not offer water in small containers/dishes. Also be sure to replace and replenish your substrate regularly.

### **How to Offer Superworms**

Superworms are one of the easiest food sources to offer your dragon and make an excellent part of a well varied diet. Many people choose to offer their pet superworms by using a small, shallow feeder dish (we like to use the small terra cotta plant saucers for this purpose). Others have used glass ash trays, jar lids etc...These methods will ensure that your gecko can see the food, prevent the food from escaping before they can be eaten and prevent your dragon from accidentally ingesting any substrate when hunting/eating is meal.

### **Other guidelines to keep in mind include:**

Never feed more insects than your dragon can eat in a single sitting (typically within approximately 15 minutes). Always place a small piece of carrot in the enclosure in the event the superworms escape before they can be eaten.

Ideally the width of the insect should be no more than 1/2 the width of the dragon head. The length of the insect should ideally be no longer than the length of the dragon head. Try and offer smaller prey items, than fewer larger ones. The smaller ones tend to be more nutritious and easier to digest. When possible, try and offer the freshly molted (white) superworms - these are also easier for your dragon to digest.

Be sure to use an appropriate vitamin/mineral supplementation schedule. Consult the vast amount of care information available regarding your pet's specific species. Make sure the superworms that you offer have been properly gut-loaded for 24 hours before being used as food.

Do not offer dead superworms as food to your dragon (although you can safely use the commercially available prepared and pre-killed superworms). Do not overfeed your dragon!

Obesity is commonly seen in dragon which can have detrimental effects on their health. Compound this with the fact that most captive dragons do not get the necessary exercise that they would in the wild and your dragon could develop health problems down the road.

Do not feed worms to your dragon that have come from a colony that has been contaminated with mold. This can lead to serious health problems - even death. Be sure to use superworms as part of a varied diet to ensure the maximum nutritional benefit to your dragon! Never feed insects that have been exposed to any sort of chemical such as insecticides, herbicides or pesticides (to name but a few).

