

## FAQs: Live Foods

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Carnivorous and omnivorous herps generally have a diet that includes a number of different food sources, including feeder insects and prey animals. It's important to know how to properly care for, choose, and deal with the live foods you give your herp because the nutritional quality of the insects will have a great deal to do with how well you take care of them. The following information covers some of the questions we see most frequently about feeder insects and prey.

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### What is the difference between mealworms, giant mealworms, superworms, and waxworms?

**Mealworms**, or *Tenebrio molitor*, are the second most widely fed feeder insect after crickets. They are the larval stage of a species of Darkling beetle, and they grow to a maximum of 1".

**Giant mealworms** are the same species as mealworms, but they have been fed insect growth hormones to increase their size and prevent them from shifting into the beetle stage. They can be up to 2½" long.

**Waxworms**, or *Galleria mellonella*, are the larval stage of the Wax moth. Because of their high fat content, they should only be fed as an occasional treat to healthy reptiles. Only reptiles that are sick or underweight should eat them regularly as part of their daily diet. Their maximum length is 1".

**Superworms**, or *Zophobas mario*, are the larval stage of the Zophobas beetle. They are also known as King worms, and they are popular with larger reptiles because they are softer and easier to digest than mealworms. They have a maximum length of 2½" to 3".

Each of these worms also has different nutritional value. The approximate values are:

Species	Protein	Fat	Calcium	Phosphorus
Mealworm	20.00%	14.90%	133 ppm	3345 ppm

<b>Giant Mealworm</b>	20.00%	14.30%	133 ppm	3345 ppm
<b>Superworm</b>	19.06%	14.19%	173 ppm	2320 ppm
<b>Waxworm</b>	15.40%	24.00%	243 ppm	1900 ppm

\* ppm = parts per million

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### What should I feed crickets and worms?

**Crickets** are omnivores, and they need a diet that is high in protein. Their daily diet can consist of [commercial cricket diets](#), fresh vegetables, chicken mash, grains, meats, cat food, and more. There are also [complete diets](#) you can purchase that will provide food, water, and gutloading all in one diet. They should have access to a food bowl at all times, and vitamin and calcium supplements should be added to their food.

**Mealworms** will actually eat their substrate, so they don't need a special diet. There are many options available for mealworm substrate including commercial [mealworm bedding](#), dry oatmeal, wheat bran, and rolled oats. You can add corn meal, maize, cat or dog food, or bone meal to the substrate for additional nutrition. Mealworms will not eat while they are in the fridge, so they should be removed once a week to warm up and eat.

**Superworms** also eat their substrate, which can be wheat bran, rolled oats, or another suitable substance. Moisture should be provided in the form of pieces of fruit or vegetables that are changed daily.

**Waxworms** that are kept in the fridge do not eat. They actually go into hibernation and live off the fat supply in their bodies.

Always remember that the insects you feed your herp are only as healthy as the food they themselves are fed. If you don't feed your feeder insects a quality diet, they will not provide the nutrition your herp needs to stay healthy.

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### What is gutloading?

Gutloading is the practice of filling feeder insects with foods that are nutritious and vitamin-rich for your herp. It helps to prevent vitamin and mineral deficiencies that can lead to diseases such as metabolic bone disease, and it ensures that the insects you feed your herp are providing the proper level of nutrients. It should be done approximately 24 to 48 hours before the insects are fed to your herp.

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### What should I keep crickets and worms in?

**Crickets** should be kept in a plastic container at least 18" high with smooth sides, good ventilation, a very tight lid, and no substrate.

**Mealworms** and giant mealworms should be kept in smooth-walled plastic or cardboard containers in the fridge. The container should have

holes in the lid for proper ventilation, and it should be filled with substrate for the mealworms to live in and eat.

**Superworms** should be kept in a plastic or glass container that has smooth sides and good ventilation, and that is easy to clean and disinfect. A faunarium or small glass terrarium with a temperature of about 80° to 85°F works well.

**Waxworms** should be kept in a plastic or glass container in the fridge. The container should have a secure lid to prevent escape, and it should be filled with an organic substrate.

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### How often should I clean the cricket or worm container?

You will have to clean your cricket's [enclosure](#) at least once a week to remove dead crickets, casings, and waste.

Mealworms are kept in the fridge, so cleaning is minimal. Substrate should be sifted every couple of weeks to remove dead mealworms, waste, and shed exoskeletons, and it should be changed immediately if it becomes damp to prevent the mealworms from dying.

The superworm container should be cleaned approximately every couple months to replace substrate and remove any accumulated waste.

Waxworms will only need their container cleaned if the substrate is damp.

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### Should I refrigerate worms?

It depends on the species; only certain worms can handle the cooler temperatures in your fridge. Mealworms and giant mealworms should be kept in the fridge, and waxworms can be. Superworms are a tropical insect, so keeping them in the fridge would kill them. Optimal temperatures for these worms are:

<b>Mealworms and Giant Mealworms:</b>	45°F
<b>Waxworms:</b>	55°F (fridge), 65° to 70°F (outside fridge)
<b>Superworms:</b>	70° to 85°F

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### How long do crickets and worms live?

**Crickets** will live from 6 to 8 weeks. A full grown adult cricket will only live for 2 weeks, and how long it takes to develop depends on the temperature in which it is kept. Crickets kept in cooler temperatures will develop slower, therefore lasting longer.

**Mealworms** can live up to several months in the fridge, but if kept at

room temperature, they will metamorphose into beetles, and they will die more quickly. Mealworms start as eggs, then hatch into the larval stage (what you feed your reptile). From larva, they change into pupas, then beetles. The entire life cycle of a mealworm is approximately one year, but keeping them in cold temperatures retards the cycle and allows you more time to feed them to your reptile.

**Superworms** can remain in the larval stage from 3 to 6 months, and their entire life cycle (egg to larva to pupa to beetle) is approximately one year.

**Waxworms** will live for about three weeks if kept in the fridge with low humidity and about five weeks if kept outside the fridge at slightly higher temperatures. Because they feed off of their own fat supplies in the fridge, you will actually see them growing smaller and smaller as the days pass.

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### **Some of my mealworms look dark or dead. Why?**

If your mealworms are stiff and dark brown, then yes, they are dead. However, if they are stiff and a dark, jet black, they are in the process of moulting. A mealworm is covered by a stiff exoskeleton that dries out and does not allow the worm to grow. When the exoskeleton is completely dried out, it turns black, and the mealworm is ready to moult, or shed the hard outside layer. Once the outer layer is gone, the softer inner layer becomes the new exoskeleton, and it slowly hardens and dries out. When the mealworm needs to grow larger, the process begins all over again. They will do this several times before pupating.

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### **What are "flightless" fruit flies?**

Flightless fruit flies are wingless *Drosophila melanogaster*. They are very small, about 1/6" of an inch in length, so it takes many of them to make up a meal. They are high in protein and low in fat and are a great addition to a varied diet for smaller herps. If kept at about 60°F, they have a slower reproductive rate, which means that you can keep them longer before feeding them to your reptile.

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### **Can I feed my herp worms or insects that are wild caught?**

There is not a simple answer to this question. While feeding different bugs and worms that you catch or that are caught by a bait shop can provide additional variety in your herp's diet, it can also expose your herp to herbicides and pesticides from the area where the prey is caught. Wild insects can also carry intestinal parasites that they can pass on to your herp. Therefore, it is safest to purchase your worms and feeder insects from a quality distributor that keeps the prey well fed and in clean cages. If you are going to feed your herp wild caught insects, make sure that they have been captured in an herbicide and pesticide free area.

There are some bugs that you should avoid, such as spiders, ticks, centipedes, scorpions, and fireflies. Fireflies are especially toxic, and just one can be enough to kill a smaller herp. Fireflies contain a self-defense toxin called lucibufagin, and it is extremely poisonous to reptiles.

Always remember that in most cases, your herp is not native to the area

in which you live, so he is not going to know which insects are safe to eat and which are toxic. Just because he likes a certain insect doesn't mean that eating that insect is safe. Always do research and check with your veterinarian first. If you aren't sure if the insect is safe, don't feed it to your herp.

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### What is "dusting?"

Dusting refers to when you cover your herp's prey with [calcium or vitamin supplement powder](#) to make them more nutritious for your herp. It is necessary to increase the calcium content of insects, and it helps to prevent Metabolic Bone Disease.

The frequency with which you will dust your herp's prey depends on the species, the age of the herp, and the health of the herp. If you are dusting insects, put the insects in a container (a special feeding container, a plastic bag, etc), pour in some of the supplement, and gently shake the container to coat the insects.

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### Can I feed my herp live mice or rats?

We highly recommend that you only feed pre-killed, [frozen prey](#). There are many reasons that feeding live prey is not safe, including:

- The live prey could be too active for a juvenile reptile, and he wouldn't be able to catch the prey.
- The live prey can attack your reptile, scarring and disfiguring him.
- If your reptile is attacked by his prey, he may not want to touch prey in the future, live or pre-killed.
- Live prey can fight back during feeding, which can cause injury to your reptile's mouth, eyes, and tongue.
- A rat could actually kill a snake, either with an attack during feeding or by gnawing on him if it is not eaten right away.

Many reptile owners think that their reptile needs the live prey for mental stimulation, but a properly set-up and accessorized habitat will provide the mental stimulation your reptile needs. For the safety of your herp, stick to pre-killed prey.

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### Do I absolutely have to feed my herp live bugs?

Though there are some reptiles that will accept freeze-dried, [roasted](#), or canned bugs, it is better for the reptile to have live bugs. Eating live bugs is natural, necessary behavior, and the variety in a diet that live bugs provide is important for your herp's overall mental and physical health. If you aren't prepared to feed a herp his natural diet, then a herp may not be the best pet for you.

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### How many crickets or worms should I feed my herp?

How many you should feed depends on a number of factors, including the species and his size, age, and health. Other considerations are what kind of insects you are feeding and how often your herp eats. The amount you should feed each meal varies widely, and you will have to research your species and consult with your veterinarian to come up with the best diet plan.

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### How do I give insects, worms, or pre-killed prey to my herp?

There are several methods you can use to feed your herp, and what you do will depend both on your herp and what you are feeding.

#### **Pre-killed mice, rats, and other prey:**

You can hold any pre-killed prey with [hemostats](#) or forceps by the base of the tail and dangle or move it around to encourage a feeding strike. Moving it around creates the illusion that it's alive, but still allows you the safety of feeding pre-killed prey.

#### **Worms:**

Worms can be put in the enclosure in a [shallow feeding dish](#) or held individually with hemostats and fed to your herp. We do not recommend that you put them directly in the tank without a dish, as this will result in your reptile ingesting substrate.

#### **Crickets:**

Crickets can be placed directly in the enclosure, but make sure that you also place a food source for them in the habitat as well. Crickets that are not eaten immediately and do not have their own food source are likely to view your herp as their food source and start nibbling on him. You will also need to place a rock in the water dish so the crickets can climb out rather than drown and foul your herp's water source.

Crickets can also be dangled by a back leg one at a time with forceps.

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### Where can I get live crickets and worms?

You can purchase live, farm fresh [crickets](#) and [mealworms](#) from Drs. Foster and Smith. Other types of worms should be purchased from reputable breeders and distributors, or you can breed your own.

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