

# Who Eats What Chart

By **Timberline**  
Nature. Nurture. Nutrition.

a starters guide to insect nutrition and feeding select insectivores

## Cricket (Acheta domestica)

The common brown cricket is a light brown color, has long antennae, wings, and large jumping legs. Brown crickets are a popular feeder insect for birds, reptiles, amphibians, scorpions, tarantulas, and other pets. They are high in protein and require only a moderate amount of upkeep. Since they are nutritious and sold in 10 sizes from Timberline they make an excellent staple food source for any size animal.



## Waxworms (Galleria mellonella)

Waxworms are the creamy white grub-like larvae of the Greater Bee Moth. Because of their high fat content, Waxworms should not be used as a staple food in an animal's diet. Waxworms are great as an occasional treat or to add fat to a finicky animal's diet. At the stage of their life in which they are sold, waxworms do not require any additional food source. Timberline sells waxworms in one size.



## Flightless Fruit Flies (Drosophila Melanogaster & Hydei)

Flightless Fruit flies are an easily cultured prey item for reptiles and amphibians that need smaller foods. Drosophila melanogaster is a smaller, faster reproducing species, taking about 14 days to complete its life cycle. Drosophila hydei is a larger species which takes longer to mature, taking about 21 days to complete its life cycle. These larger flies are about 1/8" long, and great for mantids or newly hatched chameleons.



## Mealworms (Tenebrio molitor)

Mealworms are the brown worm-like larvae of mealworm beetles, a species of the darkling beetle. Mealworms are a popular feeder insect for reptiles, bluebirds, chickens, fish, and many other animals. They are high in protein and fat and are easy to maintain. Mealworms are available in 5 sizes from Timberline.



## Hornworms (Manduca sexta)

The hornworm is the larval (caterpillar) stage of the sphinx moth, Manduca sexta. Hornworms are packed with calories and nutrients. A large tomato hornworm has the mass of approximately 20 crickets. If you need to put weight on your herd, tomato hornworms are a good addition to their diet. Timberline sells hornworms in three sizes small, medium and large.



## Red Wigglers and Nightcrawlers

Red Wigglers and Nightcrawlers are a great food source for turtles, amphibians and freshwater fish. Red Wigglers are 3-4 inches long and Nightcrawlers are much larger, around 4 to 5 inches. These worms are very similar in their nutritional makeup.



## Superworms (Zophobas morio)

Superworms are the black and brown worm larvae of the darkling beetle. Native to tropical Central and South America they are a very popular food item for reptiles. With less chitin (exoskeleton) than the common mealworms, Superworms are easier for animals to digest. Superworms are available in 3 sizes from Timberline.



## CalciWorms® (Hermetia illucens)

Although not intended to feed as a sole ration, CalciWorms® are premium feeder insects that are naturally high in calcium. Very similar to waxworms in texture, CalciWorms® are the direct result of the need for a nutritious live food source that is naturally high in calcium. The naturally high calcium level in CalciWorms® reduces the dependency on gut loading and dusting for calcium. Timberline sells CalciWorms® in one size.



## Timberline Reptile Salad

Reptile Salad is a fresh mix of vital veggies designed for herbivores and omnivores alike. Great for a variety of animals, Reptile Salad contains; kale, red endive, dandelion greens, leaf lettuce and fresh cut nopales cactus. Packaging for Reptile Salad is unique because it has the oxygen flushed out to give the product a longer shelf life. Reptile Salad must be refrigerated and is the perfect offering for reptiles and tortoises needing a variety of mixed greens and veggies.



### Cricket Nutritional Analysis\*

Protein	17.0%
Fat	6.0%
Fiber	4.0%
Moisture	76.0%

### Mealworm Nutritional Analysis\*

Protein	17.0%
Fat	8.0%
Fiber	2.0%
Moisture	70.0%

### Superworm Nutritional Analysis\*

Protein	17.0%
Fat	10.0%
Fiber	2.0%
Moisture	68.0%

### Waxworm Nutritional Analysis\*

Protein	12.0%
Fat	16.0%
Fiber	2.0%
Moisture	65.0%

### Hornworm Nutritional Analysis\*

Protein	10.0%
Fat	2.0%
Fiber	3.0%
Moisture	85.0%

### CalciWorm® Nutritional Analysis\*

Protein	17.0%
Fat	6.0%
Fiber	4.0%
Moisture	76.0%
Calcium	2.0%
Phosphorus	0.4%

### Fruit Fly Nutritional Analysis\*

Protein	20.0%
Fat	2.0%
Fiber	3.0%
Moisture	60.0%

### Red Wiggler Nutritional Analysis\*

Protein	11.0%
Fat	2.0%
Ash	1.0%
Moisture	84.0%

### Nightcrawler Nutritional Analysis\*

Protein	10.0%
Fat	2.0%
Fiber	2.0%
Moisture	84.0%



## Bearded Dragons

Bearded Dragons occur naturally in the desert regions of Australia and were introduced to the United States in the late 1980's. Bearded Dragons are omnivores and can eat a variety of things. A normal diet will consist of insects, mixed greens and non-citrus fruit. When feeding insects be sure to provide the animal with insects that are near the same size as the space between their eyes. Avoid feeding insects that are too large for the animal.

Young Bearded Dragons will require a diet with more insects than vegetables. Bearded Dragons should be fed three times per day and given as many insects as they will consume in 10 to 15 mins. After the feeding time is done it is best to remove as many remaining insects as possible. A typical juvenile can eat 20 to 50 insects each day. Adults will consume more greens than insects, fresh greens should be introduced daily. When using supplements such as waxworms, or Calciworms® dragons should be fed 3 to 5 worms 3 times a week. Waxworms are intended to be used to add fat to a dragons diet or the occasional treat and CalciWorms® are used for adding the required calcium to a diet. Water should be offered to Bearded Dragons at all times and placed in a shallow dish.

### Staple Diet:

Crickets, Mealworms, Superworms, Hornworms and Mixed Greens (Timberline Reptile Salad)

### Supplement:

Waxworms (to add fat) and CalciWorms® (to add calcium in a natural method)



## Crested Geckos

Crested Geckos were thought to be extinct until 1994 but now they are very popular in the captive reptile trade. Originally from the New Caledonian Islands near Australia, Crested Geckos make excellent pets as they are extremely hardy and easy to keep. Crested Gecko diets are not restricted to insects alone, there are many commercial diets available for them and they enjoy many types of fruit as well. Most breeders will agree that the best diet plan for a Crested Gecko will be a mixture of commercial diets and insects such as appropriately sized crickets. Insect size should be the same as the width of the geckos head.

When feeding a commercial diet please make sure to follow the directions carefully. Crickets should be fed a couple times a week and do not overfeed with crickets, extra crickets in the cage can stress the gecko out. When using supplements such as waxworms, or Calciworms® Leopard Geckos should be fed 3 to 5 worms 3 times a week. Waxworms are intended to be used to add fat to a geckos diet or the occasional treat. Crested Geckos will quickly become spoiled on waxworms and may refuse other foods so use them sparingly. CalciWorms® are used for adding the required calcium to a diet, calcium is very important so offer CalciWorms® 2 to 3 times week. A small water bowl should also be offered. Make sure this is not deep as babies can easily drown if they fall in. Spray the cage with water once or twice a day, Crested Geckos tend to be more active after spraying.

### Staple Diet:

Commercial Diets and Crickets

### Supplement:

Waxworms (to add fat) and CalciWorms® (to add calcium in a natural method)



## Uromastyx

Uromastyx are a genus of lizard in the agamid family with at least 18 different species officially recognized. Native species inhabit a discontinuous range stretching through most of north Africa, the middle east and across south central Asia to the Indian subcontinent. These lizards occur at elevations ranging from sea level to more than 3,000 feet but are generally found in very arid regions where temperatures can reach over 120°F. Uromastyx are omnivores but are unable to process large amounts of animal protein, excessive amounts can lead to kidney failure and death. Uromastyx should be fed mostly greens, vegetables and fruit.

With the majority of a Uromastyx diet being various green plants it is important that they be chopped up and presented daily like a mixed salad. Place the food in a shallow bowl a short distance from the basking site so its easily visible but not right in the hottest spot. Uromastyx enjoy seeds and they are a good source of protein for them. When feeding insects, it is suggested to only feed one or two per week. Waxworms can be used to add fat to the diet if the animal requires it, but they should be used sparingly. Calcium is very important to Uromastyx' and a natural way to provide them with it is to offer CalciWorms® two to three times per week. No water bowl is necessary, Uromastyx will get the necessary water from their food by lightly misting it.

### Staple Diet:

Greens (Timberline Reptile Salad), Vegetables and Fruit

### Supplement:

Crickets, Waxworms (to add fat) and CalciWorms® (to add calcium in a natural method)



## Tortoises

There are many varieties of Tortoises for sale in the pet trade. South American species include the Red Foot, Yellow Foot and Radiated which are native to south and central America. Mediterranean species include, the Herman's tortoise, the Greek tortoise and the Golden Greek Tortoise. Eurasian species include the popular Russian tortoise and the Indian Star tortoise. African species include the African Spurred tortoise and Leopard Tortoise. All tortoises in these groups are herbivores and should be offered a diet of mixed green leaf vegetables 90% of the time. The other 10% should be fruits and vegetables.

Tortoises should be fed daily, using a mix of greens, vegetables and fruit. A few items that can be included are, dandelion greens, cabbage, kale, clover leaves, parsley, carrot tops, leaf lettuce, coarse mixed greens, flower heads and natural fodder plants. Fruits and vegetables to be offered include, tomato, mango, cauliflower, apple, pineapple, melon (red, orange, white), pear, red and green sweet peppers, zucchini and cucumber. Its important that tortoises have enough water to stay hydrated and healthy. Water should be offered in a shallow tray or dish and should be shallow enough so that the tortoise can easily stand and place its head without being completely submerged. Replace the water daily as fresh water is very important.

### Staple Diet:

Mixed Greens (Timberline Reptile Salad) and Nopales Cactus (Timberline Reptile Cactus)

### Supplement:

Calcium supplement

## Leopard Geckos

Leopard Geckos are native to desert areas in Afghanistan, Iran, Pakistan and parts of India. They are nocturnal lizards and have been in the pet trade since the late 1970's. Leopard Geckos are strictly insect eaters so no greens are required. Leopard Geckos should be offered two appropriately sized insects for every inch of their total length every other day. Appropriately sized mealworms should be offered in a small dish, crickets will not require a dish. Be careful not to offer to large of food to prevent choking.

Baby Leopard Geckos should be fed 5-7 small crickets or mealworms every day until they reach about 4 inches. Larger food should be offered every other day until they become full grown in about 10-12 months. Adults can be fed 6-7 large crickets or mealworms 2 to 3 times a week. When using supplements such as waxworms, or Calciworms® Leopard Geckos should be fed 3 to 5 worms 3 times a week. Waxworms are intended to be used to add fat to a geckos diet or the occasional treat, Leopard Geckos will quickly become spoiled on waxworms and may refuse other foods so use them sparingly. CalciWorms® are used for adding the required calcium to a diet, calcium is very important so offer CalciWorms® 2 to 3 times week. A shallow dish of fresh water should be available at all times.

### Staple Diet:

Crickets, Mealworms, Hornworms and Superworms

### Supplement:

Waxworms (to add fat) and CalciWorms® (to add calcium in a natural method)



## Chameleons, including Veiled, Panther and Jackson

The Veiled Chameleon is a relatively large chameleon species originally from Saudi Arabia and Yemen in the middle east. In its natural range, the Veiled chameleon lives in coastal mountain slopes which experience significant rainfall and some live in slightly more arid areas with year round water and vegetation. Panther Chameleons are native to Madagascar and are able to turn a variety of colors depending on their locale or area from which they originated. Jacksons Chameleons are native to Africa and are found in three varieties, the seldom seen Chamaeleo jacksonii jacksonii, the C.j. merumontana and the C.j. xantholophus. Chameleons should be fed a staple diet of crickets and mealworms although crickets are preferred as chameleons are active hunters and exciting to watch hunt. In general, crickets should be as long as the width of the chameleons head. Baby chameleons can be started on a diet flightless fruit flies.

Baby and juvenile chameleons should be fed twice a day and have almost constant access to food. As they get older, they can be fed less often with adults being fed every other day. Calcium is very important to promote proper growth and health. As babies and juveniles, supplement with CalciWorms® 3 times a week for proper calcium needs. As adults, decrease to once or twice a week. Waxworms are intended to be used to add fat to a chameleons diet or the occasional treat. Being arboreal, chameleons do not typically encounter standing water like found in a typical water dish. They drink water from morning dew and rain that has fallen onto leaves. It is important to mist enclosures with a spray bottle twice a day for two mins. Chameleons will lap up water from the leaves. Drip systems are also good for sources of water for chameleon enclosures.

### Staple Diet:

Crickets, Mealworms, Superworms, Flightless Fruit Flies and Hornworms

### Supplement:

Waxworms (to add fat) and CalciWorms® (to add calcium in a natural method)



## Box Turtles

Ornate box turtles have one of the largest natural ranges of any box turtle species occupying nearly all of the American midwest. Ornate box turtles are easily identified by their dark brown carapace with bright yellow markings radiating from the upper posterior section of each coastal shield. Ornate box turtles are omnivorous and enjoy both plant and animal protein. Many breeders and experts agree that a proper balanced diet is around 60% animal protein and 40% plant matter.

For animal protein Box Turtles enjoy crickets, mealworms, superworms, hornworms or earthworms, all will make excellent sources of protein. To provide plant matter to the diet it is suggested to use mustard greens, collard greens or dandelion greens. To round out the plant matter offering, leaf lettuce and kale are suggested. Calcium is very important in the diet of the Box Turtle and a natural way to provide the needed calcium is to offer Calciworms®. Calciworms® should be offered 3 to 5 times a week. Additional supplemental insects are Waxworms, Waxworms are intended to be used to add fat to a turtles diet or the occasional treat. Box Turtles need lots of clean water and their supply should be changed daily.

### Staple Diet:

Crickets, Mealworms, Superworms, Hornworms, Greens (Timberline Reptile Salad) and Fruit

### Supplement:

Waxworms (to add fat) and CalciWorms® (to add calcium in a natural method)



## Tarantulas

Tarantulas are often considered a low maintenance pet with many varieties available. The more common species available in the pet trade are Mexican Red Knee, Mexican Painted Redleg, Mexican Fireleg, Curly Hair, Greenbottle Blue, Brazilian Black, Stripe Knee and Chilean Rose. The one commonality among these species are their diets, all are insectivores and specifically cricket eaters although they will eat mealworms, superworms and Flightless Fruit Flies too. A good rule of thumb is to offer insects that are half the spiders legspan or slightly smaller than the length of their body.

Feeding a Tarantula everyday will allow it to grow very fast. However, offering food every 4-7 days for young spiders and 7-10 days for larger spiders is a reasonable regimen. Young spiders will keep eating until they are full, but this is not the case with adults. Adults spiders may only eat once a month, pay attention to their abdomen it should not be overly large or impede their ability to move. Do not feed freshly molted spiders for up to two weeks. Waxworms are intended to be used to add fat to a spiders diet and because they do not have bones like reptiles they do not require any calcium. Although Tarantulas get water from their food it is still necessary to provide them with a small shallow dish full while in captivity.

### Staple Diet:

Crickets, Mealworms, Superworms, Hornworms and Flightless Fruit Flies

### Supplement:

Waxworms (to add fat)



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