

Iguana Nutrition

Iguanas are vegetarians, specifically, they are called *folivores*. This means that they consume primarily leaves in their natural environment. They are also *hindgut fermenters*, which means that they require microbes to ferment the high-fiber foods they ingest before the nutrients may be utilized. This is similar to how ruminants (hoofstock with four stomach compartments, such as cows) digest food. This process of digestion requires a high body temperature, and for this reason, wild iguanas will usually bask for about four hours in the morning to elevate their body temperature prior to foraging. Studies of wild iguanas have shown that adult iguanas, by basking in the sun, will maintain a body temperature between 96.8 degrees F and 98.6 degrees F. It is probably not coincidental that iguanas utilize a temperature range that is very similar to that of mammalian hindgut fermenters, considering that the microorganisms responsible for fermentation do their best work in that temperature range, regardless of which animal they are renting space from.

Once an iguana is warmed up from the morning basking session, it will leave its basking location (usually a tree limb), to go foraging on the ground or in nearby trees or shrubs. Studies of wild iguanas have demonstrated that they eat leaves, fruit, flowers of selected herbs, shrubs, trees and vines. Dietary diversity does not occur on a daily basis, as stomach contents of iguanas studied usually consisted of one or two species of plant species, and they tended to consume less common plants and seasonally available foods, and not more abundant, common plants.

It has been written (incorrectly) in older literature that baby and juvenile green iguanas were omnivores (meaning that they consume both plant and animal material) or partial insectivores. It has now been proven that young iguanas are folivores (a type of herbivore), and they continue to be plant-eaters throughout their lives. However, wild iguanas may occasionally eat carrion, insects and they may even cannibalize hatchling iguanas.

Although iguanas are supposed to be herbivorous, that does not mean that they will not develop a taste for inappropriate food items. I have known pet iguanas that would popcorn, hotdogs, monkey biscuits, dog food, insects, cheese, eggs, pinky mice, and even peanut butter. Feeding an iguana anything but vegetable matter or commercially prepared iguana diets should be strictly forbidden. Why can't they eat monkey biscuits or dog food? Monkey biscuits are designed for non-human primates, and not green iguanas. Recently, one major manufacturer of a primate biscuit increased the levels of vitamin D₃ in them, which makes them even more dangerous of a food item for herbivores (and birds, for that matter.) Vitamin D₃, in excess, will cause mineralization of internal organs, and will ultimately cause death. The protein and fat levels are also too high for an iguana. Dog food, which is often incorrectly suggested as a food item for iguanas, is often readily consumed by them. The high meat protein content is an inappropriate nutrient for iguanas. Iguanas are adapted to consume plant source proteins almost exclusively. Gout and other nutritionally related diseases will occur if iguanas are fed diets high in these items. Pet store personnel (and even some misinformed vets) may continue to recommend feeding hatchling green iguanas monkey biscuits and dog food, but this is very poor advice.

So, now we know what we shouldn't feed them. Let's go on to discuss what constitutes an appropriate diet for them. First, hatchlings, and iguanas measuring up to 14 inches in length should be fed finely chopped food twice daily. Many novice owners make the

mistake of offering food that is too coarse for babies to easily eat. A food processor or hand-held grater works well to reduce food items to pieces small enough for a hatchling to swallow. Another advantage to a chopper or grater is that it is possible to make a homogenous mixture of foods to ensure that the little guys can't pick and choose what they want out of the mix. Older iguanas, up to three feet in length, can be fed medium chopped food once daily. Adults over 2 ½ years of age (or over three feet in length) can be fed coarsely chopped food every other day. Make sure all foods are washed thoroughly, then chopped and mixed.

Baby iguanas grow so very rapidly that any deficiencies or excesses in the diet may quickly result in a deformed and ill lizard. It is important that the hatchling be offered a correct and balanced diet right from the start to avoid future problems.

A high percentage of the diet should consist of dark-green leafy vegetables, to closely simulate the leaves that wild iguanas consume. Eighty to ninety percent of the diet should consist of two from this list: collard greens, turnip greens, mustard greens, bok choy, Swiss chard, clover, red or green cabbage, watercress, savoy, kohlrabi, dandelions, escarole, parsley and alfalfa pellets. Beet greens and spinach contain oxalates that may bind dietary calcium, so to play it safe, offer these greens only occasionally. The same goes for kale, Brussels sprouts, broccoli, cabbage and cauliflower because these bind iodine and may result in goiter. Although these nutrient antagonists will only cause problems if fed in excessive amounts, or exclusively, providing variety to the diet is the best thing that you can do to ensure that your iguana does not develop any nutritional deficiencies or diet-related diseases. Be aware that the darker, outside leaves of most vegetables are more nutritious than the more pale, inside leaves.

Ten to fifteen percent of the diet should be chosen from this list: frozen mixed vegetables (which are a boon on those days when you are in a hurry), squash, sprouts, carrots, cooked sweet potato, cucumber, okra, parsnips, spineless cactus pads, asparagus, mushrooms, green and red peppers, peas, beans, corn and green beans. Backyard weeds and grasses can be offered as forage. Fruit should make up the remainder of the diet. Fruits are usually preferentially eaten, but are generally mineral-poor. For that reason, fruits can be used as a top-dressing, or to increase the palatability of the mix for the finicky lizard. Papaya, mango, apple, peach, pear, plum, strawberry, banana (with the skin), raspberry, melon, tomato, grape, raisins, star fruit, kiwi, blueberry and guava may be fed, taking advantage of seasonal produce. Figs are one of the only fruits high in calcium, and these, along with apricots and dates, may be relished. Whole grain breads or natural bran cereals can be offered sparingly, or in place of grains, commercially prepared iguana food can be fed. Canned or dry commercial iguana diets do have their place in diets of iguanas, and really come in handy for those days when the refrigerator and freezer are empty or when you don't have time to prepare the daily smorgasbord. Occasionally, they may be used as the entire daily diet, but it is better to offer a commercial diet in addition to the normal fresh diet. Light green lettuce, including iceberg, romaine, butter and Boston, are poor nutritionally, but often relished. If fed at all, these should be fed very sparingly.

As treats, hibiscus flowers and leaves, rose petals, geranium flowers, nasturtiums, carnations and dandelions can be fed. Live food is not necessary for green iguanas. Some enjoy crickets, meal worms and pinky mice, but these sources of animal protein are poor dietary items for this species, and should be fed extremely infrequently, if at all, even if they seem to consume these with relish.

Some iguanas do develop serious food preferences, and iguanas that don't eat at least ten different food items regularly are much more likely to develop metabolic bone disease than those that are less picky. If your iguana seems to prefer and pick out specific items, try to prevent it from developing bad eating habits. Once an iguana has developed bad habits, it may be difficult to break it of them. Rotate dietary items and make a salad mix that is difficult for the iguana to pick single items from easily. I have seen iguanas that would eat nothing but soaked monkey biscuits, and these iguanas suffer from a variety of serious, even life-threatening, maladies. You wouldn't allow you child to choose her own diet, since we know she would pick cake, ice cream and candy bars, so we cannot allow a finicky iguana to manipulate an owner in to caving in and providing what is known to be inappropriate and even dangerous diet.

Iguanas require a diet higher in calcium than phosphorus, and food items and supplements offered should have a positive calcium to phosphorus ratio. Foods and supplements with phosphorus (and no calcium) and vitamin D₃ should be avoided to help avoid metabolic bone disease and hypervitaminosis D.

Most iguanas obtain the majority of their dietary water from the moisture contained in the diet. For this reason, make sure that you feed some juicy, moist food items daily, or soak dry pelleted iguana diets. Of course, offer a large pan of water for soaking daily, or place the iguana in a separate tub for soaking. Most iguanas relieve themselves in water, which facilitates keeping the cage clean.

Deciding whether or not to provide a vitamin and mineral supplement is something that should be discussed with your reptile veterinarian, based on the evaluation of your pet's diet, food preferences and growth rate. It is possible to oversupplement an iguana with some vitamins and minerals, which can result in clinical disease.

Knowing what we do today about the nutrition of green iguanas, it is much easier to provide a good, balanced diet for all stages of their lives. Of course, we all should remain open-minded regarding diet, as likely there will be changes in the recommendations of food items as we learn more about these beautiful, fast-growing lizards.



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