

Feeding a Green Iguana

There are a large number of foods that can be fed to an iguana. As with people, some foods are really healthy and good to eat as a staple food, some are good in smaller amounts, and others should only be eaten on occasion as a treat. When formulating a diet for your ig, compare it to what you know of a healthy diet for people. Marrows, pumpkin and green beans are all very healthy foods and part of a nutritious, balanced diet for anybody. However, eating only these foods for a long time would not be healthy for a person, and would result in signs of vitamin, mineral or major nutrient deficiencies. It is exactly the same for your iguana. Providing a wide **variety** of foods at the appropriate frequencies and in appropriate amounts is one of the best ways to help your iguana grow and develop optimally.

Iguanas are herbivorous, which means their diet consists entirely of plant material – leafy **greens, vegetables and fruit**. Each of these 3 groups should make up a certain proportion of the diet.

- Greens are important because they provide fibre, or roughage, which is very important in these lizards. They also contain valuable vitamins and minerals. Greens should make up 40-60% of a healthy iguana diet.
- Vegetables provide protein and energy. They are more nutrient dense than greens, and are also more filling. Veggies should make up 40-60% of the diet.
- Fruits are high in some vitamins, but with their very high water content, they are not rich in most of the nutrients your ig needs. They do, however, help add colour and variety, making food more attractive to your ig. Fruit should only make up about 5% of their diet.

An iguana in the wild will take in the foods they eat as they are found in the wild. This means that your ig is adapted to eating all his foods **raw** and fresh, and so this is the best way to serve them. Cooking vegetables and greens destroys a lot of the vitamins and drastically changes the nutrient composition of that food. It is fine to microwave the harder veggies like butternut and pumpkin for a brief period to soften them, and some sources say it may improve the digestibility of these harder veggies, but it is not necessary, and some igs will reject the cooked veg, even if it is a favourite when raw. If one is planning on serving ones ig cooked veggies, it is preferable to ensure that most of the diet is served uncooked.

One of the most important things to consider when putting together a healthy diet for your iguana is the **calcium** level in the diet. Calcium performs a number of important functions in the body, one of these being the formation of healthy, strong bones as the ig grows, and the maintenance of this stable skeletal structure throughout life. Calcium does not, however, function alone in the body. It is influenced by a number of other things in the diet, the first of which is phosphorus. While it is also an essential mineral, **Phosphorus** tends to bind to calcium, and basically make it unavailable for use in the body. It is therefore important to ensure that the overall diet contains more calcium than phosphorus. The way to think of this is in terms of the calcium to phosphorus ratio (**Ca:P**). If Ca:P is more than 1:1, there is more calcium in the food relative to

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phosphorus. The ideal Ca:P ratio for a diet would be 2:1. This can be achieved by balancing out foods in the diet that have a low Ca:P content, with foods that have a high Ca:P ratio, as well as by the addition of calcium supplements to the diet. By doing the latter, one not only ensures that there is a good Ca:P ratio, but also makes certain that the actual amount of Calcium is sufficient.

Another factor influencing free and therefore useful levels of calcium in the diet is a factor called oxalic acid, or **oxalates**. This is a compound that is found in varying levels in different fresh foods. It also binds to calcium in the food and makes it unavailable, so even a food with brilliant calcium levels, and an excellent Ca:P ratio, will actually not supply the body with much useful calcium if the oxalate content of the food is very high. It is important to balance the diet in terms of oxalate content in the same way as one would balance Ca:P ratio of an overall diet. It is fine to feed some foods with a higher oxalate level, if one feeds other foods with low oxalates, and ensures there is plenty free calcium available to the ig.

Another factor that is important for the absorption of calcium once it has been ingested is the presence of adequate levels of active **Vitamin D**. Vitamin D is found in the food igs eat. The form that is ingested, however, is not in the active form, and cannot help calcium uptake. Ingested Vitamin D can only be activated if the ig has been exposed to sufficient UVB radiation. This means that while adding extra vitamin D to the diet may help your ig, it can only be of benefit if it is activated by sunlight or an effective UVB light. A high fat intake will also influence calcium metabolism in the body, as it will prevent calcium uptake.

Something that is essential for every ig is a **calcium supplement**. These boost the amount of free calcium in the diet, and will help avoid a calcium deficiency if a diet is not very well balanced. Most calcium supplements contain calcium gluconate, which is used best by the igs body, but you may come across other calcium compounds. When selecting a calcium supplement, bear in mind that a long term insufficiency of calcium in the diet can cause serious health problems, most commonly a syndrome called metabolic bone disease. It is thus important to make sure you use a good quality calcium supplement. Ensure that the product you select contains little or no phosphorus. Also do not be fooled by labels claiming to be better because they contain Vitamin D. It is better to have more calcium in the supplement than to have a supplement with less calcium, but that also contains Vitamin D. Although it is not a harmful substance most of the time, especially since Vitamin D is not well absorbed from the igs gut, it is possible that an ig can get too much vitamin D, which will cause signs of toxicity. For this reason, it is unnecessary and potentially dangerous to supplement Vitamin D.

It is recommended that calcium supplement is given to hatchlings at least 3 days a week, though 7 days is better. Frequency can be reduced as the ig grows older, with adults getting supplement at least once a week. Powdered supplements are to be mixed into the food to dilute the powder out and ensure your ig doesn't avoid his food because it is covered in a thick layer of dry stuff. Just remember that too much of anything is not a good thing. This applies to calcium supplements as well. It is possible to over-supplement with calcium. This can cause health problems that are just as serious as those resulting from a calcium deficiency. Sprinkling powder onto your food and mixing it in is the best measure – if, once you have mixed it in, you can still see the powder, you have put in too

much supplement. Once-off this is not a problem, although your ig may refuse to eat it, but if this is done too often, your ig may suffer from hypercalcemia.

There is one other Mineral that may need to be supplemented: **Vitamin B1 – Thiamine**. Supplementing Thiamine will only be required if your ig gets a lot of frozen food, with a lot meaning that it is fed mostly frozen foods for a relatively long time. A thiamine deficiency may cause signs that can easily be confused with those of MBD, and this must be remembered if an ig becomes ill with such signs, but has good calcium balance in the diet. Thiamine is found naturally in the foods you will feed, but is destroyed when food is frozen. Thiamine can be found at a pharmacy or health store as a human supplement.

When considering the beneficial elements that your igs foods contain, one must also consider the elements that may be detrimental. These elements are called secondary **plant compounds**. One of the most important compounds to consider is oxalic acid, or oxalates, which have already been mentioned.

Goitrogens are compounds that bind iodine in the diet, and over time, can result in an iodine deficiency called hypothyroidism, or goitre. Plants containing goitrogens mainly belong to the Brassicaceae family, such as cabbage and cauliflower. One doesn't need to totally avoid foods containing goitrogens, so long as these foods are fed in limited amounts and not excessively often. It is preferable that one does not try to supplement iodine, as it is very easy to cause iodine toxicity by doing so.

There are a number of other compounds with detrimental effects when fed too much and too often, but these 2 are the most important, and if a sufficiently varied diet is fed, and one does not feed any food more often than guidelines specify, these compounds should not be problematic.

There are a number of **commercial diets** on the market that have been formulated for iguanas. These diets take the form of compacted pellets and provide an owner with a quick, easy way to feed an ig without all the effort of selecting foods, preparing a salad and adding supplements. While feeding such diets is not a definite no-no, feeding only a commercial diet is not recommended. The most important concern is that although the packages claim the diets are fully balanced, they are most often too high in proteins, low in calcium (and the calcium that they do contain is not necessarily digestible) and high in fat (which will prevent optimal calcium uptake). The protein that is in these foods is often also animal rather than plant protein. It is suggested that if one decides to feed a commercial food as part of an igs diet, it is given as a treat, an emergency food or makes up only about a tenth of the igs total diet. Most iguanas will not immediately see these pellets as food. It may take time for them to adjust to the pellets, and although most igs will eventually relent and eat the commercial diet, some may decide they would rather starve than eat the pellets. While it is fine for igs not to eat for a short time while you convince them to try the pellets out, one cannot starve an ig to death in order to convince them to eat an unnatural food. Some igs may never accept a commercial diet. Remember that hatchlings don't have extensive body stores, and cannot survive for very long without eating. Although adult igs can go for far longer without eating, starving an ig can damage its liver, and make for a very unhappy, unfriendly ig.

When selecting a commercial food, choose one that has alfalfa or hibiscus as its main ingredient, with no animal proteins, and avoid those with high corn, soy, wheat, oil and grain contents. Also avoid feeds containing plants high in secondary plant compounds. A commercial diet will contain very little water. Igs are adapted to getting much of the water they require from the food they eat. If the food is dry, they are at risk of becoming dehydrated over time, which can damage the kidneys. To help reduce this problem if one does use commercial foods, one can moisten the pellets with water. Not only will this increase the water content of the food, but will also soften the rough, hard pellets, and reduce the chance of your ig's mouth being injured by sharp, hard pieces of food.

Not only does one need to know what foods are ok, good or excellent for your ig, but one also needs to know what foods can cause serious health problems. There are a number of groups of foods that should be **avoided**:

- Non-iguana pet foods
- Fatty foods
- Salty and spicy foods
- Oily food
- Foods with a high sugar content
- Alcohol
- Caffeine
- Theobromine (in tea and chocolate)
- Protein of animal origin, including dairy

Also avoid avocado, and other plants known to be toxic to mammals such as bracken fern. Before feeding any plant not specified as safe for ig's by a trusted source, ensure that it is not harmful for ig's. If uncertain, it is best to avoid feeding the plant in question, and if you do, feed only small amounts.

Iguanas are herbivores. They should not be fed insects or any **animal protein** whatsoever. There are those who argue that in the wild, an ig will take an insect now and then, or even a young mouse or bird, and thus should be fed these things in captivity as well. However, their bodies are adapted to a strictly herbivorous diet, and although the accidental ingestion of a bug or two will not harm your ig, and they may even actively pursue a bug at times, animal (including insect) proteins will, over time, damage your ig's kidneys and seriously reduce their lifespan.

As hatchlings, ig's must be **fed every day**, but adult ig's in good condition will be fine if a day or two are skipped (Though daily feeding is best). Most ig's will eat best in the morning, but may eat several times a day if they have free access to fresh food. Most people will feed once in the morning, whether enough food for one large feed, or enough food for the ig to pick at throughout the day. More than one feed a day is not a problem though. The only time feeding should be avoided is at night, or soon to "lights-out" time. Food eaten at night will not be digested optimally, and this can lead to health problems. Food left in your ig's bowl at night should not be kept to feed the next day. Give fresh food each meal. Wash food bowls out with hot water and soap before refilling them. Irrelevant of what **routine** suits you and your ig, once it has been decided upon, you will find your ig becomes very attached to the chosen routine. Straying from the schedule

your ig knows and loves may provoke some tantrum like behaviour from your ig – throwing food around, defecating in food bowls or somewhere you spend time, spreading faeces around the enclosure, or may ignore their food the rest of that day.

In igs, one does not need to worry about **overfeeding**, so long as one only feeds healthy foods. An ig on a well balanced diet can eat all it likes and will not become excessively fat. Bear in mind that what an ig actually eats and what is put in its plate are not always the same thing. Some igs eat whatever you give them. Others will pick out the greens and leave the rest. If this is the case, it is preferable to feed the veg salad in the morning and only give the greens later in the day. While your ig may give you the evil eye when it sees that there are no greens in its bowl, and possibly defecate in the food to show you what it thinks of your choice of food, it will most likely be hungry enough to eat the veg each morning, and eventually come to enjoy it, at which time you can start giving both greens and veg salads mixed each morning.

Preparing your igs food will probably be the most work your ig will require from you. Many prefer to grate the veg, especially for hatchlings. This is fine if you plan to prepare fresh meals for your ig each day, or for 2 or 3 days at a time. Chopped veg lasts longer if you plan to make food for a few days at a time, but it does take longer to prepare. Cubes/pieces should be smaller than the space between the ig's eyes in order for it to be swallowed comfortably. The smaller the pieces, the more your ig can fit into its stomach, but make sure the pieces can still be picked up by the ig. If you have ever watched an ig try to pick up a thin slice of a fruit or veg from a flat surface, you will see they need to be able to grip both sides of the piece between their jaws to pick it up. Watch your ig eat the food you prepare to ensure it can actually take it in, and if it cannot, you know you need to adjust how you make the food to a more suitable size. In some cases, an ig will develop a preference for food prepared in a certain way. Some will prefer food chopped to half the space between their eyes, some prefer larger cubes and others will only eat if the food is grated. Foods that are grated or made into smaller pieces are also good because they make it harder for your ig to pick out its favourite parts of the prepared mixed food and leave the rest. Remember that, since igs don't really chew, greens (particularly for smaller igs) should also be shredded into smaller pieces so your ig doesn't choke. This is less necessary for larger igs.

Food bowls are generally wide with relatively low sides to let the ig stand outside the bowl, or on the edge and be able to reach the food, preferably without having to climb into the bowl. Bowls should ideally be sturdy and heavy, as igs have a tendency to topple their bowls, or push them off whatever surface they stand on. They need to be easy to clean, and it is a good idea to have more than one. Try to feed your igs from the same food bowls all the time, as they will learn to recognise the bowls, and prefer to eat from them. Wash the bowls with hot water and soap at least once a week, or as soon as they become soiled.

Water must be freely available to your ig at all times. Water should be replaced daily, and water bowls cleaned with disinfectant at least once a week. Provide more than one water bowl, as igs tend to defecate in water, and if they do, there must still be a clean

water source to drink from. If your ig does defecate in a bowl, disinfect the bowl before refilling it. Also, do not put any supplements in the water, as this may stop your ig drinking despite its thirst, and lead to dehydration and kidney failure.