

## **HUSBANDRY OF THE GREEN IGUANA**

The common green iguana (*Iguana iguana*) is a tree dwelling tropical lizard found in Central and South America which has the potential to grow up to six feet in length. Iguanas have various temperaments from being docile to nervous. at times they can enjoy human affection. Iguanas are often represented as undemanding pets that can be cared for easily and are “veterinarian free.” Unfortunately, this is not true. The dietary and environmental needs of iguanas are very difficult to reproduce in captivity. The amount of misinformation given in the pet trade makes it doubly hard for them to survive. This article will provide accurate information on the care of iguanas as well as some of the common medical problems that occur.

### **DIET**

In their native habitat, iguanas feed on nutrient rich leaves and flowers of trees, plants, and vines. They do not hunt insects or small animals as is sometimes reported. Iguanas have specialized bacteria in their hindgut that break down or ferment the high fiber content of their diet (much like a horse). This releases usable energy in the form of complex carbohydrates which compose 30-40% of the total energy that iguanas need to live. In the wild, iguanas bask in the sun to seek an ideal body temperature above 90 degrees Fahrenheit which is required for fermentation of their food.

Since we cannot duplicate the diet of wild iguanas for our captive pets, the best we can do is provide foods which best meet the high calcium, vitamin, and mineral requirements of iguanas. This is not too difficult. Dark leafy greens such as carrot tops, kale, collard, turnip, and mustard greens are readily available in grocery stores or farmer’s markets. Best of all, they are inexpensive. We do not recommend any of the commercially available iguana diets at this time. Many do not meet the dietary needs of iguanas despite their claims.

Feed your iguana daily as much as it will consume in two to three hours. These foods can spoil quickly and should not be left in the cage for long periods. You may want to feed young iguanas twice a day.

- **Protein**

Young iguanas need a balanced protein source in order to grow. A high quality maintenance dry dog food such as Science Diet Canine Maintenance is a good choice. DO NOT substitute puppy, growth or feline formulas for the maintenance dog food because these are too high in protein. To prepare the kibble, soak the nuggets 20-30 minutes in warm water until completely soft. It is important to mix the dog food with the greens thoroughly to prevent the animal from eating only its favorite foods. A food processor works well for this purpose.

Recent data may indicate that iguanas fed an excessive amount of protein may be at risk of severe kidney problems later in life. For this reason, we are recommending that only the baby and juvenile iguanas be fed dog food in the manner described above. Iguanas grow in different stages like any other animal and so their feeding requirements change as they grow. The proportions for each stage in life will be addressed in the next section.

- **Calcium**

Calcium supplementation is an absolute necessity for pet iguanas. The diet we have recommended is already rich in calcium but still falls short when compared to the wild diet. Please refer to the table “Calcium Content of Common Foods” at the end of this article. Most commercial supplements are made from bone meal (calcium phosphate) and are intended for animals that already have an adequate supply of calcium in their diet. Iguanas need a phosphorus free calcium supplement as the phosphorus actually binds up the dietary calcium and prevents its utilization by the iguanas body. We recommend Rep-Cal (not Reptical or Reptivite) which is an inexpensive and safe calcium carbonate supplement that also contains vitamin D3, which is necessary for calcium absorption in the gut.

Additional vitamin supplements are not necessary as dog food is a heavily supplemented product and provides a balanced source of vitamins for young iguanas. Adding more vitamins to this diet could lead to an overdose of vitamin A or D resulting in serious illness.

- **Here are the proportions of food recommended for feeding at each life stage:**

Small infant iguanas (less than 1 pound or 1 foot in length) should be fed a diet of 25% softened dry dog food and the other 75% should consist of the dark leafy greens aforementioned. Dust this mixture lightly with Rep-Cal at each feeding. Young iguanas grow quickly and should weigh close to one pound and be one foot long at one year of age. It is better to offer a little more than you think your iguana will

need until you learn how much your iguana will eat. If it cleans its plate at each meal, more should be offered at the next meal.

Medium adolescent iguanas (two to three pounds and two to three feet in length) should be fed 15% dog food and 85% greens. Calcium supplementation should be continued daily.

Large adult iguanas (more than three pounds and three feet in length) should primarily be fed dark leafy greens. Once or twice weekly add Rep-Cal to the greens.

## **HOUSING AND ENVIRONMENT**

- **Space**

Young iguanas may be housed in an aquarium, but will soon outgrow it. It is not true that they will only grow to the size of their environment. Adult iguanas need at least 6 cubic feet which means you will probably have to build a cage. Some owners will give the iguana free run of an entire room, but iguanas need high heat and humidity and this cannot be provided in such a large area.

- **Heat**

Iguanas in the wild live in the hot, humid jungles of Latin America. This makes high temperatures and high humidity very important for their captive environment. Iguanas are basking animals which means they warm themselves by sitting under a bright overhead heat and light source. The basking area of the cage should be 90-100 degrees F (necessary for proper fermentation of food). A high wattage flood lamp in a reflective fixture will provide the needed heat. Hot rocks should not be used for iguanas because they often cause serious burns. **DO NOT USE THEM!** Daytime temperatures should be in the high 80's and nighttime temperatures no lower than 75 degrees F.

At night it is necessary to heat the entire air space surrounding the iguana. Pearlco Ceramic heating elements provide radiant heat without subjecting the iguana to constant light (a stress for people and animals). Despite reports in some literature, iguanas are bothered by red light bulbs at night; these bulbs are unsuitable as a heat source. A secondary source of heat should also be provided. Under the tank heaters are a hi-tech, safe heating pad designed to run continuously at a constant temperature. You need at least one reliable thermometer in the cage to be sure you are providing adequate heat.

- **UV Light**

Iguanas have an absolute requirement for ultraviolet (UV) light which they normally get from the sun. Even captive iguanas fed a proper diet will suffer calcium deficiencies if ultraviolet light is lacking. Iguanas need UV light in order to utilize the calcium in their diet. Therefore, iguanas must have access to direct sunlight for as long as the seasons will allow. This means there can be no glass or plastic between the iguana and the sun as these materials absorb the ultraviolet rays. A screened-in porch or an outdoor enclosure made of strong wire mesh is ideal. If nighttime temperatures are above 75 degrees F, iguanas can be kept outside 24 hours a day. As temperatures fall, however, move them in at night.

When the iguanas cannot be kept outdoors you must use an artificial source of UV light. There are especially made fluorescent bulbs that provide some UV light. Plant grow lights and fish aquarium bulbs are not suitable. As a rule of thumb, if the light emits a yellow color, it is not producing light at the ultraviolet end of the spectrum. Remember, even the best bulbs cannot substitute for sunlight and should only be use when absolutely necessary. In addition, these bulbs should be changed every six months because their UV output goes down drastically after then.

- **Water**

Although iguanas get most of their water from their food, a large container is still necessary for soaking and for helping maintain the high humidity of the enclosure. Soaking helps the iguana defecate and shed its skin. Some iguanas are reluctant to soak themselves; these individuals should be soaked every other day in the bathtub. Turning on the shower mimics the rainstorms from their native habitat.

## **HEALTH ISSUES**

- **Sex Determination**

Iguanas cannot be sexed until approximately two years of age. At this time, male iguanas will undergo an enlargement of the femoral pores located on the undersides of the back legs. the pores of females will remain small and flat. Males also tend to develop longer spines and a larger dewlap. Males may exhibit behavior characteristics such as bobbing and shaking of the head. The hemipenes can sometimes be seen as a swelling at the base of the tail.

- **Fibrous Osteodystrophy**

Young iguanas suffering from calcium deficiencies are presented to the veterinarian for swollen legs, a swollen jaw, fractures of the legs and spine, and/or not eating or walking well. Larger iguanas with calcium deficiencies will exhibit muscle tremors and paralysis in severe cases.

When on a calcium deficient diet, the body pulls calcium out of the bones just to survive. This weakens the bones. Then the body attempts to strengthen the bones by laying down fibrous connective tissue which causes the bones to appear swollen. This produces a syndrome called fibrous osteodystrophy. Although the legs appear fat, this is actually disease. The jaw becomes soft and swollen. The muscles of the tongue pull back the jaw which causes it to become shortened and bow out at the sides. The lips no longer meet and the gums are constantly exposed to air. The gums become dry and inflamed and crusts build up producing a syndrome called “exposure gingivitis.” Pet stores mistakenly call the “mouth rot” which is a bacterial infection of the mouths of snakes. Though there may also be a bacterial infection, these symptoms are all signs of calcium deficiency in iguanas.

- **Egg Binding**

Female iguanas will ovulate with or without the presence of a male (just like chickens) in captivity but, lacking a proper nesting site, will not lay the eggs. When this happens, the eggs have to be removed surgically. The surgery is expensive and may endanger the life of an already sick animal. If you have female iguanas we recommend having them spayed before egg binding occurs.

- **Abscesses**

Iguanas are often seen with abscesses around the face and on the feet. This condition is caused by bacteria that get into the blood because of a weakened immune system. Poor diet and environmental conditions cause overall poor health and make iguanas susceptible to bacterial infections. Abscesses require lancing and flushing by a veterinarian as well as treatment with antibiotics.

- **Burns**

Burns are a common husbandry problem in iguanas, especially those who have hot rocks in their cages. Hot rocks are poorly made and often have spots that are extremely hot. When given a choice between burning or being too cold, iguanas will choose to burn. Any exposed lights or heating pads in their cage can also cause burns.

- **Parasites**

Iguanas are susceptible to a variety of parasites. Some parasites like pinworms normally inhabit the digestive tract without doing any harm to the animal (they may actually aid in digestion of food). The presence of a low level of parasites called flagellates is also considered normal in the iguana to facilitate the fermentation of foodstuffs in the hindgut. However, stressful conditions (poor diet, low heat, the pet trade) can lead to an overpopulation of parasites such as giardia which can cause stunted growth and a pot-bellied appearance. These parasites can also cause foul smelling diarrhea and dehydration that causes the iguana's skin to form sharp creases along its sides. External mites, which are commonly seen in snakes, are not frequently seen in iguanas. The parasites that can inhabit iguanas cannot be treated with medications from your local pet store. Your veterinarian will provide the safest and most effective treatment for any parasite problem.

- **Constipation**

Iguanas kept on cat litter or aquarium gravel often have blockages that require medical intervention. Iguanas can become severely constipated from lack of heat, poor diet, and from not being soaked frequently.

We hope that the information in the article will help you take the best care of your pet iguana. Remember that any pet is a responsibility, and it is your responsibility to care for it in the healthiest manner. Your veterinarian can help you with many questions or problems that you may have or direct you to a knowledgeable source.

## CALCIUM CONTENT OF COMMON FOODS

| One Pound Portion                          | Calcium (mg) | Phosphorus (mg) | Ratio   |
|--|--------------|-----------------|---------|
| <b>GOOD:</b>                               |              |                 |         |
| Rep-Cal Supplement<br>(CaCO <sub>3</sub> ) | 163,444      | 1               | 163,444 |
| Mustard Greens                             | 626          | 145             | 4.3     |
| Turnip Greens                              | 1,116        | 263             | 4.2     |
| Beet Greens                                | 449          | 113             | 4.0     |
| Dandelion Greens                           | 635          | 191             | 3.3     |
| Parsley                                    | 921          | 286             | 3.2     |
| Collard Greens                             | 1,134        | 372             | 3.0     |
| Swiss Chard                                | 331          | 109             | 3.0     |
| Spinach                                    | 422          | 231             | 1.8     |
| Cabbage                                    | 222          | 132             | 1.7     |

---

**DEFICIENT\*:**

|  |        |        |     |
|--|--------|--------|-----|
| Cheddar Cheese                               | 3,402  | 2,168  | 1.6 |
| Reptivite Supplement<br>(CaPO <sub>4</sub> ) | 96,000 | 64,000 | 1.5 |
| Celery                                       | 177    | 127    | 1.4 |
| Lettuce                                      | 159    | 118    | 1.3 |
| Broccoli                                     | 467    | 354    | 1.3 |
| Maintenance Dog Food                         | 3504   | 3109   | 1.1 |
| Carrot                                       | 168    | 163    | 1.0 |
| Tofu   | 154    | 151    | 1.0 |
| Strawberries                                 | 95     | 95     | 1.0 |
| Squash, Yellow                               | 127    | 132    | 1.0 |
| Squash, Zucchini                             | 127    | 132    | 1.0 |
| Grapes                                       | 19     | 32     | 0.6 |
| Tomatoes                                     | 52     | 108    | 0.5 |
| Cauliflower                                  | 113    | 254    | 0.4 |
| Asparagus                                    | 95     | 227    | 0.4 |
| Banana                                       | 36     | 118    | 0.3 |
| Peas, Green                                  | 118    | 526    | 0.2 |
| Corn   | 14     | 331    | 0.0 |

\*These items are for illustrative and comparative purposes only. They are NOT recommended foods for iguanas.