

# Care Cards

## Chelonian Nutrition



Chelonians come by a variety of names such as turtle, terrapin, and tortoise to list a few; I will refer to all chelonians as turtles. The group is further divided into aquatic, semiaquatic, and terrestrial, based on their preferred living conditions. This sheet will be concentrating on the nutritional requirements of several groups of turtles. Occasionally specific types of turtles will be mentioned. Lighting and temperature will also be discussed as they relate to proper nutrition.

A nutritionally balanced diet will help promote good health, normal growth, and successful reproduction. Supplementation with multivitamins and calcium, together with full-spectrum lighting and proper temperature, will help a turtle overcome minor nutritional errors by its owner.

Aquatic and semiaquatic turtles are mostly omnivorous as juveniles, eating both animal and vegetable foods. They will usually eat a variety of animal foods such as earthworms, small fish, tadpoles, mollusks, shrimp, and insects. They also will eat a variety of green leafy vegetables such as water plants, romaine lettuce, escarole, water cress, and endive. A small amount, no more than 3-5% of the total ration, of commercial dog, primate, or trout chow can be fed. If fed in excess, soft tissue mineralization may occur due to the high levels of vitamin D, high vitamin A content may also be toxic over time. Aquatic and semiaquatic turtles tend to become more herbivorous as they mature. This natural decrease in their dietary

requirements for high density nutrients will enable them to thrive on easy to acquire plant material. They will still eat animal food if the opportunity occurs; however, most experts suggest the adults only be fed animal food once or twice a week.

Most aquatic and semiaquatic turtles actively forage and rarely become overweight; therefore they may be fed on a daily basis. If your turtle is sluggish, the frequency should be decreased to prevent obesity.

For semiaquatic turtles, I recommend outside feeding whenever possible. Outside feeding can be accomplished by feeding the turtle in a separate container than the one it is primarily housed in. Commonly used containers include cat litter tray, wash basin, and other water holding containers. Outside feeding will enable an owner to monitor their turtle's food intake and prevents excess food from decreasing the water quality. Turtles can be easily taught to accept this feeding routine and will enjoy the human contact before feeding.

Terrestrial turtles are mostly herbivorous and will thrive on a daily diet of green leafy vegetables such as spinach, kale, water cress, and quality greens. Flowers like hibiscus, nasturtium, squash blossoms, rose petals, and dandelions along with other food items like squash, tomatoes, carrots, despined cactus pads, apples, and melons should be mixed in to help formulate a nutritionally balanced diet. Turtles should be allowed to graze daily; this will help stimulate intestinal motility. I prefer green leafy vegetables, but grasses and weeds will also be gladly accepted. Animal food items like insects, earthworms, and commercial foods should only be offered once or twice a week.

If fed in excess, animal foods may cause shell abnormalities. High calcium products should be offered in increasing amounts during June, July, and August for breeding and egg laying. Figs will provide highly concentrated carbohydrates and calcium, which should always be fed prior to hibernation. Juvenile land turtles should be





fed daily and the adults should be fed every other day unless they are active or breeding.

Turtles should not be fed rotting, overripe, or fermenting fruit. This will cause a mild toxicity and the animals may stagger, bump into each other or worse stumble into a pond or other water reservoir and possibly drown.

Turtles thermoregulate by absorbing heat through their carapace. This increase in body temperature is necessary for proper nutrient digestion and absorption from the intestinal tract. Terrestrial

turtles will seek out warm and sunny areas for basking. If you are providing such a place for your captive turtles, be sure to also provide a shaded area for cooling. Aquatic and semiaquatic turtles will frequently bask on floating items such as logs or Styrofoam. They will also climb out on tree limbs, on stumps and on land along the waters edge. A cooling area is usually not necessary for these turtles. When they get too warm the turtle can just return to the water for cooling. Most mud, musk, snapping, and soft-shelled turtles rarely bask. These turtles will float on the water surface for warming. Clean water for swimming or drinking helps promote good health and will reduce the occurrence of shell rot and other diseases. Map turtles require absolute cleanliness because they are prone to shell rot. Good water maintenance will help prevent the spread of disease to other cage mates and to the owners. Normal water temperature should be maintained between 72 and 80 degrees Fahrenheit.

There is currently a large amount of debate among herpetoculturists concerning the benefits of full-spectrum lighting for captive turtles. We know that ultraviolet light helps stimulate the production of vitamin D3 which helps metabolize calcium from the intestinal tract. The proper metabolism of calcium is necessary for shell and bone growth and maintenance. Metabolic bone disease will occur in turtles if their calcium is below normal levels. Ultraviolet light has also been shown to help promote a turtle's natural behavior and reproduction. If you plan to use artificial lighting for your captive turtles, I recommend you use full-spectrum lighting. If you house your turtles outdoors where they have access to large amounts of natural, unfiltered sunlight, full-spectrum lighting is probably not necessary.

I recommend a varied diet be fed to help prevent boredom. Be sure to use several different food items with each feeding to help insure quality nutrition. This article is just an overview on turtle nutrition. Not every type of turtle is mentioned or every food item.

