



Tortoise Husbandry Sheet

There are several species of tortoises, all with their own unique husbandry needs. Please research your individual species for specific requirements that may differ from the more common tortoise species.

Housing

Tortoises should be housed in enclosures rather than aquariums. Invisible barriers are stressful, especially to species that normally roam over large distances. Creating visible barriers (putting up a backing) or using wood or colored plastic basins for housing promote much more normal behavior. Many people use large storage type bins for hatchlings and move up to horse troughs or handmade turtle tables (made from flipping a bookshelf on its back). A minimum enclosure size of 48 X 24 X 15 inches for a single adult tortoise. A topsoil or coconut bark mixture with sand (50:50) should be provided at least 2-3 inches deep to allow burrowing. Rainforest species, such as red and yellowfoots, should be kept on a substrate that retains humidity such as cypress mulch or coconut bark. These species need to be kept between 65-95% humidity. They need frequent misting, a water feature, and substrate that holds humidity to accomplish this. Avoid woodchips, and gravel as they can be eye irritants and risky if eaten. Tortoises need a water area to soak but not deeper than the top of their shell. They should be provided fresh drinking water daily and allowed the opportunity to soak once daily. They can be poor swimmers and even drown. Provide a basking area that allows the turtle to fully dry out. Something as simple as a piece of slate under the basking light works well.

Providing an outdoor enclosure during summer months is psychologically a wonderful thing if feasible. Outdoor time in an aquarium is dangerous and can quickly reach lethal temperatures. An outdoor enclosure needs to be secured with a wire top to provide protection from predators and dig proof to prevent the tortoise from escaping. Tortoises can stay outdoors in the Midwest (May-September typically) in the summer until the night temperatures get to 50 degrees (the water maintains a warmer temperature through the night as long as day temperatures are high enough) and the day temperatures drop to 70 degrees. They should be provided a ceramic heat bulb to maintain warmth at night. A leaf litter/soil substrate is ideal for outdoor housing. Ceramic flowerpot bottoms or small cat pans can provide soaking opportunities.

Water

Water features should be cleaned, and fresh water provided daily. This is the drinking and bathing water for the tortoise. They commonly defecate when soaking so frequent cleaning is needed to maintain sanitary drinking water. Many people remove tortoises into a soaking bin once daily to prevent contamination of the enclosure and of the drinking water.

Cleaning

Previous day's vegetables need to be removed daily to prevent spoilage. Spot cleaning the tank helps keep odor and flies down. Mist entire enclosure with water daily. Weekly the cage substrate should be replaced with fresh material. Monthly the cage should be completely hosed out, cleaned with dilute bleach, rinsed, and dried.

Heating

Tortoises have a preferred temperature zone. Outside that zone they are more likely to be psychologically stressed, exhibit abnormal behavior (lethargy, anorexia, and decreased basking), and to become immunosuppressed and succumb to disease. Tortoises should be maintained at 78 to 80 degrees in the cool zone with a basking area 20 degrees higher. A digital thermometer should be used to measure basking temperatures as well as water temperatures frequently.

Lighting

Tortoises are meant to be outdoors absorbing natural sunlight. The sun provides UVA rays, UVB rays, and heat. In order to maintain natural behaviors, absorb Vitamin D, and maintain their preferred temperature zone, tortoises need to be provided all three. A heat bulb or basking bulb provides warmth and helps achieve a basking zone at 95 degrees. This light should be kept at least 6 inches from the tortoise. Tortoises can burn themselves if they are able to get closer than 6 inches. UVA/UVb spectrum can be achieved with a fluorescent full spectrum strip bulb. Be sure the light is not being filtered through glass or plastic and is able to shine directly on the basking area 10- 12 inches away from the turtle. UV bulbs need to be replaced every 6 months as the UV spectrum is gone before the bulb burns out. Mercury Vapor bulbs are a more expensive alternative but can provide UVA, UVB, and heat and typically last a lot longer than 6 months. They need a special clamp light rated to the high wattage and heat emitted from the bulb. Tortoises should be provided 14 hours of heat and light per day. Use timers to turn lighting off at night, and ceramic (no light, only emits heat) if room will reduce below 70 degrees at night.

Feeding

There are two main divisions of tortoises, plant eating herbivores, and plant with some meat eating, omnivores. It is important to research the native location your species of tortoise is from to appropriately mimic its native food sources.

Avoid feeding cabbage, spinach, chard, and bok-choy because they affect calcium absorption. Avoid Iceberg lettuce, corn, cucumbers and sprouts because they offer little nutrition.

- **Herbivores:**
 - Mediterranean tortoises include Greek, Hermann's, Spur thigh, and Marginated tortoises. These species should be fed a mix of edible grasses, clovers, grape leaves, hibiscus leaves and flowers. They also enjoy cactus pads, dandelion, romaine and small amounts of red leaf lettuce. They should also be offered a high-quality tortoise diet such as Mazuri, Fluker's or Reptomin but only 1 to 2 times per week. The protein content in these complete diets may be a bit higher than herbivores require.
 - Desert Species include Leopard, Sulcata, Russian, Star, and Pancake. These species need a high fiber diet. 85% of food fed should be hay flakes (Orchard, Timothy, Bermuda), clover, and cactus. No higher than 50% leafy greens such as dandelion, endive, grape leaves, collards, mustard greens, turnip greens, and watercress. No higher than 15% vegetables which could include squashes, peppers, carrots, green beans, peas, sweet potato and turnip. Avoid fruits in these Desert species. A balanced tortoise pelleted diet should be fed 1 to 2 times weekly.
- **Omnivores:**
 - Red and yellow foot tortoises can tolerate higher protein than herbivore species. They can be provided a balanced tortoise pellet 3 times weekly to meet that need. They also can be provided snails, earthworms, or low-fat canned cat food in small amounts once weekly. These species do eat some fruits in the rainforests where they are from and can be fed mangos, and berries. Most of their diet should include grasses and greens such as the herbivore species listed above.

Supplements

Calcium needs to be provided in the diet for Vitamin D to be absorbed from the sun (or artificial lighting). Tortoises under 1 year of age should be supplemented daily, adult tortoises should be supplemented once weekly. Cuttlebones can provide a calcium source for tortoises and they often will bite off pieces. Another option is a calcium powder (with no phosphorus added) such as Rep-Cal. This powder can be sprinkled on veggies, pelleted food, or live food.

Enrichment

Living in captivity can be very stressful for reptiles. This chronic stress and confinement can lead to a suppressed immune system and increased risk of illness. If we can mimic their natural behaviors and habitat, this can lessen those risks dramatically. Below are some options to try with your pet:

- Live plants: allows natural grazing. Plant in elevated pots around enclosure so your turtle can only eat what grows down to them (ex. Pothos)

- Treat Balls: any ball with holes that can be filled with treats. When rolled, food/treats fall out.
- Target training: great for getting your turtle to a specific place for feeding or teaching cues for handling vs feeding
- Offer larger pieces of greens: allow your turtle to tear it apart
- Stuffed fruit: put treats inside of treats (ex- full green pepper with fruit puree)
- Outdoor time!: See above housing section about outdoor enclosures

Just make sure to avoid tape, sharp edges, and chemicals. Be careful about disease transfer using anything from outside or another animal. Keep in mind that reptiles can and will eat things they are not supposed to – monitor closely.

Conclusion

Tortoises are entertaining and rewarding pets. They can live a long time in captivity (40+ years) and can be quite resilient to improper husbandry. Most illnesses we see in this species is secondary to incorrect or lapses in proper husbandry. If we are to keep these animals in captivity and enjoy what they have to offer, we owe it to them to mimic their natural environment to the best of our abilities. They will live a longer, healthier life if we achieve the most ideal husbandry we can provide.