

# Grassland Tortoises

**Genus:** *Testudo* and *Malacochersus*



**There are many tortoises available in the pet trade, however many of these tortoises grow far too large for the average pet owner to take care of properly for the long term. For instance, African sulcata tortoises can grow to be 24 to 30 inches long and over 100 pounds! Often, these poor reptiles find themselves without a good home when they grow too large for their enclosure.**

**For this reason, this care sheet will cover those tortoise species that will grow only up to 10 inches in length.**

**These include the following grassland species:**

**Greek tortoise, Hermann's tortoise, Pancake tortoise and Russian tortoise**

**LIFE SPANS:** Hermann's – 75 years  
Russian and Greek – 50 years  
Pancake – 25 years

**AVERAGE SIZE:** up to 10 inches

**CAGE TEMPS:** Daytime / 70-90 degrees  
Daytime Basking / 90-95 degrees  
Nighttime temps / 60-65 degrees

**HUMIDITY:** 30-50 %

- If temp falls below 60° at night, may need supplemental infrared or ceramic heat

**NOTE: It is against federal law for turtles and tortoises under 4 inches in length (from front of shell to back of shell) to be sold in pet stores.**

## **WILD HISTORY:**

Hermann's - Mediterranean oak forest, arid, rocky hillsides and scrublands

Russian – Middle East and Russian dry open landscapes; sand and clay desert scrublands

Greek – Mediterranean forests and scrublands

Pancake – African hillsides with rocky outcrops in arid scrublands and savanna

Most of these tortoises are wild caught, and usually suffer some stress from being captured and from traveling. Because of this, they generally suffer from a heavy bacterial and protozoan load, which can result in infections. Be sure to see your exotic pet veterinarian soon after purchasing your new tortoise. He or she will perform a complete physical exam and then de-worm your new pet. Be sure to take a fresh stool sample along with you!

**PHYSICAL CHARACTERISTICS:** Tortoises, unlike turtles, are solely terrestrial reptiles. They have soft bodies encased in a top bony shell (carapace) and a lower bony shell (plastron), which protects them from predators. The geometric shaped scale sections of the shell are called "scutes". The scutes cover up the seams between bone plates underneath, making the shell stronger. The ribs, backbone, hip bones and shoulder bones are attached to the upper and lower shells.

Tortoises have stout, club-like feet for walking and long claws for digging. Males generally have longer claws than females. Most tortoises can retract their legs and head almost completely into their shell.

Tortoises have beaks, not teeth, and they do not have external ears although they can hear just as well as animals with external ears do.

The tortoise tail is short and stubby, the male tortoise tail being longer and slightly wider than the female's.

**NORMAL BEHAVIOR & INTERACTION:** Tortoises are happy to live along with other tortoises, given that there is enough space for everyone (see Housing & Environment). However, there is no guarantee that everyone will get along fine. **DO NOT** mix different tortoise species together. They may harbor different parasites (even a healthy reptile harbors a small amount at all times) which may make each other ill.

**FEEDING:** Herbivorous

In order to most closely replicate the diet that the grassland tortoises forage for in the wild, a low protein, high fiber, low fruit diet is in order.

A good grassland tortoise diet consists of a majority (about 85%) of high nutrient hays and grasses complimented by a smaller portion of dark leafy greens for variety.

**GOOD GRASSES:** timothy hay, Bermuda grass, wheatgrass, orchard grass (hay),

**GOOD GREENS:** dandelion, prickly pear, broadleaf plantain, rose (flower only), grape leaves, chickweed

**GREENS TO BE FED IN VERY SMALL AMOUNTS:** collard greens, mustard greens, spinach, kale, romaine, turnip greens, arugula

**COMMERCIAL DIETS/PELLETS:** Commercial diet should constitute no more than 10% of the diet.

There are some very good tortoise pellet diets on the market; for instance, Zoo Med Grassland Tortoise food is an excellent choice.

Be sure to look at the labels and choose a product with quality ingredients.

Amounts of feed depend on different factors such as enclosure, exercise, heat and lighting. Contact your exotic pet veterinarian for advice on how much to feed YOUR tortoise.

**SHEDDING:** Unlike snakes, tortoises shed their skin in patches, not all in one piece. Your pet will become an overall dull color before a shed. Do not peel off the skin if it is not ready to come off. This can be dangerous and painful.

In the wild, reptiles have a much easier time with their sheds, as they are generally in a more naturally humid environment and have access to pools or bodies of water in which they can soak at will. Even reptiles from arid areas find humid places to go during the shedding process, such as cold, moist burrows under the sand or caves.

The shedding process happens when the tortoise's body begins to grow a new layer of skin; that new layer begins to separate from the old and a very thin layer of fluid forms between the two layers. If your pet's enclosure is too dry, this fluid layer will not form properly, making it difficult for your reptile to shed properly.

To create more humidity, the entire tank can be lightly spray misted twice a day during shedding time. Spray once in the morning and once later in the day. Make sure the later spray dries completely before lights go off for the night.

A shallow dish of clean water can be kept in the enclosure at all times to help with humidity and shedding. However, if you find your tortoise sitting in it constantly, pull the dish out and place it back in for just a few hours a day. A tortoise that stays in his water too long is susceptible to shell rot.

**SUPPLEMENTS:** Dust food with calcium supplement and vitamin supplements. As a rule, a growing juvenile's food (and a pregnant/gravid female's) should be dusted more often than an adult's. Follow your veterinarian's instructions for applying supplements to avoid over-supplementing food.

Our veterinarian recommends dusting greens with a good quality calcium supplement fortified with vitamin D<sub>3</sub>, 2-3 times a week. (Avoid using a calcium supplement with added phosphorous, unless specifically directed by your veterinarian, since this can promote kidney disease.)

Always consult your veterinarian for specific directions on supplementing your pet's food, since there are many variables that go into determining the best supplementing regimen for a given animal.

**WATER:** A large shallow bowl of clean fresh chlorine-free water must always be available. It should be large and shallow enough for your tortoise to climb into. Place it on the cool side of your reptile's enclosure. Change it daily, or as needed, as your pet will most likely bathe in it as well. All water given to reptiles for drinking, as well as water used for misting, soaking or bathing must be 100% free of chlorine and heavy metals. (Not all home water filtration systems remove 100% of the chlorine and heavy metals from tap water). We recommend that you use unflavored bottled drinking water or bottled natural spring water; never untreated tap water. If tap water is used, you should treat it with a de-chlorinating treatment. De-chlorinator is available in the pet store fish department. If you do not want to chemically de-chlorinate the water, you can leave an open container of tap water out for at least 24 hours. Do not use distilled water, which can cause severe medical problems, since it lacks minerals that are essential to important body functions. If only tap water can be used, at least de-chlorinate the water.

A daily misting or two with chlorine-free water will also be appreciated. However, care should be taken not to allow the enclosure to become damp. Also, do not mist less than two hours before turning the heat lamps off for the day.

**SOAKING:** Tortoises can benefit greatly from a good deep-water soak at least once a week. A Tupperware container makes a good tortoise bathtub. Fill the container deep enough so the entire tortoise's body can be submerged under water, but the head can be out of water. The water should be nice and warm (about 68-70 degrees). Soak your tortoise for about a half hour at a time. This is especially helpful during a bad shed or when your reptile might be a bit constipated.

**RECOMMENDED SUPPLIES:**

Cage or enclosure approximately 4 feet x 2 feet x 2 feet	Large heat dome and 150 watt bulb
Human-grade heat pad – placed under same side of cage as basking light – place on low setting	Temperature / humidity gauge – do not stick to side of tank
At least one hide house – place over heat pad.	Shredded aspen bedding for the bottom of the cage
Large water bowl – big enough to soak in – place on cool side of cage	Fluorescent UVB Bulb and housing

**HOUSING & ENVIRONMENT:** Reptiles are ectothermic, or cold-blooded, which means they are dependent on the temperature of their immediate environment to regulate their body temperature. Therefore, we must create an environment with several heat gradients – warm on one end and cool on the other. With this set-up, your pet can go to either end depending on whether he needs to be warmer or cooler.

**ENCLOSURE SIZE:** The tortoises discussed on this page should have a home that measures at least 4 feet x 2 feet x 2 feet OR LARGER. Do not force a tortoise to live in a smaller enclosure, or in a glass enclosure, they will become very ill and unhappy. Commercial rabbit cages that meet the requirements of the size above do very well as tortoise cages. Most of these cages have easy to clean plastic bottoms and wire sides and tops. This makes it easy to set up the cage to the proper requirements and place lights directly over the tortoise where he needs them.

A hand made cage can also be made and there are many designs on the Internet. Be sure to match the minimum size above, or even better, make the enclosure larger. DO be sure that your pet cannot escape over the sides of the walls. These species are excellent climbers and can escape easily, and despite the fact that they are tortoises, they are NOT slow creatures!

**IT IS NOT TRUE THAT A REPTILE WILL ONLY GROW AS LARGE AS ITS ENCLOSURE!!**

**COVER:** Make sure the cage has an escape-proof metal mesh top. It is important that the top is METAL mesh, as you will place the heat lamp directly on top of this cover.

The heat lamp can be clamped onto the side of the enclosure. However, DO be sure the cage is covered, as many of these species are excellent climbers.

**HEAT PAD:** Since the cage may be plastic or wood, a human grade heat pad is best for a tortoise enclosure. Simply place the pad underneath the cage (or inside under bedding) and keep it on the low setting.

Be sure the cage (and heat pad) is not placed on a heat sensitive (and possibly flammable) surface such as a carpet.

**NOTE!!** : DO NOT use reptile heat rocks. They heat unevenly and have caused severe thermal burns in reptiles. Heat pads are safe for pets to be in contact with and are safe to leave on 24 hours a day.

**HEAT LAMP:** Place the heat dome with the basking bulb on top of the cage directly over where the reptile heat pad has been placed on the underside of one end of the tank.

**NOTE!!** : Follow directions carefully with all products – READ THE INSTRUCTION SHEET!!

Always choose fixtures with ceramic sockets and be careful to choose the socket that is properly rated for the wattage bulb that you will be using. Do not place the fixtures by dry wood or flammable fabrics.

All heaters should be placed out of the reach of children and all pets – including cats and dogs.

Be very careful to make sure that your caged pet cannot reach and touch the heating device in its own cage. A thermal burn to the face or body can be painful and life threatening.

**UVB LIGHT:** Exposure to UVB (ultraviolet B) light is critical in allowing an animal to synthesize vitamin D<sub>3</sub> in their skin and metabolize calcium in their body.

If an animal is not exposed to an adequate level of UVB light, it will gradually develop physical problems from the result of mineral deficiencies such as low blood calcium (hypocalcaemia), soft eggs (females), stunted growth and metabolic bone disorder, which can be fatal if left untreated. In addition, recent studies have linked sub-optimal vitamin D levels with poor immune system function.

All day-active (diurnal) indoor reptiles, amphibians, birds and hermit crabs should be allowed self-selected exposure to UVB lighting for up to 8-12 hours a day. This means they should be able to bask in the light but also get away if desired, much as they might in the wild. Many twilight-active (crepuscular) and night-active (nocturnal) species do get some exposure to the sun and may also benefit from low levels of UVB, which helps regulate their photoperiod and vitamin D levels as well.

Please see our additional “UVB Lighting for Companion Birds and Reptiles” for specific instructions for your particular pet and the UVB bulb that we recommend for him or her.

**HIDE HOUSE:** Place a hide house inside the cage directly over where you have positioned the heat pad, and directly under the heat lamp above.

**WATER BOWL:** The large, shallow water crock can be placed on the opposite end of the cage, along with another hide house, if desired.

**BEDDING:** We recommend a shredded aspen bedding since it will not cause impactions in the tortoise if it is ingested by mistake *and* it is easy to clean – daily spot cleaning becomes easy by just removing the soiled portion of aspen.

Newspaper, paper towels can also be used.

If “reptile carpeting” is used, it **MUST** be kept extremely clean. The carpeting can foster the growth of bacteria and fungus, which can in turn be very dangerous to your pet. If you insist on using the carpet, purchase two so you can interchange them regularly.

**TEMPERATURES:** Cage temperatures should be monitored daily and kept at the temperatures listed at the top of this page. Use your reptile thermometer to check the temperatures in different places in the cage regularly to make sure they continually match the listed proper temperatures.

\* If the room temperature falls below 68 degrees at night, a supplemental infrared or ceramic heat fixture may be necessary. (These fixtures do not emit a light spectrum that is visible to the tortoise, so it will not disturb him at night, but they **WILL** provide the necessary supplemental heat.)

If your tortoise does not receive the proper heat at the proper temperatures along with UVB light, he may become sick with issues such as respiratory disease or MBD and may stop eating, as tortoises have a hard time digesting their food without proper heat and light.

**DAY/NIGHT LIGHT CYCLES AND HEATING:** All reptiles must have distinct day and night periods in their enclosure to maintain their biological rhythms. Your tortoise needs 8-12 hours of daytime and 8-12 hours of nighttime. However, as the daylight hours change seasonally outside, daylight hours inside the tank should reflect the same.

**The day period must be light, and the night period must be dark.**

A timer should be used to set day/night periods.

**HABITAT MAINTENANCE:** The entire tank should be cleaned thoroughly at least once a month with vinegar & water (1:8), a mild dishwashing liquid in warm water (make a weak dilution), or bleach and warm water (1:32). Cage “furniture” should also be scrubbed clean with the same dilution. Daily maintenance should consist of spot cleaning by removing soiled substrate, cleaning water bowl thoroughly and wiping glass clean.

**GROOMING & HYGIENE:** To reduce the risk of contracting and spreading salmonella poisoning, all handlers should wash their hands after handling any reptile.

**SIGNS OF A HEALTHY ANIMAL:** smooth, even skin; no traces of mites (small, reddish brown spots around nostrils, near ears and eyes); clear, bright eyes; rounded, full body; strong, even, smooth jaw line; regular record of healthy feeding and defecating schedule. It is very important to keep a journal for each animal that records feeding, refusing, defecation, shedding, unusual behavior, changes in behavior and dates of bulb changes. This will help your veterinarian trouble-shoot any health issues.

We recommend physical exams every year or two years with an exotic pet veterinarian for pet reptiles and amphibians. If your vet sees your pet regularly, many common conditions that afflict pet reptiles and amphibians can be caught and treated early. If not caught early enough or if left untreated, many of these conditions can become far worse if not fatal.

**SIGNS OF ILLNESS:** Irregular skin; small reddish brown spots (mites) around mouth, eye area, ear area; irregular jaw line, ‘dents’ in mouth; cloudy eyes or dull colored body when not in a shed; dark patches on body; thinned body; irregular feeding and defecating habits. Lethargic, sunken eyes; obvious bite marks or wounds from cage mate. Irregular, ill-fitting shell, soft spots or discolored spots on the shell. Failure to eat.

### SOME COMMON PROBLEMS INCLUDE:

HEALTH ISSUE:	SYMPTOMS:	TREATMENT:
<b>Calcium/phosphorus imbalance</b>	Failure to grow, weakness, limb deformities and fractures, seizures	See exotic pet veterinarian, ensure optimal diet with proper calcium supplementation and UV light
<b>Intestinal parasites (coccidia and pinworms are common)</b>	Failure to grow, loss of appetite, abnormal stools	See exotic pet veterinarian (fecal parasite evaluation and appropriate medication)
<b>Shell rot</b>	Soft areas on shell, may be white in color or darker than the rest of the shell. Shell may appear bumpy overall.	See exotic pet veterinarian. topical and systemic medications Optimize cage heat and humidity.
<b>Respiratory issues</b>	Lethargic, runny or crusty nose, loss of appetite, audible whistle in breaths, “pumping” front legs.	See an exotic pet veterinarian immediately. May need antibiotics