

WALNUT CREEK SUPPLY

THE COMPLETE CARE GUIDE

Tortoise

A lifetime companion: UVB, grazing and a shell that tells you everything



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New owner? Go straight to Section 1. It is written so you can set up a safe, correct home and get through the first 48 hours without reading anything else first.

A tortoise is the slowest-moving, longest-lasting member of the family you will ever bring home. They plod through the garden like tiny, armored grandparents, they learn the sound of the person who brings the dandelions, and with decent care they will outlive your dog, your car, and quite possibly you. That is the beautiful part. The honest part is that tortoises are among the most mis-sold pets in America: the palm-sized baby in the display tub, the glass tank that "comes with everything," the pellet bag that promises complete nutrition. Almost all of that is wrong, and the mistakes show up years later as a lumpy shell and a sick animal. The good news is that the rules are mostly about doing less: a big open space, real warmth, real UV light, and a diet that looks like a sunny meadow instead of a supermarket. Read the Quick Start first, confirm exactly which tortoise you have (it changes everything, especially how much room it needs), and then take your time with the rest. Your tortoise is in no hurry. Neither are you.

SECTION 1

Quick Start: Your First 48 Hours

1. **Before the tortoise comes home, confirm the species.** Get the common and scientific name from the seller or rescue and check it against the comparison table in the next section. A Russian tortoise and a sulcata are both "tortoises" the way a chihuahua and a Great Dane are both "dogs," and the equipment for one is useless for the other. Also confirm the animal is captive-bred, that its shell is **at least 4 inches long** (federal rules restrict selling smaller ones as pets), and that it is not a protected wild species. If any answer is vague, walk away.
2. **Build the home first: an open-top tortoise table, not a glass tank.** A **tortoise table** is a large, shallow, open-topped enclosure with walls roughly 12 to 18 inches tall. A hatchling of a small species needs at least **4 feet by 2 feet**, and an adult Russian, Hermann's, or Greek is happiest in **8 feet by 4 feet**. Glass tanks make tortoises pace the walls trying to walk through the "invisible" barrier, and they trap heat and humidity the wrong way.
3. **Set up heat, with a thermostat on every heat source.** Aim for a basking surface of **95 to 100°F** (red-footed: 90 to 95°F; sulcata: 95 to 105°F), a warm side of **80 to 85°F**, a cool side of **70 to 75°F**, and nights of **65 to 75°F**. Check with an infrared temperature gun on the actual surfaces and a probe thermometer in the air, and run everything for a full day before the tortoise arrives.
4. **Install real UVB and run it for 24 hours before arrival.** UVB is the invisible light that lets a tortoise make vitamin D3, which lets it absorb calcium and build a hard shell. Without it, tortoises develop **metabolic bone disease (MBD)**, a painful softening and deforming of bones and shell. Tortoises are **Ferguson zone 3** animals; the **Ferguson zone** system classifies reptiles by how much sun they get in the wild, and zone 3 means open, sunny habitat. Aim for a UV index of about 3 to 6 at the basking spot using a linear **T5 HO** tube (a high-output, tube-shaped fluorescent lamp). Photoperiod: 12 hours on, 12 off.
5. **Prepare a damp, diggable substrate and a humid hide.** Fill the table with a few inches of topsoil and coco coir kept slightly damp so it holds a burrow, and add a covered **humid hide** (a snug shelter with damp moss inside). Dry rearing is the leading cause of **pyramiding**, the bumpy, cone-shaped growth of the shell plates that never goes away once it forms.
6. **Plan the first meal: weeds and leaves, nothing fancy.** Offer chopped dandelion greens, endive, or escarole with a light dusting of plain calcium powder. No fruit, no spinach, no pellets, and absolutely no dog or cat food. Put a cuttlebone in the enclosure for free nibbling.
7. **Give the tortoise 48 hours of quiet.** Place it on the warm side, make sure it can find the water, the hide, and the basking spot, and then mostly leave it alone.
8. **Offer the first soak around hour 24 to 48.** Fill a shallow container with warm (not hot) water as deep as the bottom edge of the shell and let the tortoise sit for 15 to 20 minutes while you stay beside it. Expect a first drink and probably a first poop.

9. **Write down the baseline.** Weigh the tortoise on a small kitchen scale and note the number. Look over the **carapace** (the domed top shell), the **plastron** (the flat belly shell), and the **scutes** (the individual plates that cover the shell like a mosaic). You want smooth, firm scutes with no soft spots, pits, or odor. Take photos to compare later.
10. **Wash your hands, and set the household rules.** All reptiles can carry Salmonella, a bacterium that is harmless to the animal but can cause serious stomach illness in people. Wash with soap and warm water after every contact with the tortoise or its enclosure, and keep it out of the kitchen. Take extra care around children under 5, pregnant people, and anyone with a weakened immune system.
11. **Find your reptile vet this week.** Not a "when something goes wrong" vet: one who will do a first checkup and fecal exam. Ask about after-hours emergencies and tape the number to the enclosure.

First-Time Starter Bundle

Everything that should be in the house before day one, described by category so you can shop for exactly what your tortoise needs.

Essentials

- **A large open-top tortoise table or similar low-sided enclosure** — sized for species and age (about 4' x 2' for a small hatchling; 8' x 4' for an adult Russian, Hermann's, or Greek), with walls tall enough that the tortoise cannot climb out.
- **A basking heat lamp on a thermostat** — an overhead flood-style bulb creating a 95 to 100°F basking spot, with the thermostat probe at tortoise level. Overhead heat mimics the sun; heat from below does not.
- **A T5 HO linear UVB tube with a reflector fixture** — long enough to cover the basking zone and part of the warm side, mounted at the manufacturer's recommended distance and replaced on schedule.
- **A handheld UV index meter** — the only way to know your tube is delivering what your tortoise needs.
- **A second, non-glowing ambient heat source on a thermostat** — a ceramic heat emitter or radiant panel to hold night temperatures in range in a cool house.
- **Two digital probe thermometers and an infrared temperature gun** — one probe per side, plus the gun for surface checks.
- **A digital hygrometer** — a real humidity reading at mid-height, plus one inside the humid hide if you can.
- **A burrowing substrate mix** — organic topsoil and coco coir, or a cypress mulch blend, deep enough to dig into.
- **A shallow, heavy water dish with a gently sloped edge** — easy to climb in and out of, sunk to ground level if possible.
- **Plain calcium powder (no added D3) and a cuttlebone** — the daily and always-available calcium sources.
- **A reptile multivitamin powder** — used sparingly, on schedule.
- **A small digital scale** — tracking weight is the best early-warning health tool you own.
- **A shallow soaking tub** — reserved for the tortoise only.

Enrichment

- **A humid hide and a dry hide** — tortoises are shelter-seekers and feel safest with a place to tuck in.
- **Tortoise-safe live plants** — hibiscus, spineless prickly-pear, and broadleaf plantain in pots add shade, cover, and grazing.
- **Stable stones, logs, and low slopes** — flat rocks and cork bark create hills to climb and shelves to bask under. Everything must be rock-solid; a wedged or tipped tortoise can struggle to right itself.
- **Opaque barriers along the interior walls** — cork bark or natural-fiber background panels. Tortoises that can see through walls often pace them.

- **A seed mix for a "tortoise salad garden"** — grasses, clover, and edible flowers to grow by the back door or under a lamp for a free, constantly refreshed menu.
- **A secure, ventilated travel container** — for vet trips.

SECTION 2

Meet Your Tortoise

Tortoises are land-dwelling members of the turtle family, with a high domed shell, sturdy elephant-like hind legs, and no webbing between the toes, because they never swim. The species people actually keep come from very different worlds. Russian, Hermann's, and Greek tortoises come from the dry steppes and Mediterranean hillsides of southern Europe, North Africa, and Central Asia: warm days, cool nights, sparse grazing, and a long winter rest. The sulcata comes from the southern edge of the Sahara, where it digs deep burrows to escape the heat. The red-footed tortoise comes from the humid forests and savannas of South America and lives a damp, shady, fallen-fruit sort of life. Same shell, wildly different needs, which is why this guide begins with a comparison table.

Confirm your species before you buy a single piece of equipment. If you do not know exactly what you have, take clear photos of the top shell, the underside, the head, and the front legs, and ask a reptile vet or an experienced keeper to help you identify it.

Species	Scientific name	Adult shell length	Adult weight	Home climate	Housing reality	Beginner fit
Russian tortoise	<i>Testudo horsfieldii</i>	About 8–10 inches	2–4 lbs	Dry, rocky steppe; arid	Active, sturdy diggers; 8' x 4' table; strong climbers and escape artists	Good: hardy, compact, widely captive-bred
Hermann's tortoise	<i>Testudo hermanni</i>	About 6–8 inches	2–4 lbs	Mediterranean; warm, dry summers and mild, damp winters	8' x 4' table; outdoor pen in warm months	Very good: attractive, well-studied, steady temperament
Greek tortoise	<i>Testudo graeca</i>	About 6–8 inches	3–5 lbs	Mediterranean and North African scrub; dry	8' x 4' table; outdoor pen in warm months	Good, with care: several subspecies, so confirm exactly which one
Sulcata (African spurred)	<i>Centrochelys sulcata</i>	24–30 inches	80–150 + lbs	Hot, dry Sahel; deep burrowers	Not an apartment pet. Large, secure outdoor pen and a heated shelter	Not for beginners: grows enormous and lives 70+ years
Red-footed	<i>Chelonoidis carbonaria</i>	About 10–14 inches	8–20 lbs	Humid forest and savanna; warm and damp	Large, humid, partly covered enclosure; roomy outdoor pen in warm weather	Moderate: needs humidity and a varied diet

Weights and lengths are for fully grown animals; a hatchling of any of these fits in your palm. And "beginner fit" is about the animal's needs, not its price: a sulcata hatchling is cute, cheap, and quietly one of the worst impulse buys in the reptile trade.

How long they live

Plan on 40 to 80+ years, and some species and individuals go longer. Russian tortoises commonly reach 40 to 50 and beyond; Hermann's and Greek tortoises often live 50 to 75 years or more; sulcatas and red-footed tortoises routinely pass 50 and are expected to keep going.

A short note on planning for succession

This is the most unusual thing we will ask you to do for a pet, and one of the kindest. **Decide who gets your tortoise after you.** Talk to your family, name a guardian who has said yes out loud, put the animal in your estate plan, and leave a simple care sheet: species, age, feeding, vet's name. Tortoises that outlive their owners are one of the most common reasons these gentle animals end up in rescues, and one short conversation now can spare yours that.

Temperament

Tortoises are calm, curious, and deeply habitual. They learn when you arrive with food, follow you around the enclosure, and develop strong opinions about favorite flowers. What they are not is cuddly. If you want an animal to hold on the couch, a tortoise will disappoint you; if you want one to watch, feed, and wander the garden with, it will delight you.

The legal side, in plain language

The 4-inch rule. Under federal regulations, selling turtles and tortoises with a shell shorter than 4 inches for pet use is restricted, because tiny shelled reptiles have historically been a significant source of Salmonella infection in young children. A thumb-sized baby offered for sale is a red flag about the seller, not a bargain. Some states and cities add their own rules, so check yours.

Wild-caught and protected species. Never buy a wild-caught tortoise and never take one from the wild. Several species are legally protected, the desert tortoise of the American Southwest among them, and possessing one without a permit can bring heavy penalties. Captive-bred animals from reputable breeders and rescues are the right source.

Never release a pet tortoise. This goes for every species, especially sulcatas. A released animal usually dies slowly, can spread disease to wild populations, and can become an invasive problem. If you cannot keep your tortoise, a reptile rescue or experienced keeper will take it.

What surprises new owners

Four things catch almost everyone off guard. **How much space** a tortoise needs: they are walkers, and a tortoise in a small tank is under chronic stress. **How long they live**, which turns a pet purchase into a multi-generation commitment. **How slow the damage is**: a tortoise raised too dry or too rich looks fine for months, then grows a bumpy shell that can never be undone, so prevention is the whole game. And **how personable they are**: a tortoise that recognizes your footsteps and gets visibly excited about a dandelion is a surprisingly good companion.

SECTION 3

Enclosure Setup & Layout

Indoor: the open-top tortoise table

The best indoor home is an **open-top tortoise table**: a wide, shallow enclosure with solid walls and no lid, with lights mounted overhead on a stand or bracket. It beats a glass tank for three reasons: real room to walk, fresh air circulation instead of stale, stuffy damp, and no clear glass walls to cause **stress pacing**, the endless trudging along the edges as a tortoise tries to reach what it can see but cannot get to.

Life stage	Species	Minimum floor space	Wall height	Notes
Hatchling	Russian, Hermann's, Greek	4' x 2' (8 sq ft)	8–12 inches	More is always better; do not upgrade in tiny increments
Adult	Russian, Hermann's, Greek	8' x 4' (32 sq ft)	12–18 inches	Ideal indoors; outdoor pen in warm months is better still
Hatchling to juvenile	Red-footed	4' x 2' growing to 6' x 3'	12–16 inches	Partial cover on top (a clear panel over part of the table) helps hold humidity; keep lamps over open sections
Adult	Red-footed	8' x 4' minimum; larger is better	16–18 inches	Humid, shaded, forested feel; outdoor pen in warm weather
Hatchling	Sulcata	4' x 2' growing quickly	12 inches	Outgrows an indoor table within months; plan the outdoor pen immediately
Juvenile and adult	Sulcata	Outdoor pen and a heated shelter	n/a	See outdoor section below. Not suitable for indoor life long term

Russian tortoises are notorious climbers and escape artists, so push walls toward 16 to 18 inches and don't let decor form a ladder to the rim. Whatever the species, build predator-proof even indoors: dogs, cats, and curious toddlers all see a slow-moving shell and treat it like a toy.

Outdoor: the pen is the real home

For every species, a secure **outdoor pen in warm months** is the best thing you can give a tortoise: real sunshine (which must not pass through glass or plastic, because both block UVB), real grazing, real exercise, and real temperature swings. For sulcatas it is not a bonus; it is essential.

Sizing. For small species, plan on at least 8 feet by 4 feet for one adult; a 10-by-10-foot pen is far better. For sulcatas, think of a fenced yard of at least 100 square feet for a juvenile and much more for an adult.

Security. Cover or roof the pen wherever there are hawks, raccoons, dogs, or foxes. Rats gnaw shells and ants can kill hatchlings in minutes. Bury hardware cloth at least 12 inches deep around the perimeter because tortoises dig, and make walls too tall to climb. Sulcatas ram fences, so use solid, buried, reinforced barriers.

Safe ground and shade. No pesticides, herbicides, or chemical fertilizers anywhere near the pen, and no azaleas, rhododendrons, buttercups, or oleander within reach. Always provide shade, a dry insulated shelter (a doghouse-style hide works), and a shallow water dish; tortoises overheat faster than you would think.

When to go out. Move small species outdoors when daytime temperatures are reliably in the 70s°F and nights stay above about 50°F, which in Pennsylvania usually means late May through September. Sulcatas and red-footed tortoises need nights above about 65°F, so they come in sooner. Bring every tortoise inside during cold snaps, heavy storms, or extreme heat.

Layout — drawing the zones

Whether the table is 4 feet or 8 feet long, think of it as a map with a warm end, a cool end, and a middle. If you were drawing the layout on paper, these are the labels, running from one short end of the table to the other.

Zone	Location	What goes here	Target temperature	Notes
Basking zone	Warm end, directly under the heat lamp and UVB tube	Flat stone or slate tile, a gentle mound of soil	95–100°F at the surface (red-footed 90–95°F; sulcata 95–105°F)	The tortoise's solar panel; UV index about 3–6 at shell height
Warm-side ambient	Warm half of the table, just outside the direct heat	Edible plants, food dish, dry hide	80–85°F air temperature	Where most feeding and walking happens
Middle transition	Center of the table	Gentle rocks, plantain or hibiscus pots, a log	About 75–80°F	The gradient: a tortoise should be able to walk from hot to cool in a short stroll
Cool end	Opposite end from the basking zone	Humid hide, shallow water dish, a few pieces of cork bark	70–75°F air temperature	Where the tortoise goes to cool off and rest
Humid hide	Cool end, tucked into a corner	Covered shelter with damp sphagnum moss or damp soil	Cool; humidity in the hide 70–80%	A damp micro-climate for hatchlings and juveniles especially
Overnight	Whole enclosure	Lights off; ceramic emitter or other non-glowing heat if the room is cold	65–75°F	Keep all of the table above 65°F, even at night

Put the water dish and humid hide on the cool side, so a tortoise doesn't have to give up basking to drink, and the food dish on the warm side in the morning light. Add stones and plant pots in a loose line from warm to cool to break up sight lines; a tortoise that can see its whole home from one spot feels exposed.

SECTION 4

Substrate Guide

The right substrate for tortoises is not a cosmetic choice. A tortoise's feet, shell, lungs, and gut all interact with whatever it walks on, digs in, and occasionally eats. The goal is a **diggable, slightly damp, stable base** that holds humidity at ground level while the air above stays drier. This is also the single most important tool for raising hatchlings without pyramiding.

Substrate	Best for	Performance	Notes
Organic topsoil and coco coir (roughly 60:40)	All species, especially hatchlings	Holds a burrow; holds humidity at ground level; stays soft underfoot	Use plain topsoil with no fertilizer, perlite, vermiculite, or added chemicals; keep slightly damp, never soggy
Cypress mulch blended with topsoil	Juveniles and adults; red-footed tortoises	Holds moisture well; naturalistic; low dust	Plain cypress only; avoid dyed or heavily processed landscaping mulch
Large flat stones or slate tile in the basking area	All species	Absorbs and radiates heat; helps wear nails naturally	Rock-stable, level, and set into the substrate; not slippery
Paper towels or newspaper	Quarantine, new arrivals, sick animals	Easy to monitor droppings; zero ingestion risk	A temporary solution, not a permanent home; too dry for hatchlings if used long-term
Sand (all-sand or "desert" sand)	Avoid	Impaction risk; dusty; poor humidity control	Tortoises are not desert sand animals in the way pet packaging suggests
Calcium sand	Avoid outright	High impaction risk when eaten	Not a safe calcium source; remove immediately
Cedar and pine shavings	Never	Aromatic oils irritate lungs and skin	Unsafe for every reptile
Walnut shell	Never	Sharp particles; impaction risk; dusty	Remove from any setup

Avoid-outright list

These are the substrates and add-ons we want gone from every tortoise home, no exceptions:

- Calcium sand and any "digestible" sand products
- Cedar shavings and aromatic pine shavings
- Crushed walnut shell and corn cob bedding
- Gravel, small pebbles, and anything small enough to be swallowed
- Any substrate with added fertilizer, perlite, or vermiculite pellets
- Dyed or chemically treated landscaping mulch
- Cat litter of any kind

SECTION 5

Heat, UVB & Humidity — The 3 Numbers

Tortoises are cold-blooded: they cannot make their own body heat, so they borrow it from the environment, and everything they do (digesting, fighting off infection, growing a smooth shell) depends on being warm enough. Three numbers decide almost every health outcome in tortoise keeping: **temperature, UVB, and humidity**. Get these three right and most of the problems in the Common Challenges section never appear. Get them wrong, and no amount of fancy food will fix it. Measure all three with real instruments. Guessing does not count, and stick-on strip thermometers are not instruments.

Parameter	Target value	How to measure it	What goes wrong when it's off
Basking surface temperature	95–100°F (Russian, Hermann's, Greek); 95–105°F (sulcata); 90–95°F (red-footed)	Infrared temperature gun aimed at the surface where the tortoise sits; probe thermometer at shell height	Too low: poor digestion, weak immune system, respiratory infection. Too high: burns, heat stress, a tortoise that flees the basking spot
Warm-side ambient air	80–85°F	Probe thermometer at shell height on the warm side	Below 78°F: sluggish appetite and slow digestion. Above 90°F: dehydration and panting
Cool-side ambient air	70–75°F	Probe thermometer at shell height on the cool side	Below 68°F: tortoise stays in the warm zone all day and never gets to cool off. Without a gradient the tortoise cannot self-regulate
Night temperature	65–75°F ; never below 65°F for tropical species	Probe thermometer with all lights off	Below 60°F: chills, loss of appetite, respiratory infection, risk of death in hatchlings
UVB level	Ferguson zone 3: UV index about 3–6 at the basking spot	UV index meter designed for reptile lamps; follow the manufacturer's distance chart for the T5 HO tube	Too low: MBD, soft shell, poor growth. Too high (rare): eye irritation, shell damage; tortoise avoids the light
Humidity (arid species)	30–50% in the air, with a damp humid hide and slightly damp substrate	Digital hygrometer at mid-height; second sensor inside the humid hide	Too dry as a hatchling: pyramiding and dehydration. Too damp: shell rot, fungal infection, respiratory problems
Humidity (red-footed)	60–80%	Digital hygrometer at mid-height; check at ground level too	Too dry: dehydration, bumpy shell, eye and respiratory trouble. Too wet and stagnant: fungus and shell rot

Temperature: heat from above, always on a thermostat

Tortoises bask by turning toward the sun, so provide heat from **overhead**: a flood-style bulb on a dimming thermostat, with the probe at the basking surface rather than hanging in the air. Every heat source gets its own thermostat, because a bulb without one is a burn waiting to happen. At night the basking lamp goes off; in a cool house, add a non-glowing ceramic emitter or radiant panel (on a thermostat) to hold 65 to 75°F. Mediterranean species enjoy a cooler night, but hatchlings should never chill, and sulcatas and red-footed tortoises belong in the upper half of the range.

UVB: the number tortoises cannot cheat

No calcium dust can rescue a UVB-starved tortoise, and no window can supply it, because **glass blocks UVB**. The target is a **UV index of roughly 3 to 6 at the basking spot** (Ferguson zone 3: open-habitat, sun-basking animals), tapering off across the table so the tortoise can choose shade. Measure at the tortoise's back height with a UV meter, which pays for itself fast.

Use a T5 HO linear tube long enough to cover the basking zone and part of the warm side, in a reflector fixture at the manufacturer's recommended distance (often 12 to 18 inches, but follow the chart and verify with the meter). Compact spiral bulbs and small dome lamps produce a narrow, uneven field and are unreliable over a long, low table.

Replace on schedule. UVB output drops long before the light looks dim. Most T5 HO tubes should be replaced roughly every 12 months (check the manufacturer's guidance), sooner if the meter reading falls below range. Write the date on the fixture.

Photoperiod and sunshine. Run 12 hours on and 12 off on a timer, shortening to 10 or 11 hours in winter. Unfiltered outdoor sun on warm days, with shade available, is the best UV source there is; even 30 minutes is a meaningful top-up for an indoor tortoise.

Humidity: dry air, damp ground

Here is the most misunderstood part of tortoise keeping. For arid and Mediterranean species (Russian, Hermann's, Greek, *sulcata*), the *air* should stay drier, **30 to 50%**, while the *ground-level micro-climate* stays damp. Wild tortoises spend the hottest, driest hours in burrows, where humidity is far higher. Copy that with a slightly damp substrate for digging and a **humid hide** at the cool end, re-moistened every few days and aiming for 70 to 80% inside.

Rearing hatchlings too dry is a leading cause of **pyramiding**: dehydrated hatchlings grow hard, tight scutes that rise upward rather than spreading outward, and the bumps are permanent. Damp substrate, regular soaks, and a humid hide prevent most of it.

For **red-footed tortoises**, the air itself should run at **60 to 80%**. Use a partial cover over part of the table, damp substrate, live plants, and light daily misting, with enough airflow that the enclosure never becomes a stagnant, soggy box.

SECTION 6

Diet & Nutrition



A grazer's menu: edible weeds and dark leafy greens as the daily base, with a little hibiscus and prickly-pear pad. Fruit and high-protein foods are not part of it.

Tortoises are **herbivores**, built to slowly work through a high-fiber, low-protein, mineral-rich diet of grasses, leaves, flowers, and weeds. Think meadow, not salad bar. A wild Hermann's tortoise eats dozens of plants over a season, most of them what a gardener calls weeds, and that variety, not one "perfect" vegetable, is what balances the diet.

At Walnut Creek Supply we say it the same way for pets and people: **Clean Fuel, No Junk**. No mystery ingredients. If you can't identify what's in the bowl, your tortoise shouldn't be eating it.

The staple weeds and greens

Build every meal around a mix of two to four of the items below, rotating through the week. Grazing is natural: tortoises will nibble all day if you let them.

Food	Category	How often	Notes
Dandelion (leaves and flowers)	Staple weed	Several times a week	High in calcium; the classic tortoise food; only from pesticide-free ground

Food	Category	How often	Notes
Clover (white and red)	Staple weed	Several times a week	Gentle, palatable, great for picky eaters
Broadleaf plantain (the lawn weed, not the banana)	Staple weed	Several times a week	Fiber-rich and widely tolerated; excellent for gut health
Mallow	Staple weed	Several times a week	Soft leaves and flowers; many tortoises love it
Grasses and grass hay (orchard grass, timothy, fescue)	Staple	Daily for sulcata; several times a week for others	The core of a sulcata's diet; fiber for every species
Endive and escarole	Staple leafy green	Several times a week	Easy to find; mild bitterness; good base for the bowl
Radicchio	Staple leafy green	Several times a week	Colorful; small amounts mixed in
Hibiscus (leaves and flowers)	Staple	Several times a week	Beloved by most tortoises; grows well in a pot
Prickly-pear (opuntia) pads	Staple	2–4 times a week	Remove spines and glochids (tiny hair-like thorns) first; hydrating and calcium-rich
Mixed greens (turnip greens, collards, mustard greens, bok choy, dandelion mix)	Rotation greens	Rotate in a few times a week	Variety; avoid making any single one the whole bowl
Edible flowers (nasturtium, pansy, rose, squash blossoms)	Treat and enrichment	Weekly	Great as a bright topper for picky eaters
Ripe fruit (strawberry, melon, mango, apple, papaya)	Small treat only	Once every week or two; red-footed up to a bit more	See the red-footed note below

Safe versus never-feed

Food	Verdict	Why
Turnip greens, collards, mustard greens, bok choy	Safe, rotate	Good calcium; offer in rotation, not alone
Squash, bell pepper, carrot (small amounts)	Safe occasionally	Fine in small amounts; not nutritional heavyweights
Spinach	Not a staple	Oxalates bind calcium and may interfere with absorption
Kale	Not a staple	Goitrogens can interfere with thyroid function if fed daily
Iceberg lettuce	Avoid	Mostly water with almost no nutrition
Regular fruit	Small treat only	Sugar upsets gut balance and encourages picky eating; red-footed tortoises can have somewhat more
High-protein pellets and "complete" tortoise foods	Avoid as a staple	High protein is linked to fast, lumpy growth and pyramiding
Dog food, cat food, or any animal protein	Never	Causes kidney and gut damage and rapid abnormal growth
Dairy	Never	Tortoises cannot digest lactose

Food	Verdict	Why
Bread, pasta, crackers, cereal	Never	Refined starch; no nutritional value
Avocado	Never	Toxic to many reptiles
Onion, garlic, leeks	Never	Can damage blood cells
Rhubarb leaves	Never	Very high oxalic acid
Buttercup, azalea, rhododendron, oleander, foxglove, daffodil, lily of the valley	Never	Toxic plants that sometimes grow where tortoises roam

A note on red-footed tortoises. In the wild, red-footeds eat fallen fruit, so a few small pieces of ripe fruit a week (still mostly leaves, flowers, and greens) suits them. Some keepers also offer a tiny amount of animal protein; we recommend skipping it unless your vet suggests otherwise.

Grow a tortoise garden

The best tortoise food in the world is free, and it is probably growing in your yard right now. Our own family grows our food, and a small patch for the tortoise is the easiest corner of the garden: scatter grasses and clover in a sunny spot, pot a hibiscus, tuck in a prickly-pear pad, and let it grow. Never pick from roadsides, chemically treated lawns, or places dogs visit. Rinse, shake dry, and chop for the little ones.

Calcium and supplement schedule

Supplement	Schedule	Notes
Cuttlebone	Available at all times	Tortoises nibble what they need; also wears the beak naturally
Plain calcium powder (no added D3)	Lightly dust food 2–3 times a week for adults; 3–5 times a week for hatchlings and juveniles	The main calcium source on top of a weed-rich diet
Calcium with D3	Only occasionally (roughly once or twice a month), or as your vet recommends	D3 accumulates in the body; good UVB covers most of what a tortoise needs
Reptile multivitamin	Sparingly: about once every two weeks to once a month	Trace nutrients; more is not better

Feeding schedule by age

Age or type	How often	How much	Notes
Hatchlings (0–12 months)	Daily	A pile of greens and weeds roughly the size of the tortoise's shell	Soak daily and offer food fresh in the morning after they've warmed up
Juveniles (1–5 years)	Daily	A pile roughly the size of the shell; adjust for growth	Aim for slow, steady growth rather than fast growth
Adult Russian, Hermann's, Greek	5–6 days a week; one light or fast day is fine	A pile roughly the size of the shell	Grazing in the outdoor pen replaces most of the bowl

Age or type	How often	How much	Notes
Adult sulcata	Daily grazing plus grass hay	A grass-heavy diet; a big pile of hay always available	Not high-protein; not fruit; grazing is the main course
Adult red-footed	Daily or every other day	Mixed greens, flowers, and a bit of fruit	Humid and varied

Offer food in the morning, after the tortoise has warmed up under the basking lamp for an hour or so; a cold tortoise can't digest properly. Remove leftover fresh food by evening, and aim for slow, steady growth rather than a sprint to adult size.

SECTION 7

Soaking, Shell Health & Seasonal Care

The soaking routine

Soaking is one of the easiest and most protective habits in tortoise care. It hydrates through drinking and through the vent, softens urates so they pass easily, encourages a poop, and keeps hatchling skin and scutes supple.

How to soak. Use a shallow container reserved for the tortoise. Fill it with warm water (comfortable on your wrist, around 85 to 90°F) to about the bottom edge of the shell. Never leave a tortoise unattended, and never let the head dip below water. Soak 15 to 20 minutes in a warm room, then pat dry and return the animal to the warm side.

How often. Hatchlings: daily, easing to several times a week once they are bigger and the substrate and humid hide are doing their job. **Juveniles:** a few times a week. **Adults: about once a week**, plus extra soaks if the tortoise is not drinking, is constipated, or has just come through a cool spell.

Pyramiding, explained

Pyramiding is the lumpy, cone-shaped growth that turns smooth shell plates into little pyramids. It is the single most common visible shell problem in captive tortoises, and the hard truth is that it is permanent once it has formed. The good news is that new growth can come in smooth if you fix the cause. There is not one cause; it is a combination, and most cases involve several of these at once:

- Humidity and hydration that are too low during the first year or two of life (the biggest culprit)
- Too much protein, rich foods, or fast growth from "complete" pellets and fruit
- Weak or missing UVB, or an unsuitable lamp
- Temperature that is too low or a gradient that doesn't work
- Not enough space or exercise

Preventing pyramiding means following the recipe in this guide: damp substrate and a humid hide, regular soaks, a fibrous weed-based diet, proper UVB, and warmth. A pyramided tortoise can still live a long and happy life, but it is an unmistakable record of its early care.

What a healthy shell looks like

A healthy shell is **hard, smooth, and evenly colored**. The scutes lie flat with fine growth rings that do not rise into bumps. The edges (called the marginals) are tidy, the plastron is firm, and there are no soft spots, pits, white patches, or foul smell. The tortoise should feel heavy for its size. A young tortoise's shell is soft for the first months, which is normal; it hardens with age, calcium, and UVB. Growth rings are not a reliable way to tell age, so don't count them.

Brumation and hibernation

Brumation is the reptile version of hibernation: a deep seasonal slowdown in which the animal stops eating and drops its metabolism in response to cool temperatures and short days. Wild Russian, Hermann's, and Greek tortoises do it for weeks to months each winter. Sulcatas and red-footed tortoises do not, and should be kept warm all year.

A few firm rules. Brumation is demanding, and a mistake can be fatal. **Never attempt it with a sick, underweight, or young tortoise.** Never do it without a veterinary check-up first, ideally including a fecal exam and a weight assessment. A tortoise that enters a cooling period carrying parasites, an infection, or low reserves can come out much worse, or not at all.

Our advice for beginners: you do not have to brumate your tortoise. Many keepers keep Mediterranean tortoises awake and warm all winter with normal temperatures and a slightly shorter photoperiod. If you want to attempt a supervised cooling period for a healthy adult, let your reptile vet set the temperature range (typically the 40s to low 50s°F), the duration, the weight monitoring, and the wake-up plan. Do not rely on a guess or a forum thread for this one.

The seasonal rhythm: spring and summer outdoors with shade, water, and grazing; autumn appetite dips as days shorten, so keep conditions steady and weigh every week or two; winter indoors with heat and UVB on schedule.

SECTION 8

Common Challenges & Solutions

Pyramiding

What you see: shell plates rising into raised cones or bumps, often starting soon after hatching. **Why:** chronic dryness, rapid growth from rich or high-protein food, and weak UVB or low temperatures, usually in combination. **What to do:** fix the conditions now with damp substrate, a humid hide, regular soaks, a fiber-heavy weed diet, proper UVB, and good heat. Existing bumps will not smooth out, but new growth can. **When to call a vet:** if the shell also looks soft, the tortoise is lethargic, or you want a baseline assessment and growth plan. Early guidance matters most for hatchlings.

Respiratory infection (runny nose)

What you see: bubbles or clear to cloudy discharge from the nose, wheezing or clicking sounds, open-mouth breathing, a puffy neck, loss of appetite, and lethargy. **Why:** temperatures that are too cool or too damp, drafts, and viral or bacterial infection. **What to do:** confirm the temperature gradient and night temperature, move the tortoise to a clean, warm setup, and call your vet. **When to call a vet:** at the first sign of nasal discharge, and as an emergency if there is open-mouth breathing. It is treatable early but can become serious quickly.

Shell rot

What you see: soft, pitted, flaky, or discolored areas of shell; white, gray, or pink patches; a foul smell; fluid under the plates. **Why:** bacterial or fungal infection, usually after chronic dampness, a dirty damp substrate, or an injury. **What to do:** move the tortoise to a clean, dry setup, keep the area dry between soaks, and do not pick at damaged scutes. **When to call a vet:** at the first soft spot, pit, or smell. Deep rot can reach the bone and the body, and treatment needs a vet.

Metabolic bone disease (MBD)

What you see: a soft, bendable shell, a flattened or misshapen carapace, a rubbery beak and jaw, weak or trembling legs, reluctance to walk, and in advanced cases, broken bones. **Why:** too little UVB, too little dietary calcium, or the wrong calcium-to-phosphorus balance; in tortoises, check UVB first. **What to do:** confirm the lamp type, distance, and age, measure the UV index, review the calcium schedule and diet, and add outdoor sunshine on safe days. **When to call a vet:** as soon as you notice soft shell or limb weakness. Early MBD responds to treatment; late MBD causes permanent deformity.

Overgrown beak

What you see: a beak that curves down too far or overlaps, and a tortoise that tries to eat but drops food. **Why:** a diet too soft and moist, no cuttlebone or rough foods to wear the beak, or underlying MBD. **What to do:** provide a cuttlebone, hay, tough grasses, and prickly-pear pads, and encourage outdoor grazing. Do not trim at home. **When to call a vet:** if the beak overlaps or the tortoise cannot eat; a vet can trim it safely.

Parasites

What you see: runny, smelly, or mucus-coated droppings, visible worms in the stool, weight loss despite eating, or a dull, quiet animal. A few pinworms are common and often harmless. **Why:** parasites travel in contaminated food, soil, and water; wild-caught and stressed animals carry more. **What to do:** collect a fresh fecal sample in a sealed bag and take it to your vet. Skip over-the-counter dewormers without a diagnosis. **When to call a vet:** any worms in the stool, loose stool for more than a few days, or weight loss. Schedule a fecal exam yearly regardless.

Bladder stones and dehydration

What you see: hard, chalky white urates, straining to urinate, long squatting or digging without result, sunken eyes, tacky skin, lethargy, a bloated hind end. **Why:** too little water or soaking, a dry environment, and a diet too dry or too rich in protein. **What to do:** soak daily in warm water, keep the cool side of the table damp, and review the diet. **When to call a vet:** quickly, and the same day if there is straining or no urine or stool for several days. Stones are painful and often need an X-ray and surgery.

Prolapse

What you see: pink or red tissue protruding from the vent at the base of the tail (cloaca, intestine, bladder, or in males the penis). **Why:** straining from constipation, parasites, stones, infection, or egg trouble in females. **What to do:** this is an emergency. Keep the tissue moist with a clean, non-stick pad soaked in sterile saline or clean cool water, keep the tortoise calm and warm, and **do not push it back in**. **When to call a vet:** immediately.

Eye problems

What you see: swollen, puffy, cloudy, or closed eyes, discharge, or rubbing at the face. **Why:** dusty or irritating substrate, low humidity, vitamin A imbalance, infection, or a respiratory problem. **What to do:** check humidity, switch to a damp, low-dust substrate, and soak daily in clean warm water. **When to call a vet:** if an eye stays closed for more than a day, looks cloudy, or has discharge; eye trouble often signals underlying illness.

Not eating

What you see: a tortoise that refuses its usual food for several days, hides all day, or is losing weight. **Why:** temperatures that are too low, stress from a new home, seasonal slowdown, boredom with the menu, or illness. **What to do:** check temperatures and UVB first, then soak, then offer favorite weeds and flowers in the morning after warming. **When to call a vet:** hatchlings that skip food for more than two or three days, adults for more than a week, or any tortoise losing weight or showing other symptoms.

Quick reference

What you see	Likely cause	What to do	Vet urgency
Cone-shaped, raised scutes	Pyramiding; dryness, rich diet, weak UVB	Fix humidity, soaks, diet, UVB	Routine; sooner if the shell is also soft
Bubbles or discharge from the nose, wheezing	Respiratory infection	Check temperatures; warm, clean setup	Same day
Pitted, smelly, soft patches on shell	Shell rot	Dry, clean setup; do not pick	Within a day or two
Soft shell, trembling legs, rubbery jaw	MBD: weak UVB or calcium	Check UVB and calcium	As soon as noticed
Overlapping or curved beak	Overgrown beak	Cuttlebone, tough grasses	Book a trim
Loose stool, worms, weight loss	Parasites	Fecal sample	Within days
Chalky urates, straining, sunken eyes	Bladder stones or dehydration	Daily soaks; review diet	Quickly; same day if straining
Tissue from the vent	Prolapse	Keep moist; do not push back	Same day, emergency
Swollen, closed, or cloudy eyes	Eye infection or vitamin A issue	Humidity; clean substrate	Within a day or two
Refusal to eat	Cold, stress, illness	Check temperatures; soak	Hatchlings 2–3 days; adults 1 week

SECTION 9

Handling

Tortoises are watchers and grazers, not lap pets. Most tolerate handling rather than enjoy it, and every pick-up is a small stress, so keep it short, calm, and purposeful: health checks, soaks, and moves between the table and the pen.

Safe lifting

Support the whole body. Slide one hand under the plastron toward the center and hold the side of the shell with the other, gripping around the middle between the front and back legs. Never lift by a leg, the head, or the front edge of the shell.

Stay low and over something soft. Hold the tortoise only a few inches above a towel, grass, or carpet. A fall from waist height can crack a shell or injure internal organs. If it starts to struggle, set it down.

Never flip a tortoise onto its back. It stresses the lungs and organs, and the tortoise may struggle to right itself. If one gets flipped by accident, turn it over right away.

Expect a tortoise to pee. Many void their bladder when picked up, a defensive reaction that costs water, which is another reason to keep handling minimal.

Large tortoises. An adult sulcata can weigh over a hundred pounds and cannot safely be lifted by hand. Use a ramp, a sturdy cart, or let it walk.

Hygiene

Wash your hands with soap and warm water for at least 20 seconds after every contact with the tortoise, its food, its water, or anything in its enclosure. Keep a dedicated soaking bin, never use the kitchen sink or family bathtub, and don't kiss or snuggle the tortoise or hold it near your face.

Children and families

Tortoises can be a lovely shared responsibility for children old enough to learn the rules. Children should handle them only while seated on the floor with an adult supervising, then wash their hands right away. **Children under 5, pregnant people, and anyone with a weakened immune system face the highest Salmonella risk** and should not handle tortoises or touch the enclosure. Teach kids to let the tortoise walk, stay calm, and never carry it by the shell edge.

SECTION 10

Routine Care Calendar

How often	What to do
Daily	Check basking surface, warm and cool-side temperatures, and the UVB schedule (lights on and off on timer)
Daily	Offer fresh weeds and greens in the morning after the tortoise has warmed up; remove leftovers by evening
Daily	Refill and clean the water dish; spot-clean droppings and uneaten food
Daily	Soak hatchlings and small juveniles; mist the humid hide as needed; quick health look at eyes, nose, appetite, and droppings
Weekly	Soak adults and older juveniles for 15 to 20 minutes
Weekly	Weigh the tortoise and record the number; dust food with plain calcium powder on schedule; check the cuttlebone
Weekly	Stir the substrate and refresh its damp zones; wash the water and feeding dishes with hot soapy water
Monthly	Deep-clean the enclosure: remove décor, replace soiled substrate, wipe surfaces
Monthly	Check thermostats and probes against a second thermometer; inspect cords and fixtures; offer a multivitamin dusting; photograph the shell from above and the side
Every 12 months	Replace the T5 HO UVB tube, or sooner if the meter reading falls below range
Seasonally	Move outdoors, back indoors, and adjust the photoperiod; decide on brumation with your vet
Annually	Reptile vet wellness exam with a fecal parasite check; update your succession plan and care sheet

SECTION 11

When to See a Vet

Tortoises hide illness extremely well, and by the time something looks wrong it has usually been wrong for weeks. **If you are unsure, call.** A short phone call to a reptile vet is always better than a week of wait and see.

Go today, same day or emergency:

- Any tissue protruding from the vent (prolapse)
- Open-mouth breathing, wheezing, gasping, or bubbles from the nose with lethargy
- A tortoise that is limp, unresponsive, or cannot lift its head
- A cracked shell, exposed bone, or bleeding that does not stop
- A female straining or digging repeatedly without laying, or looking swollen and unwell
- Seizures, circling, loss of coordination, or sudden paralysis of the back legs
- Straining to pass urine or stool, with a hard, bloated hind end
- Severe heat stress (frothing at the mouth, limp, very hot to the touch) after being left in the sun

Book within a few days:

- Soft spots, pits, or odor on the shell
- Soft, bendable shell or jaw, limb trembling, or difficulty walking
- Nasal discharge, even if mild
- Swollen, puffy, or cloudy eyes
- Loss of appetite for more than a few days in a hatchling or a week in an adult
- Loose stool, worms in the stool, or chalky, hard urates
- Any new lump, swelling, or sore

Find a reptile-experienced veterinarian before you need one, and bring a written temperature log, your supplement schedule, and a fresh fecal sample to any appointment.

SECTION 12

FAQ

What do tortoises eat?

Tortoises are herbivores that thrive on a fibrous, low-protein, weed-and-grass diet. Build meals around dandelion leaves and flowers, clover, plantain, mallow, grasses, endive, escarole, radicchio, hibiscus, and spineless prickly-pear pads, rotated through the week, with a cuttlebone always available and plain calcium powder dusted on food a few times a week. Fruit is a small treat only (red-footed tortoises may have a little more), and spinach and kale should not be staples. Never feed dog food, cat food, dairy, bread, or other animal protein, and be cautious with high-protein pellet diets, which are linked to pyramiding.

How long do tortoises live?

Plan on 40 to 80+ years, and some species and individuals live longer. Russian tortoises commonly reach 40 to 50 years or more, Hermann's and Greek tortoises often live 50 to 75 years, and sulcatas and red-footed tortoises are expected to pass 50. Correct heat, UVB, humidity, diet, and regular vet care get a tortoise to the top of that range, and because they so often outlive their first owner, a written succession plan and a named guardian are part of responsible ownership.

What is the best pet tortoise for beginners?

For most first-time keepers, a captive-bred Hermann's, Greek, or Russian tortoise is the best fit, because these species stay under about ten inches, are hardy when their basics are right, and have long been bred in captivity. Russians are the most compact and tough but are energetic climbers and escape artists, while Hermann's tortoises are calm, handsome, and thoroughly studied. Avoid sulcatas unless you have a large yard, a heated outdoor shelter, and a multi-generation plan, and treat red-footed tortoises as an intermediate choice because they need steady humidity and a more varied diet.

Do tortoises need UVB?

Yes, absolutely. Tortoises are Ferguson zone 3 animals that need a UV index of roughly 3 to 6 at the basking spot to make vitamin D3 and absorb calcium, and without it they develop metabolic bone disease, a painful softening of the shell and bones. The standard solution indoors is a T5 HO linear tube mounted over the basking area at the manufacturer's recommended distance and replaced on schedule, ideally checked with a UV index meter, while unfiltered outdoor sunshine on safe days is even better. Glass blocks UVB, so a sunny window does not count.

How big of an enclosure does a tortoise need?

Much bigger than most people expect. A hatchling of a small species needs a minimum of about 4 feet by 2 feet, and an adult Russian, Hermann's, or Greek tortoise is happiest in an open-top tortoise table of 8 feet by 4 feet or larger, with walls 12 to 18 inches tall. A secure outdoor pen in warm months is the best upgrade for any species and an absolute requirement for sulcatas, which grow to 80 to 150+ pounds and are not apartment pets.

What is pyramiding in tortoises?

Pyramiding is the cone-shaped, bumpy growth of the shell scutes, the individual plates that cover the shell. It is mainly caused by rearing hatchlings too dry, combined with too much protein or rich food, weak UVB, and low temperatures. It is permanent once formed, though smooth new growth can follow if conditions are corrected. Prevention means a damp substrate, a humid hide, regular soaks, a fiber-heavy diet of weeds and grasses, proper UVB, and good warmth from day one.

Do tortoises need to hibernate?

Not in captivity. Wild Russian, Hermann's, and Greek tortoises brumate (the reptile form of hibernation) for part of the winter, but sulcatas and red-footed tortoises do not, and many keepers safely keep Mediterranean species warm and active all year. Brumation

must never be attempted with a sick, underweight, or young tortoise, and any cooling period should be planned with an exotic vet who can check health first and set safe temperatures, duration, and weight monitoring.

How often should I soak my tortoise?

Hatchlings benefit from a soak daily, easing to several times a week as they grow and their setup is dialed in, while adults do well with a soak about once a week. Use warm, shallow water up to the lower edge of the shell for 15 to 20 minutes, always supervised, in a container used only for the tortoise.

Can tortoises live together?

Usually, it is safest to keep tortoises one per enclosure. Males can be aggressive, ramming, biting, and chasing each other and females, and even a pair that looks peaceful can hide a bully that quietly blocks the other from heat, food, and water. If you do house tortoises together, keep to the same species, plan a very large space with multiple basking spots, feeding stations, and hides, and watch for weight loss, shell damage, or hiding. Never mix species, since their needs and their pathogens differ.

Do tortoises carry salmonella?

Yes, like all reptiles, they can carry Salmonella in their gut without showing any sign of illness. The risk to people is real but manageable: wash your hands with soap and warm water after every contact with the tortoise or anything in its enclosure, keep the animal and its gear out of the kitchen, and use a dedicated soaking bin. Take extra care around children under 5, pregnant people, and anyone with a weakened immune system, who should avoid handling tortoises altogether.

SECTION 13

Every Purchase Gives Back

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For tortoise keepers, that commitment has a special weight. These animals live so long that their stories span more than one household, and the ones who end up in rescues are nearly always there because someone fell for a baby and never pictured the 60-year adult. If you have read this far, you have already done the part that matters most: you pictured it. And if you can adopt rather than shop, reptile rescues have healthy tortoises waiting for a keeper with a good table, a good lamp, and a good plan.

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