

## Understanding reptiles:

### Substrates

One of the most enjoyable parts of owning a reptile or amphibian is creating a perfect little slice of the jungle, forest, or marsh in your home, like you've taken a knife and carved out a little cube of nature! The substrate is the foundation of your pet's home, and plays a much more important role than just how your cage looks.



There are a wide variety of substrates to choose from, each one appropriate for different species. And there are pros and cons to every type of bedding available. It can seem a bit overwhelming when you first see the choices, so let's check each one out:

**Ground coconut shell:** This is the husk of the coconut, ground up into either coarse or fine pieces. It's great for more tropical reptiles, as it holds moisture well and creates a great forested or jungle look. It is better aerated than most bark substrates, but and, if ingested, cause impaction. It can potentially carry mites, so that's something to keep an eye out for, especially during the spring time.

**Moss:** Moss can be used alone or spread on top of ground coconut fibers. It's great for helping keep the ambient humidity up in your cage; take the moss out, ball it up and dunk it in some water. Wring it out so that it is merely damp (not soaking wet), and replace back in the cage. During the day, the water evaporates, creating the perfect environment for your tropical reptile or amphibian. Mites are a possibility with moss as a substrate.

**Reptile Pine Bark:** You may see this offered in other places for reptile bedding; we don't offer it as we have found, over the years, that it tends to harbor mites and bacteria easily.

*TIP: A lot of these wood-based substrates can, when soiled, be recycled in the home and in the garden as compost and mulch.*

**Ground walnut shell:** Ground into small pieces, English walnut shell is a common substrate for all of your desert reptiles. It holds heat really well and is easy to clean with a sifter (like a cat box). Since it stays dry, it doesn't need to be changed out frequently. Walnut shell also allows your lizard or tortoise to dig, a natural behavior that keeps them healthy. It can be dusty, though, and, as always, if ingested could cause impaction. NOTE: may not be appropriate for families with nut allergies.





**Cage carpet:** An artificial substrate for the bottom of your reptile/amphibian cage, rather like AstroTurf. Because it's all in one piece, reptiles are at a very low risk for getting impacted. Many people keep two pieces for their cage; when one gets dirty, you pull it out, put the new one in place, and then soak and sanitize the dirty one. Some of the downsides to the cage carpet is that it limits a reptile's natural behaviors (although many do crawl underneath it), it doesn't hold heat, and, if the edges are frayed, toes can get caught in it. R-Zilla's Terrarium Liner comes in every common cage size, so it's easy to use.

**Calcium sand:** Available in a wide range of colors, this substrate is actually tiny beads of calcium carbonate. Manufacturer's claim the calcium substrates are safe for digestion, are great as a calcium supplement and also hold heat and allows lizards and tortoises to dig into it. According to most vets, long term use of substrates do run the risk of intestinal impaction.

**Alfalfa pellets:** This unique bedding is safe since if it is ingested, it breaks down in their guts so there's no risk of impaction. It is appropriate for larger animals, especially large tortoises, iguanas, and some skinks. It can be harder for smaller animals to move around in, and there is some concern that it will develop gait irregularities for some smaller tortoises. It can also grow mold if it gets wet.



There is a bit of a disagreement between veterinarians and reptile enthusiasts about the appropriate substrate. Reptiles are known to be genetically sound; they are not known to have genetic diseases. When people *do* have to take their lizard in to a vet, it is invariably due to long term care issues or more acute issues caused impactions from swallowing substrate – so vets really do not like sandy substrates and always suggest using cage carpet. Reptile enthusiasts, however, love the sandier substrates as they hold heat better, look more natural, and allow your reptile to engage in instinctive behaviors like digging.

*The important thing to understand is that no one substrate is completely safe.* When considering a substrate, you should choose one that will assist in keeping your herp physically and emotionally healthy. A good option is to use a reptile liner for a portion of the cage and add a section of damp moss on top for humidity and or a container of substrate for instinctual digging. Discuss any concerns you have with your reptile veterinarian.

### **Cleaning substrates.**

Keep your reptile cage clean and healthy means keeping the bedding clean. Every day, when you're in the cage feeding and checking humidity, spot clean. With wood/fibrous substrates, use a paper towel to spot clean any obvious soiled bedding. Sandy substrates should be sifted to removed droppings and solids. (This is also a great time to wash out the water dish; don't just change the water, use some soap and water to help keep their cage even cleaner.)

We recommend cleaning with your nose: when you're in your cage caring for your pet, take a sniff. If it smells funky or musty, it's time to do a major cleaning in the cage. Keep in mind that the higher the humidity, the more frequent the cage will need to be cleaned.

Remove the pet and put somewhere safe. Remove all the decorations and scoop out the bedding; we find a dust pan makes a great scoop for dirty bedding. If you're using cage carpet, we like to soak it in a mild bleach solution and then rinse it VERY well (the nice thing about bleach is that, while it is very toxic, once you don't smell it, it's gone.) Many people will have two identical pieces of carpet and will place a clean one in the cage while cleaning and drying the dirty carpet; once it's clean, keep it ready for the next time you need to change the cage. Use some Nature's Miracle in the bottom of the cage, then wipe it clean. Dry the cage out and replace the substrate. Use some vinegar to get rid of water spots (if you're spraying moisture in the cage every day, water spots build up fast.) Replace the decorations and place your pet back in their safe, clean home!



TIP : Don't saturate tropical and temperate reptile cages. Standing water in the bottom is the fastest way to build up mold, mildew, and bacteria. Moss is helpful here, as it can get wet but help keep the bottom of the cage dry. Dunking the moss can also help prevent water spots. It's better to lightly mist a cage a few times a day than to soak it once a day.

Your reptile's substrate is the not only the foundation of their cage, it plays a vital role in both the health and happiness of your pet and the appearance of the cage. Knowing your pet, the environment where it comes from, not only creates a realistic, accurate look in your cage, but also helps ensure that it not only survives, it thrives.