

Reptile-Safe Plants, Insects and Foods

What foods, plants and insects are not safe to feed to reptiles?

By Margaret A. Wissman, DVM, DABVP

Other than lightning bugs, what foods are unsafe or fatal to feed reptiles? There is a lot of contradicting information out there, and I would really appreciate your input!

Lists of toxic or poisonous plants are available through many sources. I have seen lists for reptiles and also lists for birds. Any plant on one of those lists should not be fed, with some exceptions. Also some of the information published about what not to feed is based on old or outdated information. That's why some of the published information is confusing and is contradicting.

For example, some published sources list parsley as toxic. Parsley is an excellent source of beta-carotene, which animals convert to vitamin A, a necessary vitamin. However, if ingested in large quantities, it can cause photosensitization. This means that if a large amount of parsley is consumed and the reptile is exposed to sunlight (or potentially full-spectrum lighting with ultraviolet wavelengths,) it might have a skin reaction resulting in redness, swelling, irritation and pain. However, this is very unlikely to occur unless parsley is fed exclusively or as a major portion of the diet.

Spinach has been implicated as causing problems. This is because it contains oxalates, which have the potential to bind calcium. Other food items containing lower amounts of oxalates are peas, beets, beet greens, lettuce, turnips, carrots and berries. Spinach, however, is an excellent source of beta-carotene, a good source of protein and calcium. The oxalates should not be a problem when spinach is offered as a portion of the diet. No one food source should be fed as the sole dietary item, as that is much more likely to result in nutritional problems. Variety is the key to providing a healthy diet!

Tannins are found in a variety of plant sources, and can bind protein, inhibit digestive enzymes and reduce the bioavailability of iron and vitamin B12. These compounds are found in many plants and are associated with an astringent taste and cause normal browning on fruits and vegetables when cut or bruised. Tannins are found in high levels in carrots, grape seeds, tea, coffee, chocolate, bananas, grapes, raisins, lettuce, spinach, rhubarb and onions. Again, carrots, grapes, lettuce and spinach can be safely offered to herbivores, as a portion of a balanced and varied diet.

The cruciferous vegetables (also called the brassica family) have also been implicated as potentially causing nutritional problems. These include Brussels sprouts, bok choy, turnips, rutabaga, broccoli, cabbage, cauliflower, kale, kolrabbi and mustard. These foods have goitrogenic properties, meaning that they can cause symptoms resembling iodine deficiency or they can exacerbate a marginally iodine-deficient diet, affecting the thyroid gland function. Unless fed exclusively, some of these vegetables can have a place in a balanced, varied diet as well.

Other types of nutritional antagonists, including vitamin and mineral antagonists, are found in some plants. Other types of natural plant toxins can be found in some vegetation. Some include gossypol, cyanogenic glycosides, photosensitizers (such as those found in parsley), and a variety of alkaloids and phenolic compounds. Many have shown beneficial effects when provided at low amounts, but at higher concentrations, they may prove toxic or carcinogenic. Low exposure to these items should never be considered to be dangerous, but none of them, especially in the raw form, should be offered in any large quantities.

I hope this helps demystify some of the baffling information about plants. When it comes to insects, it is probably safest to offer those commercially available. While many herpers will sweep fields or catch moths from front porch lights, and this is a great way to provide essential variety, there is always a risk that these wild-caught insects will be harboring parasites that can be passed to our insectivorous or omnivorous herps. If insects are caught that cannot be identified, it might be safest to pass on offering those to your herps, just to be on the safe side. Also, be sure that no insecticides, herbicides or pesticides are present on any insects being offered.

Fish offered as prey items can cause thiamine deficiency and vitamin E deficiency in carnivorous herps that consume them. Fish contain thiaminase, an enzyme that breaks down thiamin. Signs of deficiency include ataxia, muscle tremors, blindness and a slow heart rate. Signs of vitamin E deficiency include anorexia and swollen nodules under the skin that are painful. This may also result in steatitis. Treatment should include oral and injectable thiamin and/or vitamin E. It might also be advantageous to supplement with some selenium.

Bon Appetit!



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Need a Herp Vet?

If you are looking for a herp-knowledgeable veterinarian in your area, a good place to start is by checking the list of members on the Association of Reptilian and Amphibian Veterinarian (ARAV) web site at www.arav.com. Look for DVMs who appear to maintain actual veterinary offices that you could contact.