

## HOW NUTRITIOUS ARE YOUR CRICKETS?

In recent years, insect-eating reptiles have become increasingly popular. Common patients in our practice are bearded dragons, uromastix lizards, leopard and fat-tailed geckos, and chameleons. Unfortunately, many of these lizards are found to have life threatening nutritional deficiencies. Calcium deficiency is the most common one seen which almost always occurs due to a poor diet.

Calcium deficiency can take months to manifest in reptiles. Often the signs are not related to bone deformities. Calcium deficiency in reptiles typically presents as muscle weakness with generalized lethargy and anorexia.

When owners are asked about the food items offered, many reply that they get crickets and mealworms from the pet store and just throw them in the animal's cage. Most everyone admits to dusting the crickets or mealworms with a commercial vitamin and mineral supplement which includes calcium. This dusting, however, is seldom enough to provide adequate levels of calcium.

The nutritional content of prey insects like crickets and mealworms are directly linked to the contents of the insect's stomach when it is eaten by the predator. A recent study was performed on the nutritional content of crickets. The study analyzed the calcium content of several groups of crickets. The groups included: crickets deprived of food for 24 hours, crickets deprived of food but dusted with a commercial mineral powder, crickets fed a commercial "gut-loader", crickets fed a scratch food formulated for chickens, and crickets fed a commercial pellet diet formulated for pet parrots. Surprisingly, only the chicken feed and parrot pellet groups contained significant levels of calcium. The dusted group, where you could clearly see the white powder coating the insects, contained almost the same insufficient amount of calcium as the starved group. Even the gut-loader group, a product sold to feed to insects to enhance their nutritional value, was insufficient in calcium. No wonder we are seeing such high numbers of calcium deficient insect-eating lizards.

Pre-feeding the insects with a variety of items can help insure their nutritional content is adequate for your lizard. We recommend purchasing your crickets and mealworms in advance and feeding them a high quality formulated bird pellet along with dark, leafy green vegetables such as parsley or kale. The pellet can be kept in the freezer to prolong the shelf life. Adequate water should also be kept with the crickets. The water should be supplied in a wet sponge as crickets will drown in standing water. Mealworms can also be offered the same pellets and greens. Most mealworms are kept in the refrigerator to prevent them from completing their life cycle and turning into beetles. They should be warmed up to room temperature for at least 24 hours when gut-loading to stimulate appetite.

Diet modification is one way to prevent nutritional deficiencies. However, if you suspect a deficiency is present, please consult with a veterinarian who is knowledgeable in reptile care. Once the problem is evident, changing the diet is seldom enough to remedy the problem.

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