

Avocado Toxicity

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The subject of avocado poisoning has been a tremendous source of controversy and confusion among bird breeders and owners for as long as I can recall, in my practice. This article is to clarify a few of the facts concerning the potential and real dangers of the avocado tree and to summarize the recent scientific literature on the subject.

Traditionally, bird owners have voiced an opinion that avocado fruit

may be toxic, yet other owners cite long histories of feeding avocados with no abnormal incidences at all. Several recent articles in the Veterinary journals prompted me to pursue the subject in greater depth.

The avocado, *Persea Americana*, was introduced to California in the 1800s, but was not cultivated extensively until this century. The tree is classified as an evergreen, typical of the group in its biology. Seventy percent of the domestic avocado is the Guatemalan variety, while the remaining percentages include several Mexican varieties, such as Zutano and Fuerte (approx. 20%), and an assortment of about twenty other varieties (3% of the cultivated crop). There exists a total of 150 varieties of domestic avocado but the two most commonly seen and studied are the Guatemalan and the Mexican varieties. The fruit is seasonal and is an excellent source of energy, primarily as unsaturated fats, minerals, and most vitamins, especially vitamin E. Approximately half the avocados grown in the United States go for human consumption in the form of fresh fruit or processed paste. The remainder is used for a variety of products, including dog food (Avo-derm) and oil extraction.

The amount of published research on the subject of avocado poisonings in man and animals is quite limited but *the fact is that the avocado tree can be toxic as proven by a number of confirmed cases each year.*

The parts of the tree containing the toxic chemical are limited to the bark, leaves, and pits. There is no current evidence that the fruit has caused toxicities in any species of animal. Due to the parts of the plant which carry the poison, the most commonly affected animals tend to be horses, cattle and goats; however, cases have been reported in mice, rabbits and birds. Drying of the plant does not seem to modify the toxin as animals have been poisoned by consuming dried leaves and pits. The nature of the toxin is unknown and conversations with the Department of Environmental Toxicology at U.C. Davis and the Agricultural Extension Department for the University of California revealed that future research will be limited due to

lack of funds and the low number of reported animal cases.

The signs most commonly seen after the ingestion of avocado toxin are edema of the throat and chest areas (brisket), congestion of the lungs, and a severe, non-infectious mammary gland inflammation (mastitis) with a marked decrease in milk flow. This pattern of signs does not lend itself to further classification of the toxin by its action.

Obviously, some of these signs have no application for birds, such as mastitis, but the effect of the toxin at high enough levels is to cause lung congestion and this is definitely a common sign in all animals. The ultimate cause of death is lack of oxygen (hypoxia), due to the lung damage.

Interestingly enough, the people of Mexico use the dried leaves of the Mexican varieties in cooking, much as bay leaf or coreander is used in the United States, and no ill effect seems to occur, but, I am told, the amount used is very, very small.

The treatment for the patient found to be suffering from avocado toxicity, is symptomatic and nonspecific, including inducing vomiting and cathartics to eliminate the plant material from the gastro-intestinal tract, followed by the use of oral activated charcoal to absorb any remaining toxin. Shock steroids, oxygen and broncho-dilators may also be necessary in more advanced cases.

On a practical level, it should be advocated not to offer the branches of avocado trees to birds as perches or as chewing devices. Birds should not be caged or flighted under or near avocado trees or groves where falling leaves may lead to serious consequences. The fruit is both safe and nutritious, and may be fed as long as it is washed of potential pesticides and peeled. The pits should be removed when offered to species sufficiently powerful enough to chew into them, such as psittacines.

If the circumstance arises where the possibility of avocado poisoning exists, take your bird to your avian veterinarian as soon as possible and contact either National Poison Control or the Veterinary Poison Center in Urbana, Illinois at the University of Illinois, School of Veterinary Medicine, through your veterinarian for treatment procedures. ●

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