

January 6, 2016

Gosia Woodfin
City of Novato
Public Works Department
922 Machin Avenue
Novato, California 94945

Re: Consequences of Black Walnut ingestion by dogs

Gosia,

I am writing you today to provide a discussion of the possible impacts of Black Walnut ingestion by dogs. We recently met at Dogbone Park and evaluated 13 Black Walnut trees (*Juglans nigra*) that are present within the fenced area of the park. You shared that members of the local community were requesting that all Black Walnuts be removed from the park due to the possibility that dog-ingested Walnuts could cause an acute poisoning. Based on that concern you requested that I research the claim and provide you with a report and discussion, which is provided below. I utilized the Internet to access articles prepared by veterinarians regarding Walnut poisoning, and I contacted local Veterinarians to obtain their experiences. Based on my completed work the following discussion is provided, as well as some recommendations for possible action:

1. Black Walnuts themselves are not toxic to dogs and are benign, but the husks that surround the shell and nut can become moldy, and this mold can contain a fungal neurotoxin. Other parts of the tree including leaves and twigs are not problematic.
2. Walnuts fall from the trees in late summer and fall. As the cooler season begins a mold can grow on the husks over time. The mold may or may not be visible to the naked eye, and it is possible that a perfectly normal looking husk could contain the mold.
3. The scenario is often that winter rains encourage the growth of the mold, and toxicity is most dangerous in the spring, and can also be problematic later in the summer on nuts that remain on the ground. Toxicity can occur throughout the year as buried or covered walnuts become exposed. In dry years, or dry areas, little mold may form. In wet years, shady areas, or areas that don't dry out this mold may be more common.
4. The mold that can be toxic is called *Penitrem A*, or *Tremortin*. It is a neurotoxin commonly found on ryegrass, and is produced by certain species of *Aspergillus*, *Claviceps*, and *Penicillium*. This is the same toxin that forms in the mold of cheeses, breads, and other food products.
5. This mold is toxic to dogs, horses, and most other mammals if ingested in enough quantity when the mold is present.
6. Symptoms of *Penitrem A* toxicity can be difficult to identify because they are similar to other types of poisons that dogs can come into contact with, including snail baits, pesticides, chocolate, and topical flea medications.
7. Initial symptoms can include panting, restlessness, and drooling. As time passes muscle tremors and stumbling can occur. Seizures, liver damage, and increased body temperatures may occur over time, and

death is a possibility if a large amount of mold was ingested. With early intervention most dogs recover within a few days without long term damage.

8. In checking with Sonoma Animal Hospital in Sonoma, specializing in the care of dogs and cats, they indicated that no cases of walnut poisoning came through their clinic in the past year. PetCare in Santa Rosa, a large 24 hour emergency center, saw 2 cases of walnut poisoning last year. It appears that this type of poisoning is not common or widespread, but certainly possible if the right set of conditions are present.

9. Removal of all the Black Walnut trees at this site seems like an over-reaction to a possibility. These existing trees form the framework of the park and are performing very well. They should be retained, and a method for managing the presence of Walnuts should be incorporated into park management.

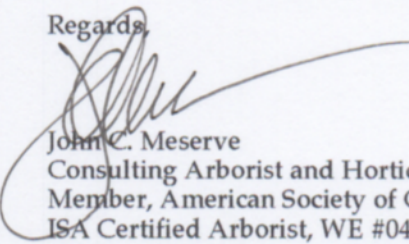
10. Possible effective responses might include:

- Installing exclosures to keep dogs from the area beneath trees where Walnuts fall.
- Arranging to have all walnuts picked up off the ground in the late fall after all have fallen, and before annual rains begin.
- Application of a growth regulator every year to cause Walnut flowers to abort before they become fertilized into Walnuts.
- Application of high pressure water at bloom time to knock flowers off before they become fertilized.
- Black walnuts are highly prized for their nutmeat by some, and it may be possible to find community members who would pick them up in exchange for the nuts.
- Install a new set of trees and allow them to grow for 15-20 years, then remove the Walnuts. In this way the park maintains its character, shade, and aesthetics while new trees become established.

11. My recommendation is to arrange to have the walnuts picked up off the ground every fall. This could be done by maintenance staff, or it might be a good project for a local Boy Scout or Girl Scout Troop. Based on the quantity of Walnuts present when I inspected the site it is estimated that all walnuts could be picked up by one person in less than 2 hours.

Please feel free to contact me if further discussion would be helpful.

Regards,


John C. Meserve
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ISA Tree Risk Assessment Qualified

