



THE GOOD, THE BAD AND THE HUNGRY: Dealing with Wildlife Conflict

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(The following is a summary of part of Marne's presentation to the Ohio State Master Gardener Conference in Toledo, August 2015.)

Increasing urbanization is causing increasing conflict between humans and wildlife. Urban sprawl has brought us close to established, rural wildlife populations. Many species of wildlife have needed to adapt to find needed resources. And some species are thriving: deer, coyote, geese and raccoons, for example. So what to do?

Key steps for managing wildlife:

- * Correctly assess the damage
- * Identify the species responsible
- * Assess cost of damage vs. cost of management
- * Employ management options
- * Continuous monitoring
- * Persistence and patience
- * Combination of management options

Options for managing wildlife damage:

- * Lethal control
- * Trapping
- * Exclusion
- * Scare Tactics
- * Habit Modification
- * Repellents

(For brevity's sake, we will only report on "Repellents" in this article)

How to ID deer damage:

- * Deer lack upper incisors
- * Jagged, torn surfaces on twigs or foliage
- * Damage can be from ground up to 6-8 feet
- * Deer prefer the most desirable parts of plants (buds, twig ends, and foliage)
- * Plants less than 3 feet-they focus on the top and sides of the plants
- * Antler rubs: September through December (breeding season). Some preferred species are ash, cherry, red maple and linden

Management Options for Deer Damage

- * Repellents
- * Habit modification (esp. deer resistant plants)
- * Scare Tactics
- * Exclusion by individual plant protection or fencing
- * Population management—hunting

Repellents 101

Repellents work one of three ways:

- * Fearful/Repulsive Odor (area repellents) Applied near vegetation to be protected
- * Bad, Irritating Taste (contact repellents) Applied directly, aiming to limit browsing by making plant taste bad.
- * Combination of both

Repellent Effectiveness: What you need to know.

A repellent is rarely 100% effective and is intended to REDUCE, not eliminate browsing. Highest effectiveness is achieved in smaller areas, such as in home gardens, individual tree protection, orchards, nurseries, Christmas tree farms.

With any one repellent, there is a high risk of habituation: nothing will stop a hungry animal. It can cost \$17-200/gallon and need to be reapplied multiple times. Always read AND follow the label.

Deer repellents are most effective when deer numbers and browsing are moderate to low and the repellent need not be applied more than 2-3 times to reduce browsing.

Types/Brands of Repellents

ODOR REPELLENTS

- * Hot pepper (capsaicin)



- * Predator urine-coyote Urine, Shake Away
- * Blood products (sachets)
- * Garlic oil (Plant Pro-Tec, Deerbuster's Deer Repellent)
- * Ammonium and fatty acids (Hinder, Revoke)

TASTE REPELLENTS



- * Hot Pepper (capsaicin) Miller's Hot Sauce Animal Repellent, Deer Off
- * Blood Products Repellex, Plantskyd
- * Fungicide (thiram) Repel, Shot-gun Deer Repellent, Magic Circle, Gustafson 42-S
- * Bitter Taste, Ro-Pel, Deer Guard

ODOR AND TASTE

- * Egg Solids, Deer-Away, Deer-off, Dr. T's Deer Blocker, Big Game Repellent
- * Combination of odor and taste, Repellex-garlic, pepper and blood

BOTTOM LINE-Which Deer Repellents Work Best?

- * *Odor only repellents have limited effectiveness, high risk for habituation* (blood sachets, egg solids, garlic oil)
- * *Repellents with immediate consequences most effective:* Irritation/pain with red pepper or flavor modification—animal products like eggs and blood.



Caution: Many studies are highly variable: highly motivated animals will ignore the most effective of repellents.

- * **Make your own egg solids with 20% eggs and 80% water.**
- * Human hair ineffective.
- * Soap bars are 50-50.
- * **Mix of capsaicin and egg solids work well.**
- * **Food safe repellents that work well:**

- 1) Capsaicin (hot pepper)
- 2) Ammonia/potassium salts and fatty acids (Hinder)
- 3) Meat meal (animal blood and protein)
- 4) Some egg solid based repellents

Fact Sheet on Deer Repellent Costs: An Overview and Cost Analysis of Deer Repellents for Homeowners and Landowners Alabama Cooperative Extension Program, ANR-1370

Marne also recommends:
www.deer-departed.com/deer-repellent-recipes.html

More on Pepper Spray...

Safety of Pepper Spray

The U.S. Environmental Protection Agency has evaluated capsaicin, the compound extracted from hot peppers and used in commercial pepper sprays, for safety. It is considered a biochemical pesticide, since it is a naturally occurring compound. It repels pests without harming them, and it is acceptable as a repellent for birds, voles, deer, rabbits, squirrels and insects. Capsaicin pesticides should not be used near waterways, however, as the effects of high concentrations of capsaicin on aquatic life are unknown. Gardeners should keep even a homemade pepper spray away from natural bodies of water and koi ponds. Wear gloves and goggles when applying pepper spray in the garden. It is an irritant that can cause a burning sensation in the eyes and on the skin. Do not spray on windy days.

Mammals

Squirrels are garden pests that forage on seeds, flower bulbs and vegetables in both urban and rural settings. Rabbits forage on a wide range of vegetables and flowers, as do voles, or meadow mice. Deer, though lovely to observe, can be very destructive as they feed in the garden. Pep-

per spray can be effective against all these pests. No mammals, except humans, consume hot peppers containing capsaicin; they find contact with capsaicin irritating and will avoid it. Research presented at a USDA National Wildlife Research Center Symposium demonstrated that squirrels avoided sunflower hearts treated with capsaicin even when hungry. Squirrels that tasted the treated seeds seemed distressed and tried to wipe off their muzzles.

Formulations

Commercial pepper sprays are available at garden centers; the active ingredient should be capsaicin. To make your own pepper spray, soak 2 tbsp. ground red pepper overnight in one gallon of water. Add 6 drops of dish soap --- a natural vegetable-based soap like castile soap, not an anti-bacterial soap --- and place the mixture in a spray bottle. To make pepper spray using fresh peppers, chop 1/2 lb. hot peppers and soak overnight in a gallon of water. Add 6 drops of dish soap and put the mixture in a spray bottle. Thoroughly spray the plants, wearing goggles and gloves.

Editor's note: Remember to wear gloves when chopping the peppers!