The challenge of growing quality azaleas used to focus on proper hybrid selection, planting, fertilization, pruning, and other cultivation techniques. But now azalea enthusiasts must protect their pride and joys from deer browsing, or years of effort in existing gardens or a new planting can be lost overnight. Deer have become overabundant in suburban areas in recent years and their ability to adapt and increase in number means the problems they create are here to stay. While browsing of residential landscapes can be costly and annoying to homeowners, safety issues such as deer-vehicle collisions and Lyme disease are of great concern as well. The reasons for the increase in deer are related to the ability of deer to adapt to the suburban habitat and the lack of hunting pressure to keep the population in balance with the habitat. Neither of these conditions is expected to change significantly.

Quite simply, if you live in a community where you have occasional deer browsing, expect the problem to increase and plan protection for your existing gardens accordingly. If you are envisioning a new planting of azaleas, rhododendrons, or other species that deer prefer to browse, don't waste your time or money unless you can protect them effectively.

Non-lethal Versus Lethal Options
The options for controlling deer in the residential environment can be broadly separated into lethal and non-lethal options. Most homeowners are interested in the non-lethal options because they include techniques you can implement as an individual on your property. They should be tried first. However, non-lethal options fail to deal with the core problem—overabundant deer. In most areas deer populations will continue to increase. If you see one or two deer occasionally, you can bet that their numbers may double every few years, resulting in greater deer damage to landscapes and forest ecosystems. If deer populations are not controlled in residential areas, most non-lethal options will likely be compromised at some point. Unfortunately, lethal options to control deer populations are usually misunderstood and require the consensus of the community, which is a much harder thing to accomplish.

Wildlife Damage Management Approach
All deer management options should be viewed in the context of integrated wildlife damage management (see Figure 1); that is, the application and monitoring of a range of options to solve specific problems. Non-lethal options can be broadly separated into three broad areas of vegetation management, fencing, and scare tactics/repellents. Lethal options usually include the use of traditional...
hunting, managed hunts, or sharpshooters. We will take a brief look at each of these options.

Vegetation Management

Vegetation management refers to the manipulation of deer habitat to make it more or less attractive, depending on the objective. In more rural settings, native deer habitat can be improved through the use of forest management practices that remove mature trees and stimulate the development of young vegetation within the reach of deer. When combined with hunting, deer populations can be kept in balance with the available habitat.

More applicable to the residential homeowner is the selection of ornamental species in residential plantings that are less preferred by deer. Since azaleas and rhododendrons are preferred browse species, their establishment or survival will depend on protection by fencing or scare tactics repellents, or the reduction of the deer population so they no longer cause extensive damage. The “plant’n pray” approach in areas with high deer impacts will usually result in expensive and frustrating plant losses. Even if the least preferred species are planted, experience has shown that when deer overabundance reaches high levels, these plant species will be eaten, especially in the winter months when there is a lack of alternative foods. A reference to a fact sheet on ornamentals and their browsing preferences by deer in the Maryland area can be found below. You may wish to check with your own university extension organization to see if they have their own publication list. There are some regional differences.

Deer Repellents

Deer repellents typically work by taste or smell, with some repellents being active both ways. A number of new deer repellents have been developed in recent years; however, the active ingredients are limited. The main active ingredients include: egg solids, dried animal proteins, fish emulsions, ammonium salts, capsaiacin, and bitter tasting substances, which may be used alone or in combination with others. A few things to remember about using repellents:

- In general, it is unrealistic to expect more than 5-6 weeks of protection from any commercial deer repellent when you have high deer populations and deer pressure during the dormant season characteristic of northern climates. However, repellent trials in more moderate climates that do not have extensive winter snow cover, such as Maryland, have found repellents can provide control for up to 12 weeks. Regardless, repellents will fail at some point and must be reapplied every 5-12 weeks, depending on the region, time of year, deer pressure, and other factors.
- Repellents should be applied before deer establish their winter feeding pattern—usually October or November. When the deer wander into the yard, they find an unappealing taste and/or smell and hopefully wander into your neighbor’s yard.
- Regular repellent use can be expensive, and you should purchase them in concentrated forms, which is a fraction of the price of ready-to-use formulations. Remember to change the repellent annually to one with a different active ingredient to keep the deer off guard.
- If you live in a cold climate, it may be difficult to find above freezing temperatures in January or February to make needed mid-winter applications.
- Even repellents may fail if there is a lack of alternative foods. In mid-winter with heavy snow cover, deer will even eat vegetation that tastes and smells bad.
- Repellents work best if you are the only one in the area using them. If all your neighbors use repellents, then results will decrease.

The University of Maryland recently completed a three-year study on commercial deer repellents that is available online as an extension fact sheet. It provides more details on different repellents, how they performed, costs, and suppliers. Please see below for the Web address.
Scare Tactics

There are a number of products on the market that promise to scare deer away from your garden. A few examples include:
- A motion detector on a hose apparatus that sprays the deer when they approach. This would be of little value in the winter when water is not available and deer are a greater problem.
- Ultrasonic devices linked to motion detectors. There is no credible research to support their use.

Most of these devices are expensive; and, while they may work for short periods of time, deer quickly learn they are not a real threat. On another note, many people buy deer whistles for their cars, but research indicates these devices are ineffective and can be dangerous, since they give the driver a false sense of security.

Some homeowners may have success with some type of “invisible fencing” that allows dogs to protect the plants by chasing deer out of the yard. This may work in some cases, but remember deer are mostly nocturnal, feeding at night, and unless you leave Fido out all night, deer are probably munching while everyone is sleeping. Some people tie their dogs up outside at night, but deer will probably learn after a while just how far the dog can go.

Fencing

Where deer pressure is moderate to high, or if the growing stock is very valuable as in the case with azaleas, an 8’ fence is the only sure way to keep deer out of the yard. This creates a physical barrier for deer, but there are other types of electric fences that create a psychological barrier to deer that can also be effective. Community covenants and ordinance many times do not allow the use of fences; however, this is changing as the deer problem has escalated and homeowners have lobbied for changes. For example, the county ordinance in Montgomery County, Maryland, now allows the use of fences in residential areas.

There are many fencing choices, ranging from 8’ wire mesh fences that will last decades to one- or two-wire low electric fences that are inexpensive and can be effective in some applications. An 8’ black plastic fence that is light and strong has gained wide use in residential environments. When put against a wooded backdrop it blends in well (see Photo 1) and keeps deer from wandering in your backyard easily. However, for any fence to be totally effective, it must enclose the area on four sides. And, sometimes limiting easy access to your yard can encourage deer to set up shop in your neighbor’s yard.

Another technique used by some homeowners is the installation of plastic bird netting over valuable shrubs during the winter. Deer do not like eating vegetation covered by the netting. While effective, it must be removed before spring growth.

The other types of fences are commonly coined “temporary fences” and are not physical barriers, but psychological barriers—deer could easily jump over them, but they are trained to avoid the area. The fences actually attract deer with their bright colors and peanut butter odor that is applied as “bait.” The fence is designed to attract the animal’s attention and encourage them to touch the fence with their nose, thereby receiving a strong, but harmless electrical shock (high voltage, low amperage).

Polywire or polytape is used for the wire on these fences. Polywire is a strong plastic filament wire that is interwoven with metal strands to conduct an electric charge. Polytape is wider and more visible, but more easily damaged by wind. Photo 2 demonstrates the basic two-wire fence where the top wire is 36” high and the second wire 18” high. “Flags” of aluminum foil, flashing or screening is bent over the top wire every 10-30’, with peanut butter on the inside to minimize runoff from rain and sun. Baiting is critical to this type of fence. The cost of polywire fencing is low, and most materials (polywire, posts, and chargers) are available locally at farm stores.

These polywire/polytape fences, as they are many times known, are most effective in the summer when alternative foods exist. However, they can be configured in all kinds of ways to protect gardens, planting beds, and other places in the residential landscape. Their effectiveness in the winter will depend on snow cover, available foods, and other factors. Snow will usually stop the effective use of the fence, since snow acts as an insulator and the charge will no longer travel from the fence wire through the deer to the ground. Once deer know they can get through, it is usually best to remove it and install it later and retrain the deer.

The use of these types of electric fences can create challenges in residential areas. Dogs or children will get quite a shock they will remember, so make sure the area is signed and you are abiding by the covenants of the neighborhood. Again, talk with your community association; many are changing restrictive laws.

Community Based Deer Management

Overabundant deer not only damage residential landscapes, but they damage the forest vegetation that impacts the health of native forests. Combined with safety issues related to Lyme disease and deer-vehicle collisions, many residential homeowners are now accepting...
the need for managing the deer population through the use of traditional hunting, managed hunts, or sharpshooters. While you may not be the one to harvest the deer, you need to let your local decision-makers know you support such efforts. Typically, managed hunts or sharpshooters are employed on public lands, but more communities are taking on the task in their areas as well.

Building consensus among community members with diverse views can be improved by collaborating with local extension or state wildlife agency professionals. Public meetings are usually not a good way to discuss deer management issues due to strongly held beliefs by different groups. Many counties or communities have instituted citizen task forces with 10-15 members that represent various parties interested in the deer problem. They educate each other on the options, get input from the community and recommend options. This is usually followed by local government providing funding to implement the options of the task force. However, there may always be a few individuals who are philosophically opposed to killing deer for any reason. It is important that a few individuals not stop the implementation of deer population control that benefits the overall good. There is more information on these efforts below in the resources section.

I should mention a few words about the use of contraceptives for deer population control. There are no commercially available contraceptives for deer—all are experimental, very expensive, and not useful for free-roaming deer. Perhaps in the future this may be an option, but do not consider this an option when you are trying to make decisions.

Summary

Deer contribute greatly to our quality of life, but in areas where they have become overabundant, other wildlife has suffered. In many communities you will notice that deer have browsed not only your landscape trees and shrubs, but also all the vegetation in the forest up to 6 feet. There are numerous birds, rodents, and other wildlife that depend on that habitat to exist. By allowing overabundant deer populations, we are eliminating other wildlife species. Deer also prefer to browse most of the native tree species we favor, such as oaks, hickory, ash, and others. The biodiversity and the ability of the forest to regenerate itself are being seriously impacted by deer.

Educate yourself about the options available by viewing or purchasing some of the resources provided below. Start experimenting with various non-lethal techniques such as fencing, repellents, and others to develop an integrated approach to managing your property. However, educating the community about non-lethal and lethal options to manage deer will usually require a community based deer-management approach such as a citizen task force and monetary support by local government to implement needed education and management programs.

Resources:

The following publications are available from Maryland Cooperative Extension at www.naturalresources.umd.edu.

- Kays, J. 2003. Managing Deer Damage in Maryland (Extension bulletin 354). Maryland Cooperative Extension. Provides detailed information on information mentioned in the article—techniques, suppliers and educational resources. $3.50

Other publications of interest with direct links:


- A number of publications such as deer management task force reports, links to other Web sites and resources can be found at: www.naturalresources.umd.edu/Wildlife_Species.cfm#deer.

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