

Oh Deer, What a Problem...

ISSUE



Over abundant deer in many parts of Pennsylvania have virtually eliminated the forest understory and reduced ground layer vegetation to a few unpalatable ferns.
ANN RHOADS, PHD, MORRIS ARBORETUM

J. MERLIN BENNER

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Ecologists warn that damage may become permanent and forest biodiversity and sustainability will be forever reduced if aggressive measures are not taken to control deer populations.

The sight of a white-tailed deer stops people in their tracks. Even to the most seasoned rural residents, deer are beautiful, interesting, and graceful creatures that represent the wild that remains in Pennsylvania.

But our Pennsylvania forests are in trouble and over-browsing by excessive white-tailed deer is the main problem. Even to the untrained eye, the absence of plants at lower levels and a razor-straight browse line (the maximum height to which deer browse) is obvious. A forest that is over-browsed is open and park-like with an unobstructed view of distant tree trunks, inedible ferns, and hearty invasives. Wildflowers, native shrubs, and



J. MERLIN BENNER

tree seedlings have vanished. You don't have to travel far to find evidence of over-browsing...visit the Schuylkill Center in Philadelphia, Ft. Washington State Park in Montgomery County, and Tinicum State Park in Bucks County. These are only a few examples of a widespread problem. Virtually every unfenced private or public forested area in our region suffers from this problem.

In 1907 that stage was set for a deer population explosion when antlerless deer received total protection to boost previously over-hunted populations. Regenerating clear-cut lands provided a "smorgasbord" for the deer and presented limits on the range and numbers of natural predators. The deer population soon began to rebound. By 1920, the Pennsylvania Game Commission issued hunting licenses to harvest antlerless deer, cited as a key component for deer management. The public reaction to such licenses was less than supportive and, to this day, regulated doe hunting is met with disdain or disinterest that creates a primary obstacle to deer population management.

Meanwhile, herd sizes grow to more than three times the number suited for a forest to sustain itself. In Fairmount Park, deer numbers have occasionally, exceeded nine times the sustainable numbers for the park. In a 2002 county-

by-county survey, the Game Commission estimated that whitetail populations in some forestlands were 36 deer per square mile where the carrying capacity, dependent on climate and habitat quality, is generally around 10 deer per square mile. Numbers in excess of the capacity renders an ecosystem's ability to regenerate virtually impossible. Without the herbaceous (flowers, grasses, etc.) and woody plants of the forest's lower layers, many birds and wildlife are adversely affected.

Through the on-going study of white-tailed deer (research that exceeds that done on any other mammal in North America), ecologists warn that forest biodiversity and sustainability will be forever reduced if aggressive measures are not taken to control deer populations. In the Allegheny National Forest in northwestern Pennsylvania for example, plant species diversity has been reduced by 67 percent and some nesting birds such as the Eastern Wood Pewee have entirely disappeared from study sites.

Southeastern Pennsylvania has its share of people too. Roads and housing developments abut heavily browsed forests and fields. The product of this relationship is wandering deer in residential areas, crossing roads to leave a depleted forest in search of other sources of food such as unguarded landscape

plants. As a result, about 45,000 deer-vehicle collisions take place in Pennsylvania each year resulting in \$80 million in damage. Many more people are left despondent by loss of their landscape plants, which find their way into the four-chambered stomachs of local deer. Lyme disease also occurs more frequently where the preferred tick host, white-tailed deer, is found in the greatest density. Pennsylvania ranks fourth in the nation for incidents of Lyme disease, with over 17,000 cases reported between 1990 and 1999.

Clearly, the negative impacts of overabundant deer in Pennsylvania are costly to our wildlife, habitat, natural heritage, economy, public safety, and quality of life. The most profound negative impact of overabundant white-tail populations, however, is that people may alter their view and become less supportive of open space and land preservation efforts.

QUICK FACT

- A single deer consumes 2,000 pounds of plants and acorns each year

NOTES

My AHA!s

AHA!

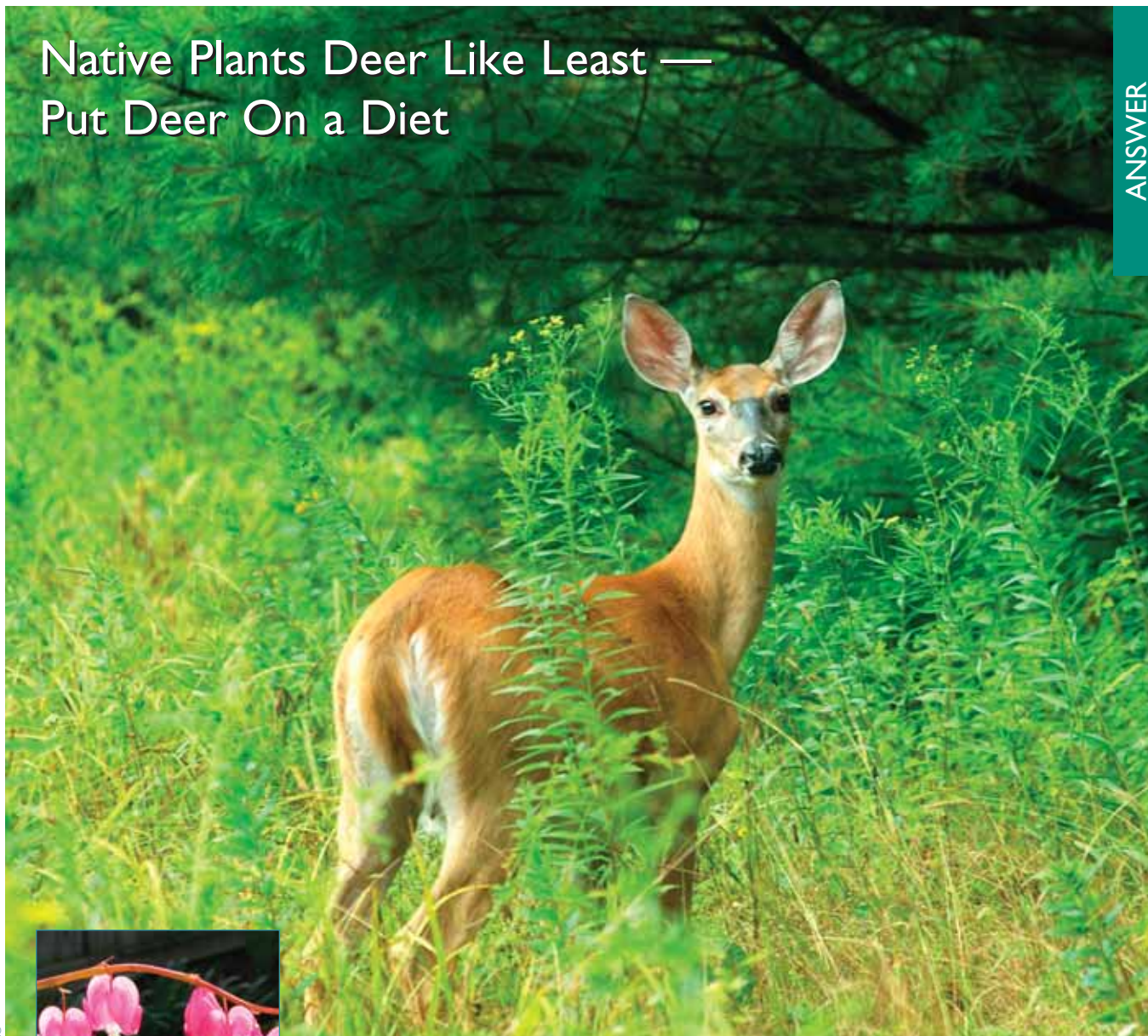
- In the home landscape, use native plants known for their deer-resistant qualities. There are few native plants deer will completely ignore, but some have proven to work better than others. See the plant list on page 68.
- Use non-toxic deer repellent on and around plants. See recipe, page 68.
- If your property contains forestland, consider erecting an exclusion fence to help restore your corner of the world.
- Write to your commissioners, legislators, and governor and express your desire to see responsible, science-based deer management, including the encouragement of educated and well-organized hunting efforts.



JOE KOSACK / FGC

Native Plants Deer Like Least — Put Deer On a Diet

ANSWER



Plant list and recipe

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J. MERLIN BENNIER

TICK CHECK

Ticks are part of the natural environment, and they are likely to show up in your backyard habitat, whether or not you have deer on your property. The larval stage of a deer tick is no bigger than a poppy seed, so be on the lookout: vigilance is the best precaution. Tuck pants into socks, wear light-colored clothes when gardening, and perform frequent tick checks on yourself and others. Also, create clear paths through your habitat to allow for worry-free access and enjoyment.



SCOTT BAUER / ARS/USDA

There's no true deer-proof plant. In fact, hungry deer will eat just about anything. The list below is a selective representation of plants that have shown some resistance “in a particular place at a particular time” and have appeared on any number of “deer tolerant” plant lists for our region.

Common Name	Scientific Name
HERBACEOUS PLANTS	
Nodding/wild onion	<i>Allium cernuum</i>
Big bluestem grass	<i>Andropogon gerardii</i>
Wild columbine	<i>Aquilegia canadensis</i>
Milkweeds	<i>Asclepias</i> species
Tall tickseed	<i>Coreopsis tripteris</i>
Bleeding heart	<i>Dicentra eximia</i>
Spotted (wood) geranium	<i>Geranium maculatum</i>
Blue flag iris	<i>Iris versicolor</i>
Twin leaf	<i>Jeffersonia diphylla</i>
Blazing star	<i>Liatris spicata</i>
Virginia bluebells	<i>Mertensia virginica</i>
Switch grass	<i>Panicum virgatum</i>
Wild blue (wood) phlox	<i>Phlox divaricata</i>
Creeping phlox	<i>Phlox stolonifera</i>
Mountain mint	<i>Pycnanthemum muticum</i>
Black-eyed Susan	<i>Rudbeckia hirta</i>
Goldenrods	<i>Solidago</i> species
Fern species	
TREES AND SHRUBS (WOODIES)	
Maples	<i>Acer</i> species
Serviceberry	<i>Amelanchier</i> species
Beech	<i>Fagus</i> species
Spicebush	<i>Lindera benzoin</i>
Trumpet honeysuckle	<i>Lonicera sempervirens</i>
Bayberry	<i>Myrica pensylvanica</i>
Viburnums	<i>Viburnum</i> species

Homemade Deer Deterrent

There are non-toxic deer deterrents on the market and many more quick remedies that often provide only a temporary respite from hungry deer. Wads of human hair, hanging bars of soap, and even fencing only work until the deer's hunger trumps the barriers. Here's a deterrent you can make at home that acts both as a area repellent (smell) and a contact repellent (taste). Exercise caution when preparing and applying this recipe.

Recipe

1–2 quarts water
 3 whole eggs
 1 large clove garlic
 Couple of tablespoons of chili power or hot pepper sauce
 1 tsp. shavings of deodorant soap

Liquefy ingredients in a blender, then mix with the 1–2 quarts of water, strain, and place in plant sprayer. Spray on plants every couple of weeks and after rains. Keep excess in tightly closed jar. Offensive odor will develop and that's just what the deer hate.

Caution: This recipe contains red pepper and raw eggs...be careful to avoid contact with face and be sure to wash hands after handling. Keep out of reach of children.