



Reducing Deer Damage TO YOUR GARDEN AND YARD



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Introduction

In the early 1900's, the white-tailed deer population totaled less than 500,000 in the entire country. Today, the number of deer is growing, and there are close to 15 million deer in the United States. While it has been a great success story for white-tailed deer, this increased population has resulted in increased human contact. For many homeowners, gardeners, landscapers, and farmers, these conflicts often result in unsightly and costly damage to crops and decorative plants. This damage has become especially problematic in northeastern states, where prime deer habitat continues to grow with the development of suburban landscapes.

Feeding Habits

The best way to protect your plants is to first become familiar with the feeding habits of deer in your area. Deer may eat more than 500 different species of plants, but tend to be more selective. Deer will expand their foraging area when their preferred food becomes scarce. They may also develop a preferred taste for your ornamentals. This usually occurs in late winter and early spring, when snow cover reduces the availability of their natural foods and their fat reserves are depleted. Under these circumstances, deer will browse even the most resistant plants rather than starve. Since deer have small home ranges, they may become habituated and develop a preference for the fertilized gardens, flowers, shrubs, or trees on your property, rather than natural vegetation in the woods. Deer may also change their habits over time and may suddenly begin eating a plant that they avoided in the past.

Managing Deer Damage— Your Options

There are many different deer damage management options, which may be used individually or in any combination to control deer damage on your property. It will often require constant effort on your part and a variety of methods to achieve best results.

Learning to co-exist with the deer (and other wildlife) is part of life when choosing to live in rural and suburban Rhode Island.

You can minimize deer damage by using these methods:

- Avoid planting preferred food items of deer in landscaping
- Planting native plants
- Using Repellents
- Constructing Physical barriers (netting and fencing)
- Allowing hunting

What's Right for You?

When considering the deer management strategy that is best for you, ask yourself the following questions:

- How much damage are you experiencing?
- How much damage can you tolerate?
- Are you protecting established plants or purchasing new ones? What will the replacement cost be for established plants?
- Keeping in mind that unmanaged deer populations can double in 3-5 years, how much are you willing to spend on deer control?
- What other problems are you concerned about relating to deer, such as tick-borne diseases and auto strikes?

As you read about different deer deterrent methods, keep in mind what types of plants you are trying to protect. Planting least-preferred plants and native plants, and repellents work best to prevent deer from using new plants as a food source. However, it may take physical barriers, fencing, and hunting pressure to prevent deer from revisiting well-established food sources such as hedges and trees.



Yew plants are frequently browsed by deer.

	Repel- lents	Fencing	Substi- tution	Plant	Cover- ing	Scare Tactics	Hunting
Established hedge or tree	✓	✓*					✓*
Young plants	✓	✓*	✓		✓	✓	✓*
Mature plants	✓	✓*					✓*
Garden	✓	✓*					✓*

**Local ordinances vary by town. Be sure to find out what restrictions are in place for your town.*

General Tips for Avoiding Deer Damage

1. **Protect young plants and new plantings from deer:**

- If you are growing young plants or new plantings, take extra steps to protect them with repellents, netting, or fencing.
- All young and new plants are at risk from deer damage. Tender young shoots are irresistible to deer and are less likely to grow back than shoots on mature plants. Even if the plant species is generally deer resistant, it may still be attractive to deer in its early stages or as new shoots appear.

General Tips for Avoiding Deer Damage

2. Fertilizer makes plants attractive to deer:

- Heavy applications of nitrogen based fertilizers are known to make plants more palatable to deer. Try to limit fertilizer application to only what is necessary for plant health. Protect newly purchased plants with repellents, netting, and fencing.

3. Avoid planting “preferred” deer food items in landscaping your property.

- These are species of trees and shrubs often eaten and damaged by deer. If you plant these species, be prepared to fence and protect them from deer damage.

Preferred Food Plants Frequently Damaged by Deer

American Arborvitae	<i>Thuja occidentalis</i>
Apples	<i>Malus spp.</i>
Atlantic White Cedar	<i>Chamaecyparis thyoides</i>
Balsam Fir	<i>Abies balsamea</i>
Cherries	<i>Prunus spp.</i>
Crocus	<i>Crocus spp.</i>
Daylily	<i>Hemerocallis spp.</i>
Eastern Redbud	<i>Cercis canadensis</i>
English Ivy	<i>Hedera helix</i>
European Mountain Ash	<i>Sorbus aucuparia</i>
Evergreen Azaleas	<i>Rhododendron spp.</i>
Fraser Fir	<i>Abies fraseri</i>
Hardy Geranium	<i>Geranium endressi</i>
Hollyhocks	<i>Alcea spp.</i>
Hosta	<i>Hosta spp.</i>
Hybrid Tea Rose	<i>Rosa x hybrid</i>
Impatiens	<i>Impatiens spp.</i>
Norway Maple	<i>Acer platanoides</i>
Plums	<i>Prunus spp.</i>
Rhododendrons	<i>Rhododendron spp.</i>
Strawberry	<i>Fragraria spp.</i>
Tulip	<i>Tulip spp.</i>
Wintercreeper	<i>Rhododendron spp.</i>
Yews	<i>Euonymus fortunei</i>

Source: Resistance of Woody Ornamental Plants to Deer Damage, Cornell Cooperative Extension.

4. When possible, use plants less preferred by deer:

- Deer can be deterred from gardens and landscaping by plants deer find unpalatable. (See pages 16-19 for a complete list of these plants.) This may be an inexpensive way to prevent significant damage to the beauty of your flowers and garden. In winter, woody plants may still be susceptible to damage and require protection.



The white spruce on the left shows few signs of damage, but arborvitae (right) have been heavily browsed.

Instead of...	Plant:
Tulips	Daffodils
Hybrid Lilies	Lupines
Daylilies	Asters
Hybrid Roses	Thorny Roses
Hostas	Lamb's Ear
Apple Tree	Flowering Dogwood
Yew	American Holly
Arborvitae	Boxwood
Frasier Fir	White Spruce

Methods for Reducing Deer Damage

1. Repellents

Homemade repellents are effective and affordable. Repellents should be applied before deer become habituated to plants and reapplied regularly. Repellents work best when damage is low. Success with homemade repellents is variable and may be of little help during late winter and early spring, when deer fat reserves are depleted. Repellents can be applied by hand with a low pressure garden sprayer available at most garden centers.

Spray Recipes:

Garlic Spray – Makes 1 quart

4 eggs

2 oz. red pepper sauce

2 oz. chopped garlic

Add just under 1 quart of water

Stir thoroughly and strain

1 quart is enough for 16 bushes for one week

Sour Milk Repellent – Makes 1 gallon

1 egg

½ cup milk

Mix with 1 tsp. cooking oil

1 tbp. dish detergent

1 gallon of water

Spray on plants, repeat after rain.

Hot Pepper Spray – Makes 1 gallon

2 tsp. hot pepper

1 tsp. liquid dish soap

1 tsp. garlic powder

1 gallon of water



Home Repellents

Soap Sachet: Place a bar of soap made with tallow fatty acid in a nylon sock or cheesecloth and hang from targeted bushes and shrubs.

Hair Sachet: Place unwashed cut hair (from a local barber) in a nylon sock or cheesecloth and hang from bushes, trees, etc.

Dryer Sheet: Dryer sheets can be sprayed with repellent and attached to stakes surrounding targeted plants.

Commercial Repellents

When you are selecting a commercial repellent, you may choose an odor- or taste-based repellent. Choose an agent with a surfactant to ensure that the repellent sticks to your plants.

Organic repellents with an active ingredient of urine, putrescent egg solids, dried blood or fish oil are effective. Other deer repellents have active ingredients such as milorganite.

Repellents may also be professionally applied. Professionals may apply organic, inorganic, or a variety of different types of repellents to your garden. Several pest management companies in Rhode Island offer this service, some with written guarantees.

Repellents are generally used for plants which are not intended for human consumption. Fences may be more practical for protection of vegetable gardens or other food crops.

Commercial Repellents

Product	What It's Made Of	How It Works	Frequency of Application
Rockland Hinder	Ammonium soaps of fatty acids	Odor deterrent	Once a week
Bobbex	Refined proteins and fibers from food-processing industries	Odor deterrent	Once a week
Homemade spray	Eggs, red pepper sauce, chopped garlic	Odor and taste deterrent	Once a week
Soap sachet	One bar of Irish Spring soap	Odor deterrent	Once a season
Repel Bye Deer sachet	Sodium salts of mixed fatty acids in a sachet	Odor deterrent	Once a season
Tree Guard	Bitrex spray	Taste deterrent	Once a season
Deer Away	Putrescent egg solid spray	Odor and taste deterrent	Once a season
Deer Off	Putrescent egg solid, capsaicin, and garlic spray	Odor and taste deterrent	Once a season
Shot-Gun Deer and Rabbit Repellent	Thiram spray	Taste deterrent	Once a season
Hair sachet	Human hair in a sachet	Odor deterrent	Once a season
Milorganite sachet	Composted fertilizer in a sachet	Odor deterrent	Once a season

NOTE: *If deer are faced with starvation, particularly in late winter, they will eat a plant with repellent applied rather than starve to death.*

2. Physical Barriers

Fences may be wire, plastic, or electric. Fences must be at least 7 feet high to keep deer out completely. The bottom of the fence must be close to or in contact with the ground, as deer prefer to crawl under fences rather than jump over them.

Other types of physical barriers include netting and plastic mesh to cover individual plants. This method is inexpensive, but may be somewhat unsightly. Netting and plastic mesh are most practical for ripening berry bushes and fruit-bearing trees and can be removed at other periods or time. The netting or mesh must be pulled taut and should not be touching the leaves of the plant. They should reach to 7 feet and encircle the plant. This method is relatively inexpensive and effective for protecting plants. Fine plastic mesh netting can be purchased at many garden centers and farm stores.

Some plants may require individual protection, such as this blueberry bush protected by mesh during the harvest season.



Plastic mesh and netting can be used to protect trees and shrubs. The netting must be taut and not touching the leaves.

Individual gardens may be protected with wire fencing (below). Larger properties may be protected by taller fences, such as the seven-foot fence on the right.



Plastic mesh is another type of popular fencing. The fence is made of 2" x 2" mesh squares. It is virtually impact resistant, unobtrusive, and relatively inexpensive. These fences must be at least eight feet tall and be in contact with the ground. They must be erected so that the mesh is very taut – otherwise, deer will push through. This is a preferred option in vegetable gardens.

Another option for high value crops or ornamental plants is electric fencing. These fences are very good at repelling deer, although they are expensive. Few suburban homeowners decide to utilize electric fencing for their property.

Fencing may be the only guaranteed solution to nuisance deer problems and is more often used for large areas where specific attention to individual plants is not a possibility.

3. Scare Tactics

Scare tactics frighten the deer away in order to prevent them from damaging plants. Outdoor pets, such as dogs, may also frighten deer away from the garden.

- Scarecrows
- Yard lights
- Playing the radio
- Shiny objects, such as pie plates and pinwheels
- Motion-activated water sprinklers

These strategies work for a very short amount of time. Deer may become habituated to these signals and may lose their fear over time, or change their habits to only be active at night. It is best to vary and use scare tactics for short durations, such as when protecting ripening plants. The deer learn that there is no physical harm and become familiar with the stimuli. By varying stimuli, you may be able to keep deer off guard and wary of these disturbances.

4. Hunting

- Hunting is an effective method of deer population control, which results in fewer deer as a long term solution. Hunting is highly regulated in the state of Rhode Island by DEM's Division of Fish and Wildlife. Archery, shotgun, or muzzleloader hunting may be allowed on your property.
- In Rhode Island, hunting is allowed on private land in deer season with the appropriate licensing and written permission. The Division of Fish and Wildlife can suggest ways to encourage properly licensed hunters to hunt your property during the deer season
- Current RIDEM hunting regulations are available in the Hunting and Trapping Abstract (available at DEM offices and sporting goods stores).

Hunting

- In Rhode Island, discharge of a firearm within 500 feet of an occupied dwelling is prohibited (unless permission is granted); and archery deer hunting, and discharge of a bow within 200 feet of an occupied dwelling is prohibited (without permission). Individual town ordinances may be more restrictive.
- Landowners who allow hunters to hunt on their property, without charging either the hunter or landowner, are removed from liability (RIGL 32-6-3).

5. Deer Damage Permit

A deer damage permit is another lethal form of management in which landowners may take a specified number of deer. A deer damage permit may be obtained for your property if deer are causing significant damage to crops and trees and the landowner can demonstrate they have attempted deterrence and that there is no practical alternative to shooting the deer. Application is required to RIDEM.

Most deer damage permits are approved for commercial farms or large scale garden operations. It may not be possible for private gardeners to obtain deer damage permits on small lots, due to firearm discharge regulations of the state of Rhode Island.



Deer frequently browse hostas (left) but will leave ferns (right) untouched.

Deer Proofing References

These resources may be ordered online, from your local bookstore, or public library:

- Deer Proofing Your Yard and Garden by Rhonda Hart Poe
Published by Versa Press

- The Fence Bible by Jeff Beneke
Published by Von Hoffman Graphics

- Gardens and Deer by Charles Coles
Published by Swan Hill Press

- Outwitting Deer: 101 Truly Ingenious Methods and Proven Techniques to Prevent Deer from Devouring Your Garden and Destroying Your Yard by Bill Adler Jr.
Published by Lyons Press

- Preventing Deer Damage by Robert G. Juhre
Published by Robert G. Juhre

- Solving Deer Problems: How to Keep Them Out of Your Garden, Guaranteed by Peter Loewer
Published by Lyons Press

- Wildlife in the Garden: How to Live in Harmony with Deer, Raccoons, Rabbits, Crows, and Other Pesky Creatures by Gene Logsdon
Published by Indiana University Press

Deer Resistant Plants

- Although there is no such thing as a 'deer proof' plant, the following lists consist of trees, shrubs, and flowers which are commonly considered less likely to be eaten by deer. Certain plants listed may be considered deer deterrent in one area, but may be consumed in other places.
- Established plants are often the most frequently damaged. If your property is heavily planted with arborvitae, yew, or rhododendron, you will need to protect them with repellents, netting, or fencing. Otherwise, you may face expensive replacement costs.
- Remember that sub-species is very important – consult your local garden center before making any purchases, as they should be familiar with sub-species in your area.

KEY TO LIST OF PLANTS ON PAGES 16-19
*species native to Rhode Island
**species not native to Rhode Island
+species preferred by many birds for food or nesting

Ground Cover & Vines

<u>Common Name</u>	<u>Latin Name</u>
**Carpet Bugle	<i>Ajuga reptans</i>
*Clematis	<i>Clematis virginiana</i> <i>Clematis occidentalis</i>
**Lamb's Ear	<i>Stachys byzantina</i>
**Lily-of-the-Valley	<i>Convallaria majalis</i>
Pachysandra	<i>Pachysandra terminalis</i>
Spotted Dead Nettle	<i>Lamium album</i>
*Tall Wormwood	<i>Artemisia campestris</i>
**Thyme	<i>Thymus serpyllum</i>
Trailing Licorice	<i>Plecostachys spp.</i>
*Trumpet Coral	<i>Lonicera sempervirens</i>
Wood Fern	<i>Dryopteris spp.</i>

Shrubs

American Andromeda	<i>Pieris floribunda</i>
*+American Holly Tree	<i>Ilex opaca</i>
*Bearberry	<i>Aretostaphylos spp.</i>
Boxwood	<i>Buxus sempervirens</i>
Brower's Beauty Andromeda	<i>Pieris x 'Brower's Beauty'</i>
**Butterfly Bush	<i>Buddleia spp.</i>
Castor Bean	<i>Ricinus communis</i>
China Girl Holly	<i>Ilex x meservieae</i>
Golden Bell/Early Forsythia	<i>Forsythia spp.</i>
Japanese Andromeda	<i>Pieris japonica</i>
*Northern Bayberry/Candleberry	<i>Morella pennsylvanica</i>
Redvein Enkianthus	<i>Enkianthus campanulatus</i>
**Rose of Sharon	<i>Hibiscus syriacus</i>
**Southern Bayberry	<i>Myrica gale</i>
*Spiraea or Meadowsweet	<i>Spiraea latifolia</i>
*Steeplebush	<i>Spiracea tomentosa</i>
*Swamp Fetterbush	<i>Eubotrys racemosa</i>
*Sweet Pepperbush	<i>Clethra alnifolia</i>

Trees

Common Name	Latin Name
Black Locust	<i>Robinia pseudoacacia</i>
Box Elder	<i>Acer negundo</i>
*Chinese Dogwood	<i>Cornus kousa chinensis</i>
Colorado Blue Spruce	<i>Picea pungens</i>
**+Cranberry Cotoneaster	<i>Cotoneaster apiculatus</i>
Eastern Red Cedar	<i>Jupiperius virginiana</i>
English Hawthorn	<i>Crataegus laevigata</i>
*+Flowering Dogwood	<i>Cornus florida</i>
**Honey Locust	<i>Gleditsia triacanthos</i>
Magnolia spp.	<i>Magnolia spp.</i>
**Norway Spruce	<i>Picea abies</i>
*+Sassafras (Common, Red, White)	<i>Sassafras albidum</i>
Shad/Serviceberry	<i>Amalanchier spp.</i>
Smokebush/Smoketree	<i>Cotinus coggyria</i>
**Sweet Gum/Red Gum	<i>Liquidambar styraciflua</i>
*Washington Hawthorn	<i>Crataegus phaenopyrum</i>
*White Spruce	<i>Picea glauca</i>

Flowers (Annual)

Africa Daisy	<i>Dimorphotheca aurentiaca</i>
Angel's Trumpet	<i>Brugmansia spp.</i>
Artichoke Thistle	<i>Cynara cardunclus</i>
Cape Daisy	<i>Osteospermum spp.</i>
Flowering Tobacco	<i>Nicotiana x hybrida</i>
*Forget-Me-Not	<i>Mysotis laxa</i>
*Hedgenettle	<i>Stachys hyssopifolia</i>
Hollyhock	<i>Alcea rosea</i>
Hyssop	<i>Agastache spp.</i>
Lantana	<i>Lantana spp.</i>
Marigold	<i>Tagetes spp.</i>
Mexican Lily	<i>Beschorneria yuccoides</i>
Mona Lavender	<i>Plectranthus spp.</i>
Persian Shield	<i>Strobilanthes spp.</i>

Flowers (Annual) - Continued

Spider Flower	<i>Cleome spp.</i>
Strawflower	<i>Helichrysum spp.</i>
*Verbena	<i>Verbena hastate</i>
Wild Foxglove	<i>Ceratotheca triloba</i>
Wild Tail/Lion's Ear	<i>Leonotis leonorus</i>
Windflowers	<i>Anemone quinquefolia</i>

Flowers (Perennial)

Common Name	Latin Name
Bee-Balm/Oswego Tea	<i>Monarda didyma</i>
*Black-Eyed Susan/Yellow Daisy	<i>Rudbeckia hirta</i>
Bleeding Heart, Pink	<i>Dicentra eximia</i>
Bleeding Heart, Showy	<i>Dicentra spectabilis</i>
Butterfly Weed/Pleurisy Root	<i>Asclepias tuberosa</i>
Caneflower,	<i>Echinacea purpurea</i>
Carnation, Laced Romeo	<i>Dianthus spp.</i>
Chantreyland Viola	<i>Viola cornuta</i>
Clara Curtis Daisy	<i>Zewardski rubella</i>
*Columbine	<i>Aquilegia spp.</i>
*Crane's Bill	<i>Geranium carlineum</i>
Crocus	<i>Crocus spp.</i>
Daffodils	<i>Narcissus spp.</i>
**Dame's Rocket	<i>Hesperis matronalis</i>
Dwarf Lilac	<i>Syringa patula</i>
Feverfew	<i>Chrysanthemum parthenium</i>
Geranium spp.	<i>Geranium spp.</i>
Golden Sedum	<i>Sedum kamtschaticum</i>
*Goldenrod	<i>Solidago spp.</i>
Iris	<i>Iris spp.</i>
Jewel of Persia	<i>Nepeta faassenii</i>
Lavender	<i>Lavandula spica</i>
*Lupine, Wild	<i>Lupinus perennis</i>
*Marsh Bellflower	<i>Campanula apatinoides</i>
*New England Blazing Star	<i>Liatris scariosa</i>

Flowers (Perennial) - Continued

**Nightshade	<i>Solanum nigrum</i>
Northern Sundrops	<i>Oenothera tetragona</i>
Oriental Poppy	<i>Papaver orientale</i>
Pink Dusty Miller	<i>Centaurea gymnocarpa</i>
Red Coral Bells	<i>Heuchera sanguinea</i>
Red Sedum Creeper	<i>Sedum spurium</i>
Rose Campion or Mullein – Pink	<i>Lychnis coronaria</i>
Russian Sage	<i>Perovskia atriplicifolia</i>
Scabiosa, Pink Mist	<i>Scabiosa columbaria</i>
Snowmound/Candytuft	<i>Iberis sempervirens</i>
Summer/Fall Phlox	<i>Phlox paniculata</i>
Trillium	<i>Trillium spp.</i>
*Wild Bergamot	<i>Monarda fistulosa</i>

Literature Cited

Deer Damage Control in New York Agriculture: New York State Department of Agriculture and Markets, 1983.

Reducing Deer Damage to Your Garden and Yard. Rhode Island Division of Fish and Wildlife.

Resistance of Woody Ornamental Plants to Deer Damage. Wildlife Damage Management Fact Sheet 800.00, 10-1991. Cornell Cooperative Extension.

“When Bambi Eats Your Flowers”, Consumer Reports.

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For More Information

Please feel free to contact us with any questions or comments.

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The Hunter courtesy cards below are for your convenience and can be used when granting permission to someone hunting your property

Rhode Island Division of Fish & Wildlife
Hunter-Landowner Courtesy Card



The bearer of this card:

Hunter Name: *(print)*

Has permission to hunt upon my land during the annual period:

from: _____ to: _____

Landowner Signature: _____

Landowner Name *(print)*: _____

Address

Rhode Island Division of Fish & Wildlife
Hunter-Landowner Courtesy Card



The bearer of this card:

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