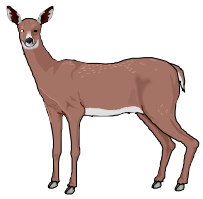
DEER CONTROL IN HOME GARDENS



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Deer damage to home gardens and shrubs is the number one complaint in urban and rural landscapes. Using an integrated approach of repelling and/or restricting deer access is the most effective method to reducing damage. Deer damage permits are available to rural landowners, however, urban landowners must rely on other methods to reduce damage.

Repellents

Repellents discourage deer feeding by having either an offensive taste or odor. No repellent is continuously effective, and what works in one location may be useless for another location. Factors which contribute to this variability are deer feeding habits and environmental conditions. Repellent application can be costly and labor intensive. Making the right decision about the use of repellents involves weighing the costs against the benefits. Generally it has been found that repellents are most cost-effective where the following conditions exists:

1) low to moderate deer numbers
2) light to moderate deer damage
3) small acreage, and
4) no more than 2-3 applications needed for control

If any of the above conditions are not typical of your garden, then you should evaluate the cost-benefit ratio of new low cost fence designs that are available. Even in situations of low deer numbers, some damage must be tolerated with the use of repellents.

There is a broad choice of repellents - human hair, soap, feathermeal, bloodmeal, creosote, mothballs, tankage and commercial chemical repellents. The greatest amount of protection for home gardens with repellents is obtained by using several different repellents and rotating their use.

Application

Proper use of repellents is critical in providing protection. You must learn to carefully monitor deer activity so that applications are properly timed. It is much easier to prevent damage than it is to stop it after it is underway. Repellents should be applied before damage is likely to occur and before deer become accustomed to feeding on the crop. Commercial repellents must always be applied according to the manufacturer's directions. Other essentials for success with the use of repellents are as follows:

1) Make thorough applications. Some repellents may require vulnerable portions of the plant to be covered before applying repellents.
2) Watch the weather and repeat applications after heavy rains or when recommended by the label.
3) With taste-based materials, cover new growth with applications every 3-4 weeks during susceptible stages. With odor-based repellents, monitor the range of influence, and repeat applications when deer begin to approach the periphery of a planting.
4) If using a material to be hung on or near a plant, make placements close enough that deer will likely come into contact with the repellent.

Materials

Contact the WVU County Extension Office and your local chemical suppliers for the most current information on available repellents. As with all chemicals, read the label carefully for specific information on crops, rates, and application methods. Costs can be further reduced by adding the repellent to a regular pesticide spray, if permitted in the label directions.

West Virginia Division of Natural Resources
Wildlife Resources Section
Law Enforcement Section

Cooperative Extension Service
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The following home remedies (Table 1) and commercial chemicals (Table 2) repel deer.

Table 1. Noncommercial Deer Repellents (Home Remedies)

Repellent	Type	Application
Human Hair in Bags	Odor	Collect hair from local barber shop. Put two large handfuls of hair in open mesh bag. Hang bags near crops 28-32 inches above ground
Tankage in Bags	Odor	Put 1/2-1 cup of tankage (animal waste) in cloth bag. Hang bags in same manner as hair.
Bars of Soap	Odor	Brand makes no difference. Use small bars or cut large ones in sections. Hang by wire in same manner as hair.

Table 2. Commercial Deer Repellents (Follow Manufacturer Labels)

Repellent	Type	Distributor/Manufacturer
Bonide Shot Gun Rabbit- Deer Repellent	Taste	Bonide Chemical Co., Inc. 2 Wurz Ave. Yorkville, NY 13495 (315)736-8231 or 800-424-9300
Chaperone Rabbit and Deer Repellent	Taste	Sudbury Laboratory, Inc. 572 Dutton Rd., Sudbury, MA 01776
Nott's Chew Not	Taste	Nott Manufacturing Co., Inc. P.O. Box 685 Pleasant Valley, NY 12569 (914)635-3243 or Mellinger Co. N. Lima, OH 800-321-7444
Deer Away Big	Taste	Intagra, Inc. 8500 Pillsbury Av. S. Minneapolis, MN 55420 (612)881-5535 or 800-468-2472
Deer-Off	Taste	Deer-Off 800-DEER-OFF http://www.deer-off.com
Deerbuster	Taste	Deerbuster 9735 A Bethel Rd., Frederick, MD 21702-2017 800-248-3337 http://www.deerbusters.com
Millers Hot Sauce Animal Repellent Game Repellent	Taste	Miller Chemical Box 333 Hanover, PA 17331
N.I.M.B.Y.	Taste	DMX Industries 6540 Martin Luther King St. Louis, MO 63133 (314)385-0076 or http:/www,bimby.com
Not Tonight Deer	Taste	Not Tonight Deer Box 71 Mendocino, CA 35460 (415)255-9498 or http://www.nottonight.com
Plantskydd	Taste	Tree World 10 North Gates Av. Lackawanna, NY 14218 800-252-6051
Tree Guard	Taste	Nortech Forest Techonologies, Inc. 7600 W27th St., #B-11 St. Louis Park, MN 55426 (612)922-2520 or 800-323-3396 or http://www.nortechfrest.com or May Tree Enterprises Petersburg, WV 26847 304-749-7249

Fences

Fencing your garden against deer can be accomplished in a number of ways. However, the seriousness of your deer problem and the amount of money you are willing to spend will directly effect your choice of design and materials. Modifications can be made to the fence to exclude other wildlife as well, such as rabbits, raccoons and groundhogs.

In areas where deer populations are low a single wire electric fence, 30 inches off the ground, can deter the deer from your garden (Figure 1). As deer populations increase, or entry through the single wire is apparent, additional wires should be added. Deer normally will attempt to go under or through a fence rather than jump over it, therefore, a vertical two wire electric fence should have wires located at 15 inches and 30 inches off the ground. If three wires are used, place the wires at 10, 20 and 30 inches off the ground. Small animals can be stopped by adding wires at 3 and 6 inches off the ground. The installation of screen door springs at fence corners will prevent deer from breaking the wire.

Another electric fence that has proven effective is a two dimensional design. A single wire at 50 inches is placed around the garden. A second set of two wires is located 38 inches outside the first wire at the heights of 15 and 43 inches.

Fences of these designs, vertical and two dimensional, can be erected by using hand driven posts and poly-wire electric fence. This makes it possible to take the fence down and put it back up several times. Spacing between posts should not exceed 30 feet.

Fence posts may be wooden, metal, or fiberglass. If wood or metal posts are used, insulators are required. If fiberglass posts are used the posts serve as the insulator.

The key to effective fences is a high voltage, low impedance

charger, and a good ground rod. High voltage chargers require less vegetative maintenance. A good ground is an absolute requirement. A 6 - 8 foot ground rod will generally provide sufficient grounding even during dry weather.

High voltage chargers are available in several different types: solar, AC plug-in, DC wet or dry cell battery, or six 1.5 volt flashlight batteries. These chargers generate approximately 5,000 volts of low amperage electricity and do an excellent job of repelling wildlife. Prices of chargers vary considerably, so it is important to check around before purchasing one. For safety, lightweight signs should be attached to the fence alerting people to the fact that the fence is electric.

Permanent, taller fences will provide more deer protection; however, they are more expensive. Permanent deer fences which have proven successful are the high tensile electric, 6-wire vertical fence, and the 8 foot high woven wire non-electric fence.

Important points to remember in constructing an electric fence around a garden:

1) Electrify the fence immediately. If your electric fence is not electrified for several days, the deer may learn to go through it. When the electricity is turned on, some of the same deer will continue to go through the fence.
2) If deer repeatedly go through an electric fence, these animals need to be eliminated or stopped by modification of the fence. Learned behavior can be passed on to offspring. Modifying the fence by attaching aluminum foil with a spoonful of peanut butter smeared on the foil will entice the deer to lick the peanut butter and realize the full charge of an electric fence.
3) Check your fence every day, if possible, for breaks or any other problems that would permit the deer to enter.
4) It is beneficial to have a way of testing the voltage on your fence. This can locate problems such as a weak battery, poor grounding, shorting out, or a broken wire.

A temporary electric fence around your garden can greatly reduce the deer damage you are experiencing and give you the convenience of taking it down each spring to plow and prepare the garden for another growing season or move the fence should you move your garden. A temporary fence may be altered to control deer and /or small wildlife. When erecting your fence be sure to allow enough room between the garden and the fence to manipulate your garden equipment during summer cultivation. Also be sure to keep all vegetative material under or near the fence cut.

A garden of up to 8,000 square feet can be fenced with a temporary, electric deer fence for a reasonable cost. If properly maintained the fence can be used for several years with the only added cost being batteries. If wildlife damage has been a problem in your garden, an electric fence might soon pay for itself.

REFERENCES

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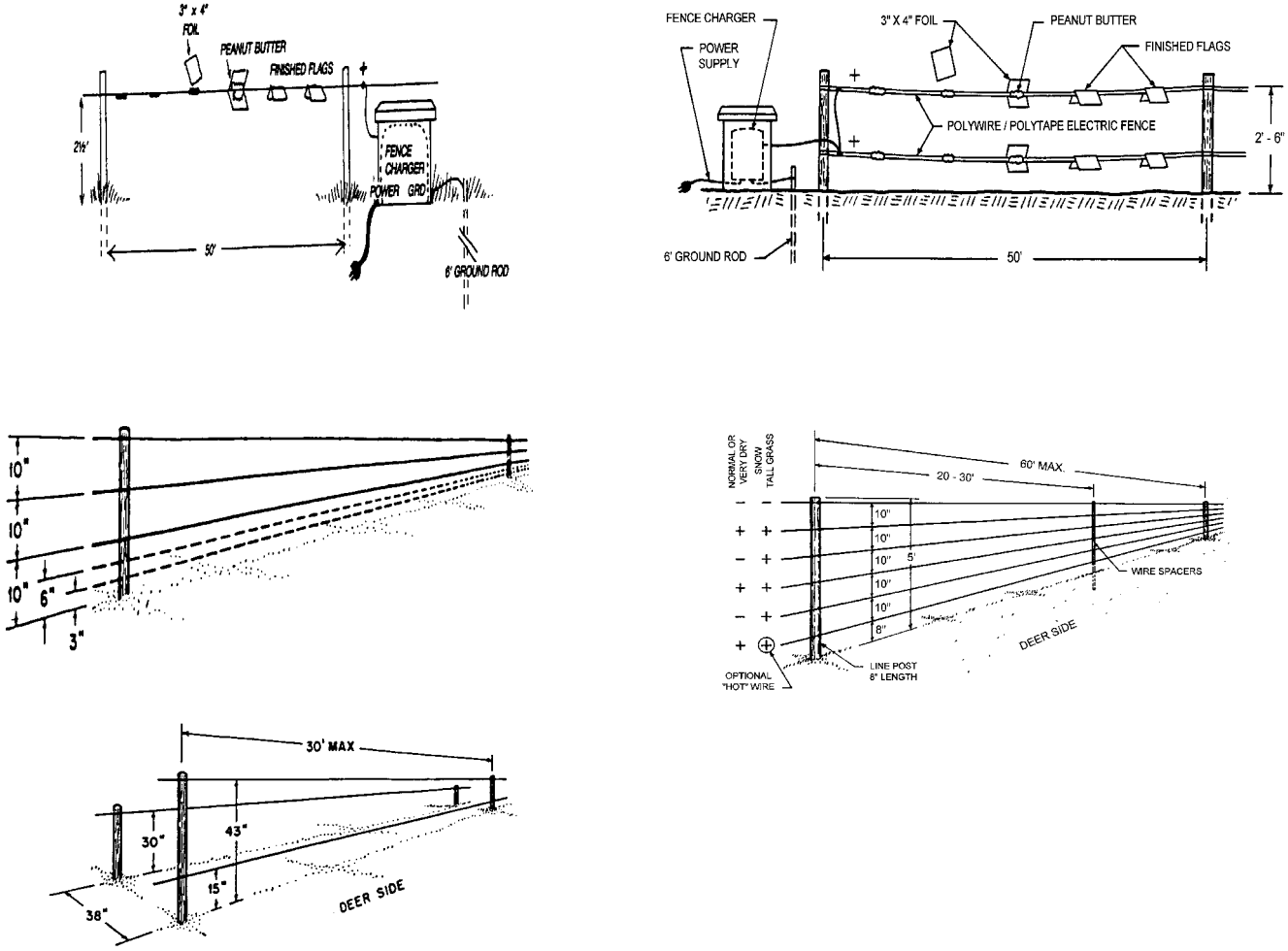


Figure 1. Fence Designs for Repelling Deer

Although chemical repellents are designed to have no worse effect on animals than leaving a bad taste in their mouths, a word of caution is necessary. Never use more often, or in greater volume, than the label recommends. Chemical repellents are classified as pesticides, and your state pesticide regulating agency or extension service can usually give you pointers on their proper use and storage.

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