

## LOCAL DEER CONTROL METHODS

Greg Creacy, Texas Parks and Wildlife Department  
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The following techniques can be utilized to prevent deer from damaging small areas such as yards and gardens:

### 1. RESTRICT ALL LOCAL "FEEDING" OF DEER

Even though many people enjoy providing food for deer and other wildlife, feeding encourages large congregations of deer to inhabit small areas. Feeding exacerbates an already problematic situation by restricting deer movements and enhancing their reproduction and survival. This practice also makes them more tame and fearless of people.

Community education efforts regarding the negative impacts of feeding may help alleviate this problem. Alternately, regulations which prohibit feeding have been passed in some areas with varying degrees of success. For example, Elkins Lake subdivision in Walker County, Texas successfully passed an anti-feeding regulation in 2004. Large deer congregations which were previously observed traveling from one feeding area to another were significantly reduced. However, total elimination of feeding has not occurred within this area. It is important to note that enforcement of these regulations can be difficult without substantial community interest and involvement (DeNicola et al. 2000).

### 2. DO NOT PLANT VEGETATION FAVORED BY DEER

While deer have a definite preference for some plants over others, very few plants can be considered "unpalatable", meaning that deer will always avoid them. Furthermore, certain plants can be more or less palatable depending on deer densities and overall forage availability, time of year, and individual plant health (which can be changed with supplemental water and fertilizer). However, utilizing plants known to be less desirable to deer may help to alleviate unwanted damage to suburban landscaping. Texas Parks and Wildlife Department can provide more information regarding regional plant species that are less preferred by deer. Additionally, a list of deer-resistant plants can be found within "Texas Wildscapes: Gardening for Wildlife" by Noreen Damude.

### 3. FENCE OFF AREAS ATTRACTIVE TO DEER (BRUSH AREAS, GARDENS, ETC.)

Fencing may be a viable option to protect sensitive areas or yards from deer damage, reduce deer/vehicle collisions, or prevent localized tick overabundance. Several fence designs are listed below, ranging from simple to complex. When dealing with high density deer populations, the animals will often find ways to cross many of these fence designs if highly

nutritious plants or better habitat conditions are present on the other side. Additionally, as the utilization of local fences/repellants by a community increases, deer may begin to either ignore the deterrents or increase utilization of the neighboring habitat.

Large areas often require more substantial fencing designs to achieve a level of protection similar to small areas. In general, blocks larger than 50 acres usually require eight-foot-high, woven-wire or high-tensile fencing to reliably prevent deer from entering the area if feeding pressure is high. It may be necessary to utilize this fence type on smaller areas if a landowner's tolerance for deer damage is low. Keep in mind that standard or high-tensile game fences at least 8 feet in height are the ONLY full-proof deer exclusion fences.

### **Standard Fences**

Woven-wire game fencing is available in square-mesh or V-mesh, and is usually available in 6-ft. and 8-ft. heights. The fence should be 6-inch mesh or less. This is not an electrified fence. The cost of this type of fence is about \$10,000 per mile, relatively labor intensive to construct, and requires considerable maintenance in order to be effective (repairing gaps created by fallen trees, etc.). These fences are usually utilized along property boundaries, and may be aesthetically unacceptable within a residential area.

### **High-Tensile Wire Fences**

A New Zealand-designed high-tensile wire fence has been successful in many parts of the country, and is believed to be equivalent to the standard net wire fence listed above. This fence employs 12 smooth wires that are stretched with a ratchet tool to prevent animals from squeezing between wires. The cost of this type of fence is about \$8,000 per mile, and is lighter, thus easier to construct than net wire fences. Considerable maintenance is required to repair fence gaps and to maintain wire tension. This fence can also be electrified, if desired. Contact your local Texas Parks and Wildlife Department office for more information regarding this fence design, or refer to Coey and Mayer (2004) for additional details.

### **Electric Fences**

A variety of electric fence designs can be employed when excluding deer from smaller areas such as gardens, small orchards, etc. However, these fences are usually ineffective when used to prevent deer movements between large areas. Electric fences will not be effective if deer need to cross an area to access a feeder or other desired food source, and an easy alternative route is unavailable. Also, animals that are startled tend to slip through these types of fences.

With all electric fences, it is a common practice to "bait" them by attaching pieces of aluminum foil coated with peanut butter in order to quickly train animals to avoid the fences. The fence then becomes more of a psychological barrier than a physical barrier after animals have experienced the shock.

Various fence designs are listed below in order of effectiveness from most effective to least effective. Vegetation around electric fences must be regularly cleared to prevent "grounding". Slanted fences occupy more horizontal space than upright fences, therefore requiring more vegetation removal.

### **12-Wire Typical Electric Fence**

This fence is similar to the high-tensile fence listed above, but has “loose” wires typical of most electric fences. The bottom wire should be 6 inches from the ground, and each additional wire should be 6 – 8 inches apart. Much greater success has been achieved by angling the fence back toward the property that you are trying to protect, covering approximately six feet of horizontal space. Deer have poor depth perception and will usually avoid jumping the angled fence.

### **6 – 8 Wire Typical Electric Fence**

Similar to above, but with fewer wires. Bottom wire should be 6 inches from the ground, and each additional wire should be 12-18 inches apart. This fence can be slanted for increased success.

### **3-Wire Offset Electric Fence**

This fence is easy to construct, and is probably at least as effective as the 6-8 wire fence listed above. Two wires are placed 18 inches above the ground and 3-4 feet apart. Another wire is placed 4-5 feet above the ground between the lower wires. While this wire triangle is not too high for deer to jump, they are reluctant to jump the fence considering the width.

### **1-Wire Typical Electric Fence**

Some people have had success with only one strand of electric wire, baited with peanut butter. This latter system is the cheapest (as low as \$2 per linear foot) of the more effective physical deterrents. While this fence may exclude deer from entering back yards, it will not prevent deer from entering large areas.

### **Monofilament Fishing Line**

This fence is utilized for small areas within backyards or to protect individual plants. Typical fishing line may be strung between 10-foot posts with each line 1 – 2 feet apart. While this is undoubtedly the cheapest fence, it is also the most ineffective. However, if this is your choice, be sure to tie streamers to the strands so the deer will see your fence. Use several colors, as deer do not see some colors very well.

## **4. REPELLANTS**

Numerous commercial deer repellants have been developed to prevent unwanted damage to commercial crops, residential gardens, and landscape plants. Refer to DeNicola et al. (2000) or Coey and Mayer (2004) for a comprehensive listing of available commercial repellants. Unfortunately, the success of these substances in preventing deer damage has been limited. The ability to deter deer browsing pressure on any particular plant by applying a repellant is dependant on deer densities and overall forage availability, plant species, and the amount of time that has passed since repellant application. Most successful attempts to deter deer with repellants typically occur with relatively low deer densities and frequently repeated repellant

applications. It is important to note that total avoidance of repellants by deer is rare (DeNicola et al. 2000).

Non-commercial treatments with items such as human hair or soap are not reliable deer repellants.

**Types of Commercial Repellants (Beauchamp 1997; Mason 1997; Wagner and Nolte 2001):**

1. **Fear** (odor-based substances that imitate predator scents; e.g., Deer-Away®, Hinder®, Deer Buster's™, etc.)
2. **Conditioned aversion** (causes illness that deer associate with treated item; e.g., Detour™, etc.)
3. **Pain** (causes pain or irritation to mucous membranes; e.g., Hot Sauce®, Deer-Away®, etc.)
4. **Taste** (include bittering agents in attempt to negatively affect taste; e.g., Ropel®, Tree Guard®, Orange TKO, etc.)

\* Not all deer repellants are approved for application on edible crops. Inspect labels carefully.

**Harassment Techniques**

Noise-makers, motion-activated lights, silhouettes, and movement contraptions are often utilized in an attempt to repel deer. These techniques are mostly ineffective. Deer are extremely adaptable, and become habituated to these sights and sounds in a very short period of time. Furthermore, some of these harassment techniques will have limited application within subdivisions where loud noises are prohibited.

In some situations, dogs contained by a leash or an invisible fencing system have been used to successfully deter deer from small acreages. It is important to remember that only the area within the dog's reach will be protected, however, as deer quickly learn the dog's boundaries. Dogs must patrol the area night and day in order for this technique to be successful. Additionally, the dog's size and temperament will affect this technique's success.

**5. ENFORCE EXISTING (STATE) REGULATIONS AGAINST CATCHING AND RAISING FAWN.**

Young deer raised by humans typically acclimate to human activities, automobile traffic, etc. These deer may ultimately become a nuisance or a safety risk to area residents.

**Recommended Further Reading:**

Beauchamp, G. K. 1997. Chemical signals and repellency: problems and prognosis. Pages 1-10 *In* J. R. Mason, editor. Repellents in wildlife management: proceedings of the

symposium, 8-10 August 1995, Denver, Colorado. National Wildlife Research Center, Fort Collins, Colorado, USA.

Coey, B. and K. Mayer. 2004. A Gardener's Guide to Preventing Deer Damage. California Department of Fish and Game, Wildlife Management Division, Deer Program. 24p.

DeNicola, A. J., K. C. VerCauteren, P. D. Curtis, and S. E. Hygnstrom. 2000. Managing white-tailed deer in suburban environments – a technical guide. Cornell Cooperative Extension. 56pp.

Damude, N. and K. C. Bender. 1999. Texas Wildscapes – Gardening for Wildlife. Texas Parks and Wildlife Press, Texas Parks and Wildlife Department, Austin, Texas. 387p.

Mason, J. R. 1997. Vertebrate repellents: mechanisms, practical applications, possibilities. Pages 11-16 *In* K. K. Wagner and D. L. Nolte, editors. Wildlife Damage Management for Natural Resource Managers. United States Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services, National Wildlife Research Center, Olympia Field Station, Olympia, Washington, USA.

Wagner, K. K. and D. L. Nolte. 2001. Comparison of active ingredients and delivery systems in deer repellents. *Wildlife Society Bulletin* 29:322-330.



4200 Smith School Road  
Austin, TX 78744

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