

Control of Deer Damage to Crops

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Deer populations continue to expand in the Southeast, including Alabama. With increases in the deer population come increases in complaints about deer damage to crops. Extension personnel at the state and county levels receive calls regularly about deer damage. This circular provides an overview of the physical characteristics of crop damage by deer and some ways to minimize this damage.

Deer damage controls depends on many factors. The availability of alternate foods, density of the deer population, weather conditions, and adjacent cover may all affect the extent of damage a particular area receives. Thus, recommendations offered are not foolproof, and often are site-specific. A word of caution: With any animal damage situation, always check with state and local authorities concerning regulations.

Characteristics of Deer Damage

Deer browse on woody plant leaves, stems, and buds, as well as non-woody plants (forbs), grasses, and fungi. In orchards and nurseries, they particularly like young, fertilized, highly nutritious seedlings. In agricultural crops, such as soybeans and strawberries, damage may vary with the growing season and the stage of plant development. Browsing of this nature may be by deer of either sex and any age.

Bucks also may rub trees with their antlers during polishing and especially during the rutting season. This damage will show up as areas where bark has been scraped off the tree. While rubbing damage may be a problem in some cases, damage by browsing is much more widespread.

Browsing damage by deer is often easy to identify. If the ground is soft around the plants, browsing deer will leave distinctive hoof prints. However, if the ground is hard and packed, deer may not leave tracks that are easy to see. A more positive way of identifying deer damage is the presence of their characteristic pattern of "nipping" the plant.

Deer and other ruminants, such as cattle, sheep, and goats, have no upper incisors. The absence of these upper front teeth forces them to tear vegetation from the plant by pinching it between their lower incisors and the hard upper palate. As they tear the vegetation from the plant, a ragged end is left on the nipped vegetation.

Control of Deer Damage

Deer are protected as game animals throughout the Southeast. Therefore, any control measures must be in accordance with the game laws set forth by the various state Departments of Conservation. A Number of devices and strategies have been used to

frighten deer out of an area. Various scaring devices may be effective for a short time, but deer soon will become used to them. Noisemakers, such as gas-operated cannons and cracker shells, may be effective if the crop only needs protection for a short time. If the crop needs protection throughout the season, these tactics will be of little use. Deer will soon come to know that the noise from these devices poses no real threat of physical harm and will not react to them. To maximize the effectiveness of frightening devices, move them around and vary the intervals of discharge.

Repellents Repellents may be very effective in small situations such as home gardens. However, for large-scale agricultural operations they are generally not practical. The effectiveness of repellents depends on such factors as rainfall, time of year, and the availability of other foods.

There is a wide variety of commercial formulas available that claim to repel deer. These formulas may be divided into two broad categories. Area repellents, the first category, are applied near the plants and repel by deer smell. Human hair, bone tar oil, and mothballs have all been used with varying degrees of success. Two examples of popular commercial brands of area repellents are Hinder and Big Game Repellent. These may be quite effective in some situations but may be expensive to use. A less expensive technique involves hanging bars of soap on tree branches at 3-foot horizontal intervals.

Contact repellents, the second category, are applied directly to the plants and repel deer by taste. Taste or contact repellents are most effective if application is begun while trees are dormant and is continued through the growing season. Thus, deer never gain a taste for the plant. In other words, it is easier to prevent the habit than to break it. One disadvantage to contact repellents is that many should not be used on plant parts that humans will eat. Hot pepper sauce and Thiram are examples of popular contact repellents.

Remember that none of the repellents will be 100 percent effective in stopping deer damage. When using repellents, you must decide how much damage will be tolerated and manage accordingly. If the goal is to eliminate all deer damage, fencing must be used.

Fencing Deer may be excluded from orchards or nurseries by using one of several fencing designs. The designs discussed here have all been tested and shown to be effective under test conditions. However, their relative effectiveness depends on deer population, habitat conditions in the area, and maintenance by the landowner.

Although expensive, an 8-foot high woven-wire fence will keep most deer out of an area. This design of fencing has been used to hold deer in an area for trophy deer management, so it should also be able to keep them out. Electric fencing may be equally effective. The Penn State five- or seven-wire fence may be quite effective if maintained properly. The rough specifications for this type of fence involve high-tensile electric wire strung to 300 pounds of tension. These wires are spaced about 8 inches apart and charged with 7,000 volts of current. A low impedance charger is used to prevent the wires from shorting out if grounded, and for safety purposes.

The New Hampshire three-wire offset fence has been effective in some cases. This design involves two electric fences, one with two wires at 15 and 36 inches, respectively, and another with a single wire at 27 inches. The fences are placed 3 feet apart, with the single-strand fence closer to the crop. Wire and charger specifications are the same as for the Penn State design.

The Minnesota electric deer fence uses a single wire, 30 inches from the ground. Aluminum foil strips, coated with a mixture of peanut butter and peanut oil, are attached to the wire about every 3 feet. The peanut butter and oil mixture encourages deer to touch the fence with their nose or tongue. This usually discourages the deer from trying the fence out a second time. The Minnesota design is inexpensive and has been effective in a variety of situations.

Shooting In most instances, shooting depredating (damage-causing) deer is not a very cost-effective method for controlling damage. The high population of deer means that as one deer is shot and removed from the population, another deer will move in to fill that slot. Unless a landowner is willing to spend considerable time and effort in patrolling a field, shooting deer will not be of long-term benefit.

Where possible, harvesting deer during the legal hunting season is probably the best way to produce a long-term reduction in the deer population. Hunting provides recreation while reducing deer damage. In cases of severe damage, where nonlethal techniques have failed, it may be possible to obtain a permit to shoot depredating deer. However, no lethal controls should be used without first obtaining the permission of the Alabama Department of Conservation and Natural Resources.

Summary

Long-range planning is essential in controlling deer damage. Sport hunting in the area may help in controlling population expansion and thereby reduce deer depredation problems. The techniques discussed here have all proven effective under certain circumstances. Remember, no technique is 100 percent effective. A mixture of control techniques will provide the greatest reduction in damage.