

I Thought Rabbits Only Ate Clover:

Predicting and Sometimes Preventing Animal Damage to Trees



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Do you remember when rabbits were bunnies and they hopped through fields of grass, munching on clover? Or when twin fawns were precious and vulnerable little Bambis who needed protection from the bad wolves or coyotes? Or when gerbils and hamsters were cuddly, little...oh wait, they still are, but voles are nasty, horrible little imposters. One thing is for sure: Walt Disney never tried to grow trees.

Planted Trees: The Original Fast Food

It's that time of the year (early April) when tree huggers begin surveying the damage from the past six months of early winter, winter and late winter. And it's not the damage from deicing salts, cold temperatures or drying winds; it's the damage from incisor teeth and antlers. Isn't it ironic that horticulturists have developed trees that are resistant to diseases like Dutch elm disease and insect pests like bronze birch borer, but have not developed trees that aren't tasty to cute, woodland creatures? It would be a safe bet that more trees have died from rabbits girdling their stems than oaks have died from oak wilt.

What kind of trees do critters prefer to devour or damage? Store-bought trees and shrubs, there's your list. Maybe a little more specific? Rabbits and voles prefer young oaks, elms, burning bush (*Euonymus*), dogwoods (like red-twigged), and fruit-bearing trees and shrubs like apples, pears, cherries, serviceberry, hazel nut, and black chokeberry. There are others, but these are the favored.



Figure 1. Late winter rabbit damage after the snow has melted.



Figures 2 and 3. Note on Figure 2 (top photo) the distinctive girdling from rabbits. The bottom photo (Figure 3) shows the relative position of the damage. The snow reached depths of four feet in this orchard so the rabbits had access to the branches well above ground.



Figure 4. Deer have eaten most of the lower foliage on this row of Northern white cedar.

Photo Credit: Tim Teynor

Deer will sell their souls for a row of Northern white cedar (aka, arborvitae). They love to munch on the tender, tasty foliage as far up as they can reach. They, too, like the fruit trees, especially apples, serviceberries and cherries. When they get hungry and ornery enough, they start ripping off branches of Eastern red cedar, spruce, pines (especially jack pine), and lilacs, among others. And when those male deer need to clean their antlers from the summer velvet in the autumn or make their presence known in the late winter to all of the female deer, they will seek out those elms (again), pine, and spruce trunks, and Northern white cedars (if there's anything left), they will find and destroy them by girdling their stems (trunks).

Good grief, anything else? You betcha; how about some beaver and porcupine damage to finish things off? Beavers damage trees in a couple of ways. First, they harvest trees and take them off...somewhere. These are usually the smaller (less than

10" trunk diameter at ground line) or softer wood species (basswood, aspen, cottonwood). The other damage is extensive stem girdling, up to 24" of complete girdling on larger or harder-wooded species like hackberry and ash, which eventually causes the tree to prematurely die.



Figure 5. Beaver damage to hardwood trees.

Photo Credit: Jim Blake

Porcupines are basically rabbits that can climb trees. Porcupines will completely girdle stems and branches of trees by stripping off the bark and cambium. All that's commonly left are trees that are stripped down to bare bones.

Figure 6. Porcupines have almost completely stripped this tree of its bark.

Photo Credit: Stephen Cain



Managing Critter Damage and Staying Out of Jail

*Sorry, but this discussion won't include any references to poison baits, trapping or lead poisoning for obvious reasons...I don't want to get in hot water.

1) Exclusionary fencing. If it's done right and you've perfectly predicted the snow depth for next winter, it works 100% of the time. For voles, the best is ¼ inch hardware cloth, either formed as a cylinder and placed around the tree trunks (leave at least a couple of inches of space between the tree trunks and the wire), or built as a mini-fence around shrubs. Try to sink the wire into the ground just a little bit and then put a stake or two into the ground and attach the wire to the stake. Since voles girdle tree or shrub stems below the snow line, the cylinder/fencing only needs to be a little taller than the predicted or average snow depth. Tree shelters can also provide excellent stem protection from voles and some other critter damage. Again, sink the base of the tree shelter into the mulch or soil around the tree to be protected to prevent voles from tunneling under the shelter.

Hardware cloth also works very well to prevent rabbit, deer antler rubbing and beaver damage to tree trunks. If voles aren't a problem in the landscape, ½ inch hardware cloth can be used to keep these animals from girdling the tree trunks. Chicken wire (either galvanized or plastic-coated) works well to prevent rabbit damage and often damage from unmotivated beavers. Rabbits and beavers work above the snow line, so predicting the snow depth for the winter is important. Rabbits can feed 18" or more above the snow line by standing on their rear feet, so add at least that to the predicted depth of the snow when purchasing and installing the exclusionary fencing or trunk protection.



Figure 7. Hardware cloth (1/4 inch in this photo) is almost guaranteed to prevent any vole, rabbit, beaver and antler-rubbing damage to tree stems as long as it was at least a couple feet taller than the deepest snow of the winter.



Figure 8. This high density, polyethylene trunk guard prevent damage from almost all critters (except voles), and comes in a variety of lengths. The guard coils around the stems and the open side is closed with zip ties.

Exclusionary fencing to prevent deer from browsing on buds and foliage is another instance where it relies on the installer perfectly predicting snow depth. Deer can easily leap over fences that are up to 6 feet tall, sometimes taller. So the trick is placing the fencing high enough to prevent browsing damage yet close enough to the tree or shrubs to prevent the deer from jumping over and into the sheltered area. Deer can reach over shorter (5 feet or less) fencing and browse, so the fencing needs to be at least 24" away from the branches and foliage to prevent that. Also, it's no trouble for a deer to stomp down chicken wire fences, so it usually pays to use a heavy gauge wire (like hardware cloth) or put in a lot of stakes to anchor and support the fencing.

2) Animal repellent products. There are a lot of stories out there and they all claim 100% effectiveness: little bars of soap hung from branches, fox urine, human hair, and more. Since I'm bald, I'm not about to catch and collect fox urine and I don't stay in hotels often enough to build up a cache of little bars of soap, here are two products that work pretty well.

Plantskydd™ and Liquid Fence™ are two, commonly used animal repellents that are available on line or in most garden centers. They can be applied as granules in the soil around the plants or as liquid sprays. They are effective at minimizing damage from most mammals, but don't impact birds. Both are safe to use and are not petroleum chemicals.

The first thing to note about using either as a spray is to determine which way the wind is blowing before you begin spraying. Trust me, you don't want to be downwind from this stuff and get a face-full of spray or soak your clothing. It won't kill



Figure 9. Another option that does a very good job of protecting stems from voles, rabbits and deer browse/antler rubbing are tree shelters. These are designed to slip over smaller saplings, but they can also be used for larger branched trees by slitting one side of the shelter and reattaching it with zip ties.

you, but your social life will be zero for several days. For maximum effectiveness, the first application should be in early autumn and continued through spring, applying fresh coats about every month.

Recovering From Damage

Sometimes, the damage is so severe that the plants need to be removed and hopefully replaced. This is often the case when tree trunks are completely girdled (all the way around the trunk) and for a vertical length of several inches. If the girdling is only partial or if the vertical extent is an inch or less, healthy plants have the potential to form callous tissue which can bridge the gap and then develop into functional, vascular and bark tissues again. In this case, do everything you can to keep the plant healthy and growing well which **always** means keeping the trees from becoming water-stressed and **sometimes** means fertilizing them with low rates of slow-release nitrogen (e.g. bone meal, blood meal, composted manures).

For low tree branches that have become severely girdled due to rabbit feeding during deep snow winters, prune them off in the spring. For shrubs that have been heavily damaged from girdling or twig-feeding, prune them back as close to the ground as possible in the spring.

Don't waste your time and money by spraying tree wound paints or any paints on the animal damaged areas if you decide to keep the plants. The damage is done and painting the wounds only changes the color. Save the money for purchasing hardware cloth, tree shelters, or stinky products that repel animals next autumn.

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