

# Equipment, Products, and Services

---

The purpose of this section is to make readers aware of new nursery equipment, products, or services that will help them in their work. All trade names mentioned are used for the information and convenience of the reader, and do not imply endorsement or preferential treatment by the author or the USDA Forest Service.

## Repellents for Controlling Animal Browsing



Feeding damage by animals is an increasing problem both in nurseries and after outplanting. Deer, in particular, are a serious pest. A recent survey of nurseries and orchards in the northeastern US showed that 65 % of respondents had a problem with deer browsing. Another study found that deer damage to woody plants exceeds \$50 million in New York state alone. The most common control treatment was chemical repellents but users reported that they were only "somewhat effective".

How do you know you have a problem? Deer predation is usually easy to diagnose by tracks or actual sightings in the early morning or at dusk. The type of feeding injury is diagnostic, however. Seedling foliage damaged by deer typically has a rough, shredded edge whereas rodents leave a neat, sharp edge at a 45° angle. Mice and voles leave teeth marks on the wood of the stem.

A variety of different repellent chemicals have been used to deter deer from feeding on seedlings (Table 1). Many have been around for years but new products are continually being developed. For instance, the Horticultural Research Institute is sponsoring a study evaluating the natural chemical compounds in daffodils which are known to escape deer feeding. One of the newest deer repellents is called Plantskydd® Animal Repellent which mimics the marking scent of predatory animals and so deters by odor as well as taste (Table 1). Because it is composed of specially processed animal protein, vegetable fats, and salt, Plantskydd® has been exempted from Federal

Insecticide, Fungicide and Rodenticide requirements by the US Environmental Protection Agency. Plantskydd® is applied as a soluble powder in the nursery or in the field. A major advantage is that it has no odor to humans and does not harm nursery workers or tree planters. One caution is that it can be difficult to mix and so a slurry should be made before the application solution. Field trials have been very promising, even with species like western redcedar which are preferred by deer. Registration is pending in Canada but Plantskydd® can be acquired under the auspices of an efficacy trial. Contact Tree World® for more information: TEL: 604.885.3535; FAX: 604.885.3522; E-mail: [treeworld@sunshine.net](mailto:treeworld@sunshine.net); Website: [www.treeworld.com](http://www.treeworld.com).

Table 1 - Chemical repellents used to prevent deer damage to seedlings				
Product	Mode of Action	Active Ingredients	Application Method	Source
Deer-Away Big Game Repellent	Odor Taste	37% Putrescent Egg Solids	Spray	Int Agra Minneapolis. MN Wilbur-Ellis: 800.452.5625
Hinder	Odor Taste	13.8% Ammonium soaps	Spray, Brush	Pace International Kirkland. WA
Chew-Not	Taste	20% Thiram	Spray, Brush	Nott Manufacturing Pleasant Valley, NY
Bonide Rabbit-Deer Repellent	Taste	11% Thiram 11% Acrylic Polymer resins	Spray, Brush, Dip	Bonide Chemical Company Yorkville, NY
Hot Sauce Animal Repellent	Taste	2.5% Capsaicin	Spray	Miller Chemical Corp. Hanover, PA Wilbur-Ellis: 800.452.5625
Nortech Tree Guard®	Taste	Bitter substance: Bitrex®	Spray	ReForestation Technologies International 800.784.4769 Wilbur-Ellis: 800.452.5625
Plantskydd? Animal Repellent	Odor Taste	Animal protein, vegetable fats and salt	Spray	Wilbur-Ellis: 800.452.5625 Terra Tech: 800.321.1037 Ben Meadows: 800.241.6401 Forestry Suppliers: 800.647.5638

Source: Modified from Curtis (1997)

#### Sources:

Anonymous. 1997. Researchers examine daffodil compounds to deter deer feeding. *American Nurseryman* 186(3): 10.

Anonymous. 2000. Are your trees being nibbled to nubbins? *Forest Vegetation Management Bulletin*, April 2000. Portland. OR: Wilbur Ellis Company. 2 p.

Curbs, P.D. 1997. Reduce wildlife munching. *Nursery Management & Production* 13(11): 28.

Krahmer, R.W. 1993. Reducing deer damage to conifer seedlings. *Hortus Northwest* 4: 31-33.

Lemieux, N.; Maynard, B.K.; Johnson, W.A. 2000. A regional survey of deer damage throughout northeast nurseries and orchards. *J. Environ. Hort.* 18 (1): 1-4.