

Utah Forest Facts

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Preventing Deer Damage to Your Trees and Shrubs

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Deer/human conflicts have increased due to growing deer populations, limited resources and suburban development in deer habitat. In winter, deer often browse in residential landscapes. This can be reduced by selecting unpalatable plants, protecting woody plants with burlap or trunk protectors, and using deer repellent. In extreme cases, deer can be completely excluded with a fence.

Introduction

Mule deer (*Odocoileus hemionus*) are the most abundant big game animal in Utah and are found throughout the state. Mule deer have specific forage requirements and are selective in their feeding



behavior. In the wild, they rely heavily on shrubs like willows and dogwoods that grow in sunny, disturbed areas. The feeding they do on these woody materials

is called browsing and the plants are sometimes called browse. Natural browse may be less available than in the past because much of the traditional mule deer winter range along the Wasatch Front and elsewhere has been replaced by pavement, homes and cultivated landscapes.

Mule deer spend summers in the mountains and, when food is scarce in late November, move to the foothills that border the valleys where most of us live.



Sometimes the plants available for deer to browse in these areas are not adequate to satisfy the nutritional requirements for wintering mule deer. When natural winter browse is limited, the consequences for mule deer survival and fertility can be serious. Therefore deer may heavily browse ornamental shrubs and trees in winter, causing conflicts between mule deer and residents.

Deer damage may also occur in the summer, particularly during droughts when some native plants are water stressed and become toxic. In such cases, continuous protection may be needed to avoid year-round damage.



Solutions

To reduce mule deer damage to landscape trees and shrubs, you need to physically exclude them from individual plants or entire landscapes, use unpalatable plants in your

yard or garden, or temporarily protect plants with deer repellents.

Fencing

Fences provide the most reliable method for controlling deer damage. To be effective, 10 foot tall fencing should be installed around sensitive areas. Positioning a fence outside the canopy edge of low-branching hardwoods or just beyond the bottom branches of conifers will prevent most damage. A common use for fencing would be for protecting an entire orchard. Fencing should also be tight to the ground so that deer cannot crawl underneath. A list of effective fencing options can be found here: <http://www.ces.ncsu.edu/nreos/wild/pdf/wildlife/DEER.PDF>.

Pros

- Fences ensure that mule deer cannot browse on enclosed plants.
- Fencing can protect plants from deer damage

Utah DWR and Mule Deer Damage
The Utah Division of Wildlife Resources (UDWR) is aware of Utah’s urban deer problem and is currently evaluating ways to manage these populations. Utah Division of Wildlife Resources biologist Darren DeBloois assures us that deterring mule deer from browsing on shrubs and trees in our yards likely will not cause them to starve over the winter. They will find other foraging opportunities.



An example of wildlife-proof fencing

for many years, assuming gates are closed and fences are maintained.

Cons

- Construction and maintenance costs may be prohibitive.
- Fencing may not be aesthetically pleasing to you or your neighbors.



Exclusion fencing

Tree Protectors

In the fall, male deer often rub their antlers against trees to remove



Mule deer rubbing and damaging tree bark

the velvet layer that coats them. This rubbing can cause large scars on trunks and branches and can cause permanent damage. You can use tree protectors to guard trees in your yard from such damage. There are many kinds of tree protectors. They are made of polypropylene tubing, woven-wire mesh cylinders or

other materials. You can even make your own by cutting a plastic drainpipe down one side and sliding it over the trunk.



Homemade drainpipe tree protector

aesthetically appealing.

- With small trees, the deer may just push over the entire protector and tree.
- Trees may be so small that their foliage is contained in the protector and the foliage and stem may not develop normally.

Shrub Protectors

If browsing deer are causing damage to shrubs in your yard, you can wrap individual shrubs with burlap, layered plastic or inexpensive snow fencing.

Pros

- Shrub wrapping is an affordable, quick and effective way to prevent deer damage to individual shrubs.

Cons

- If you have many shrubs to protect, this may be a



Shrub protector

Pros

- Tree protectors are affordable and effective at inhibiting deer damage to tree bark.
- Tree protectors may be left on year-round, providing that they allow for normal tree development.

Cons

- Tree protectors may not be

time consuming and labor intensive task.

- You must unwrap shrubs at the end of the winter to allow for healthy plant production.
- Again, aesthetics may be a problem.



Shrubs protected by burlap

Plant Native and Unpalatable Species

It is possible to discourage deer browsing in your yard by selecting native woody plants and shrubs or other plants that are unpalatable to deer (see list on page 5). You can arrange a “fronting border” of unpalatable plants around the perimeter of your yard to discourage deer from entering the property. Some effective fronting border plants are: cleome, zinnias, firs, hemlocks, pines, spruces and junipers. More information about Utah’s native plants can be found here: <http://earth.gis.usu.edu/plants>.

Pros

- Native plants that are unpalatable to deer may use fewer resources like water and fertilizer and require less maintenance because they are specifically suited for the local conditions.
- Native species provide habitat and food for other wildlife and birds.

Cons

- Switching out non-native plants for native, unpalatable plants in your yard can be time consuming and costly.
- Planting native and unpalatable species may limit your plant selection options when planning your yard or garden.
- Sometimes native plants are not readily available.

Starting Plants from Seed

An affordable and easy way to propagate plants

Step 1: Gather seeds from native species that are unpalatable to deer (see list on page 5).

Step 2: Scarify seeds. Scarification means removing or breaking through the hard outer coat of a seed to promote germination. This process can occur naturally in animals' stomachs and bird gizzards, but may be sped up with human intervention:

- File seed coats with a metal file. You also may crack them gently with a knife or hammer. -or-
- Soak seeds in boiling water and remove them when water cools to room temperature.

Step 3: Stratify seeds. Seeds need to be stratified because they need to be 'woken up' from their dormant state by going through cool, moist storage.

- Mix scarified seeds with an equal volume of a moist medium (i.e. sand, peat moss). Store in a closed container in a refrigerator; check often to ensure the medium is moist. The time required for this step will vary with species, more info can be found in the USDA Forest Service's *Nursery Manual for Native Plants: A Guide for Tribal Nurseries*, which can be found online.

Step 4: Sow seeds under favorable conditions (i.e. after danger of frost has passed) and keep moist until well established. Cover the seeds with soil to a depth at least equal to the size of the seed.

Repellents

Some repellents have been shown to be effective deer deterrents. However, you must apply repellents in above-freezing temperatures and reapply every four to five weeks or after precipitation. The most effective repellents contain eggs, preferably putrid eggs. This is found in the brands Deer-Away Big Game Repellent, BGR Spray, BGR mix, Deer-Off, and Deer Stopper II* (*mention of a specific brand of deer repellent is for informational purposes only and does not constitute an endorsement by USU Extension). You also may make your own (see below).

Pros

- Deer will often avoid plants sprayed with repellents containing putrescent egg solids for up to six weeks.
- When applied every four to five weeks, repellents can be a suitable alternative to other mitigation techniques.

Cons

- The cost of deer repellents may be prohibitive if you have a large area to protect.
- Reapplication can be time-consuming.

Homemade Deer Repellent

- 1 egg*
- 1 quart warm water

Combine egg and water in blender, blend, and strain with cheesecloth or nylon (this will prevent the mixture from clogging spray bottle). Place mixture in spray bottle and apply to foliage. Reapply when new growth appears or after precipitation.

*Possible additions to try per 1 quart bottle:

- 1 tsp. hot pepper oil, 1 Tbl. Tabasco sauce, ¼ c milk, 1 tsp. cooking oil, or a few drops of dish soap.

Native and Unpalatable Plants List

Shrubs

Deer Palatability	Scientific Name	Common Name
Low	<i>Abelia grandiflora</i>	abelia, glossy
Low	<i>Fallugia paradoxa</i>	Apache plume
Low	<i>Fraxinus anomala</i>	ash, singleleaf
Low	<i>Nandina domestica</i>	bamboo, sacred
Low	<i>Berberis (Mahonia) spp.</i>	barberry
Low	<i>Leucophyllum spp.</i>	barometerbush
Low	<i>Justicia californica</i>	beloperone
Low	<i>Buxus spp.</i>	boxwood
Low	<i>Encelia farinosa</i>	brittlebush
Low	<i>Eriogonum spp.</i>	buckwheat
Low	<i>Buddleja spp.</i>	butterflybush
Low	<i>Potentilla spp.</i>	cinquefoil
Low	<i>Potentilla fruticosa</i>	cinquefoil, shrubby
Low	<i>Potentilla glandulosa</i>	cinquefoil, sticky
Low	<i>Potentilla arguta</i>	cinquefoil, tall
Low	<i>Cordia parvifolia</i>	cordia, littleleaf
Low	<i>Daphne spp.</i>	daphne
Low	<i>Cornus sericea</i>	dogwood, red osier
Low	<i>Calliandra spp.</i>	fairy duster
Low	<i>Ribes grossularia</i>	gooseberry
Low	<i>Ilex spp.</i>	holly
Low	<i>Ilex aquifolium</i>	holly, English
Low	<i>Agastache urticifolia</i>	hyssop, nettleleaf giant
Low	<i>Simmondsia chinensis</i>	jojoba
Low	<i>Lantana spp.</i>	lantana
Low	<i>Lavandula spp.</i>	lavender
Low	<i>Arctostaphylos spp.</i>	manzanita
Low	<i>Arctostaphylos patula</i>	manzanita, greenleaf
Low	<i>Arctostaphylos pungens</i>	manzanita, pointleaf

Has your birdfeeder become an unintended deer lure?

Consider these tips when maintaining your birdfeeder at home:

- Place feeders at least 6 feet off the ground or snow surface.
- Use feeders that are not easily penetrated by deer; i.e. tube feeders, hopper feeders or cage-style suet feeders.
- Secure fencing around the feeder to prevent deer from eating spilled birdseed.

- Avoid using cracked corn, black oil sunflower seeds or seed mixes that attract deer to feeders. Instead choose thistle seed, suet or hummingbird nectar.



Deer Palatability	Scientific Name	Common Name
Low	<i>Chrysothamnus viscidiflorus</i>	rabbitbrush, yellow
Low	<i>Kerria japonica</i>	rose, Japanese
Low	<i>Rosmarinus officinalis</i>	rosemary
Low	<i>Salvia</i> spp.	sage
Low	<i>Caryopteris x clandonensis</i>	spiraea, blue mist
Low	<i>Rhus</i> spp.	sumac
Low	<i>Ericameria laricifolia</i>	turpentine bush
Low	<i>Yucca</i> spp.	yucca
Low	<i>Yucca baccata</i>	yucca, banana
Low	<i>Yucca elata</i>	yucca, soaptree
Med	<i>Prunus armeniaca</i>	apricot
Med	<i>Vaccinium caespitosum</i>	bilberry, dwarf
Med	<i>Rubus</i> spp.	blackberry / raspberry
Med	<i>Symphoricarpos orbiculatus</i>	coralberry
Med	<i>Cotoneaster apiculatus</i>	cotoneaster, cranberry
Med	<i>Cotoneaster acutifolius</i>	cotoneaster, Peking
Med	<i>Cotoneaster horizontalis</i>	cotoneaster, rock
Med	<i>Ribes</i> spp.	currant
Med	<i>Ribes aureum</i>	currant, golden
Med	<i>Sambucus nigra</i> ssp. <i>cerulea</i>	elderberry, blue
Med	<i>Lonicera utahensis</i>	honeysuckle, Utah
Med	<i>Kalmia microphylla</i>	laurel, alpine
Med	<i>Syringa</i> spp.	lilac
Med	<i>Caragana arborescens</i>	peashrub, Siberian
Med	<i>Phlox subulata</i>	phlox, moss
Med	<i>Phlox diffusa</i>	phlox, spreading
Med	<i>Ligustrum</i> spp.	privet
Med	<i>Rosa nutkana</i>	rose, Nootka
Med	<i>Rhus glabra</i>	smooth sumac
Med	<i>Viburnum opulus</i>	snowball bush
Med	<i>Symphoricarpos oreophilus</i>	snowberry, mountain
Med	<i>Spiraea x vanhouttei</i>	spirea, bridalwreath
Med	<i>Vaccinium scoparium</i>	whortleberry, grouse
Med	<i>Salix discolor</i>	willow, pussy
High	<i>Prunus fasciculata</i>	almond, desert
High	<i>Berberis thunbergi</i>	barberry, Japanese
High	<i>Cotoneaster dammeri</i>	cotoneaster, bearberry
High	<i>Frasera</i> spp.	elkweed
High	<i>Euonymus</i> spp.	euonymus
High	<i>Pyracantha</i> spp.	firethorn
High	<i>Forsythia</i> spp.	forsythia
High	<i>Laurus</i> spp.	laurel
High	<i>Pinus mugo</i>	pine, mugo
High	<i>Antennaria dimorpha</i>	pussytoes, low
High	<i>Antennaria luzuloides</i>	pussytoes, rush
High	<i>Chaenomeles japonica</i>	quince, Maule's
High	<i>Rubus idaeus</i>	raspberry, American red
High	<i>Rosa</i> spp. (cultivated)	rose
High	<i>Prunus pumila</i>	sandcherry
High	<i>Viburnum</i> spp.	viburnum
High	<i>Taxus baccata</i>	yew, English
High	<i>Taxus cuspidata</i>	yew, Japanese

Trees

Deer Palatability

Scientific Name

Common Name

Low	<i>Fraxinus</i> spp.	ash
Low	<i>Fraxinus americana</i>	ash, white
Low	<i>Betula</i> spp.	birch
Low	<i>Cedrus</i> spp.	cedar
Low	<i>Populus fremontii</i>	cottonwood, Fremont's
Low	<i>Populus angustifolia</i>	cottonwood, narrowleaf
Low	<i>Pseudotsuga menziesii</i>	Douglas-fir
Low	<i>Abies</i> spp.	fir
Low	<i>Ginkgo biloba</i>	ginkgo
Low	<i>Celtis</i> spp.	hackberry
Low	<i>Crataegus</i> spp.	hawthorn
Low	<i>Yucca brevifolia</i> var. <i>brevifolia</i>	Joshua-tree
Low	<i>Juniperus communis</i>	juniper, common
Low	<i>Juniperus monosperma</i>	juniper, one-seed
Low	<i>Juniperus osteosperma</i>	juniper, Utah
Low	<i>Sophora secundiflora</i>	laurel, Texas mountain
Low	<i>Acer platanoides</i>	maple, Norway
Low	<i>Acer saccharinum</i>	maple, silver
Low	<i>Acer circinatum</i>	maple, vine
Low	<i>Cercocarpus montanus</i>	mountain-mahogany
Low	<i>Quercus</i> spp.	oak
Low	<i>Pinus</i> spp.	pine
Low	<i>Pinus aristata/longaeva</i>	pine, bristlecone
Low	<i>Pinus thunbergii</i>	pine, Japanese black
Low	<i>Pinus flexilis</i>	pine, limber
Low	<i>Pinus contorta</i>	pine, lodgepole
Low	<i>Pinus edulis</i>	pine, pinyon
Low	<i>Pinus ponderosa</i>	pine, ponderosa
Low	<i>Pinus monophylla</i>	pinyon, singleleaf
Low	<i>Cercis</i> spp.	redbud
Low	<i>Artemisia</i> spp.	sagebrush
Low	<i>Picea</i> spp.	spruce
Low	<i>Picea pungens</i>	spruce, blue
Low	<i>Picea engelmanni</i>	spruce, Engelmann
Med	<i>Alnus incana</i> ssp. <i>tenifolia</i>	alder, thinleaf
Med	<i>Prunus amygdalus</i>	almond, flowering
Med	<i>Fraxinus velutina</i>	ash, velvet
Med	<i>Betula occidentalis</i>	birch, water
Med	<i>Acer negundo</i>	boxelder
Med	<i>Catalpa</i> spp.	catalpa
Med	<i>Cupressus arizonica</i>	cypress, Arizona
Med	<i>Abies lasiocarpa</i>	fir, subalpine
Med	<i>Abies concolor</i>	fir, white
Med	<i>Gleditsia triacanthos</i>	honeylocust
Med	<i>Lonicera</i> spp.	honeysuckle
Med	<i>Robinia pseudoacacia</i>	locust, black
Med	<i>Magnolia</i> spp.	magnolia
Med	<i>Acer grandidentatum</i>	maple, bigtooth
Med	<i>Acer palmatum</i>	maple, Japanese
Med	<i>Acer glabrum</i>	maple, Rocky Mountain
Med	<i>Philadelphus inodorus</i>	mock orange, scentless

Deer Palatability	Scientific Name	Common Name
Med	<i>Physocarpus monogynus</i>	ninebark
Med	<i>Prunus persica</i>	peach
Med	<i>Pyrus</i> spp.	pear
Med	<i>Prunus</i> spp.	plum
Med	<i>Prunus americana</i>	plum, wild
Med	<i>Populus nigra</i>	poplar, Lombardy
Med	<i>Elaeagnus angustifolia</i>	Russian-olive
Med	<i>Salix</i> spp.	willow
High	<i>Malus</i> spp.	apple
High	<i>Thuja</i> spp.	arborvitae
High	<i>Populus tremuloides</i>	aspen, quaking
High	<i>Juniperus scopulorum</i>	juniper, Rocky Mountain
High	<i>Pinus nigra</i>	pine, Austrian
High	<i>Pinus sylvestris</i>	pine, Scots

Photo Credits

Photo 1: M. Schwender.

Photo 2: http://www.vtfishandwildlife.com/IMAGES/WHIP_images/.

Photo 3: www.tonybynum.com.

Photo 4: <http://forums2.gardenweb.com/forums/load/fruit/msg0916033230554.html>.

Photo 5: www.deerproofgardens.com.

Photo 6: www.tonybynum.com.

Photo 7: <http://i143.photobucket.com/albums/r150/gibowhunter/camphoneblackberrypics133.jpg>.

Photo 8: M. Schwender.

Photo 9: <http://casacara.wordpress.com/2011/11/21/its-a-wrap>.

Photo 10: NBC News.

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