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“Deer-Resistant” Plants For Homeowners

Michigan State University Extension Service

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“DEER-RESISTANT” PLANTS FOR HOMEOWNERS

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Damage to ornamental plants by white-tailed deer (*Odocoileus virginianus*) continues to increase. This damage has been associated with:

- Increasing deer abundance.
- Human population shifts to rural and suburban homesites.
- Maturing of abandoned agricultural lands into deer habitat.
- Landowner decisions to prevent deer hunting.
- Restrictions on firearm use in suburban regions.

Deer prefer to feed on certain plant species, including some ornamental plants used for landscaping. Additionally, ornamental plants may be more attractive to deer because they are fertilized and irrigated. Deer avoid feeding on some species of plants because they are less palatable. A technique to reduce deer browsing of landscape plants is to substitute less palatable species of plants for those that deer prefer to eat.

Though no plants are totally resistant to deer browsing, some are less palatable to deer and are less likely to receive heavy damage.

Whether deer will eat a particular plant species or variety depends on the deer's previous experience, nutritional needs, plant palatability, seasonal factors, weather

conditions and the availability of alternative foods. Deer are creatures of habit, and prior movement patterns or foraging experience can help predict where damage can occur. New plantings added to an existing landscape already severely damaged by deer will likely suffer extreme browsing pressure.

Deer may sample some less palatable plants until they determine the plants are varieties they do not prefer. Snow cover may prevent deer from finding food, and high deer numbers can create competition for available food, which can cause hungry deer to eat whatever plants are available. Note that unpalatable landscape plants may still incur antler rubbing damage. Only physical protection such as exclusion techniques can reduce or prevent deer antler rub damage to trees and shrubs.

To minimize deer damage, select landscape and garden plants that are less preferred by deer. The following tables provide a guide to the relative likelihood of deer damage to plants used by Michigan landscape contractors and landowners. This information can be useful for both selecting plants that are less likely to be damaged by deer and identifying those ornamentals that frequently require protection. Plants listed as **rarely damaged** are infrequently fed upon by deer and are the best candidates for landscapes prone to deer damage. Deer sometimes feed on ornamentals listed as **seldom severely damaged**, but damage is usually minor and has limited effect on the shape or attractiveness of the plant. The category **occasionally damaged** includes plants that may be severely damaged by deer. Finally, ornamental plants in the **frequently damaged** category appear to be preferred by deer and usually require physical or chemical protection whenever deer are present.

Before planting any of the following plant species, check to make sure that they are adapted to local climate and soil conditions. For additional information, contact your local county Michigan State University Extension office.



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PLANTS RARELY DAMAGED

Botanical name	Common name
Perennials	
<i>Achillea</i> spp.	Yarrow
<i>Aconitum</i> spp.	Monkshood
<i>Allium</i> spp.	Onion
<i>Allium christophii</i>	Star of Persia
<i>Allium neapolitanum</i>	Daffodil garlic
<i>Allium ostrowskianum</i>	Lily leek
<i>Anemone x hybrida</i>	Japanese anemone
<i>Anemonella thalictroides</i>	Rue anemone
<i>Aquilegia</i> spp.	Columbine
<i>Arabis</i> spp.	Rockcress
<i>Arisaema thiphylum</i>	Jack-in-the-pulpit
<i>Aubrietia deltoidea</i>	Rock cress
<i>Aurinia saxatilis</i>	Basket-of-gold
<i>Bergenia</i> spp.	Bergenia
<i>Ceratostigma plumbaginoides</i>	Plumbago
<i>Cimicifuga racemosa</i>	Snakeroot
<i>Colchicum autumnale</i>	Colchicum
<i>Colchicum speciosum</i>	Colchicum
<i>Consolida ambigua</i>	Larkspur
<i>Coreopsis verticillata</i>	Threadleaf coreopsis
<i>Cyclamen hederifolium</i>	Neapolitan cyclamen
<i>Dicentra spectabilis</i>	Bleeding heart
<i>Digitalis</i> spp.	Foxglove
<i>Dryopteris marginalis</i>	Wood fern
<i>Echinacea purpurea</i>	Purple coneflower
<i>Epimedium</i> spp.	Barrenwort
<i>Euphorbia</i> spp.	Euphorbia
<i>Fritillaria</i> spp.	Fritillary
<i>Galium odoratum</i>	Sweet woodruff
<i>Gloriosa superba</i>	Glory lily
<i>Hemerocallis 'Stella d'Oro'</i>	'Stella d'Oro' daylily
<i>Lamium maculatum</i>	Deadnettle
<i>Lavandula</i> spp.	Lavender
<i>Linaria vulgaris</i>	Toadflax
<i>Lindera benzoin</i>	Native spicebush
<i>Lychnis coronaria</i>	Rose campion
<i>Matteuccia struthiopteris</i>	Ostrich fern
<i>Narcissus</i> spp.	Daffodil
<i>Osmunda regalis</i> var. <i>spectabilis</i>	Royal fern
<i>Pachysandra procumbens</i>	Allegheny spurge
<i>Pachysandra terminalis</i>	Japanese spurge
<i>Papaver orientale</i>	Oriental poppy
<i>Perovskia atriplicifolia</i>	Russian sage
<i>Rudbeckia</i> spp.	Coneflower
<i>Salvia</i> spp.	Sage
<i>Santolina chamaecyparissus</i>	Lavender cotton
<i>Scilla</i> spp.	Squill
<i>Stachys byzantina</i>	Lamb's ears
<i>Tanacetum vulgare</i>	Common tansy
<i>Thymus</i> spp.	Thyme
<i>Tiarella cordifolia</i>	Foam flower
<i>Yucca</i> spp.	Yucca

Botanical name

Annuals

<i>Ageratum houstonianum</i>	Ageratum
<i>Anethum graveolens</i>	Common dill
<i>Antirrhinum majus</i>	Snapdragon
<i>Capsicum annuum</i>	Hot peppers
<i>Capsicum frutescens</i>	Sweet peppers
<i>Citrulus lanatus</i>	Watermelon
<i>Cucumis melo cantalupensis</i>	Cantaloupe
<i>Cucumis sativus</i>	Cucumber
<i>Hyacinthus orientalis</i>	Hyacinth
<i>Lobularia maritima</i>	Sweet alyssum
<i>Nicotiana</i> spp.	Flowering tobacco
<i>Pelargonium</i> spp.	Scented geranium
<i>Rheum rhabarbarum</i>	Rhubarb
<i>Solanum melongena</i>	Eggplant
<i>Tagetes</i> spp.	Marigold
<i>Tropaeolum majus</i>	Nasturtium

Botanical name

Ornamental Grasses

<i>Ravennae</i> grass, hardy pampas grass	
<i>Saccharum ravennae</i>	
Japanese silver grass	
<i>Miscanthus sinensis</i>	'Cabaret'
<i>Miscanthus sinensis</i>	'Cosmopolitan'
<i>Miscanthus sinensis</i>	'Malepartus'
<i>Miscanthus sinensis</i>	'Morning Light'
<i>Miscanthus sinensis</i>	'Strictus'
<i>Miscanthus sinensis</i>	'Variegatus'
<i>Miscanthus sinensis</i>	'Zebrinus'
Switch grass	
<i>Panicum virgatum</i>	'Cloud Nine'
<i>Panicum virgatum</i>	'Dallas Blues'
<i>Panicum virgatum</i>	'Heavy Metal'
<i>Panicum virgatum</i>	'Northwind'
<i>Panicum virgatum</i>	'Shenandoah'
Tall purple moor grass	
<i>Molinia litoralis</i>	'Skyracer'
<i>Molinia litoralis</i>	'Transparent'
Feather-reed grass	
<i>Calamagrostis xacutifolia</i>	'Karl Foerster'
Northern sea oats	
<i>Chasmanthium latifolium</i>	
Fountain grass	
<i>Pennisetum orientale</i>	'Karley Rose'
Japanese grass	
<i>Hakonechloa macra</i>	'Aureola'
Sedges	
<i>Carex morrowii</i>	'Variegata'
<i>Carex oshimensis</i>	'Evergold'
<i>Carex flagellifera</i>	'Toffee Twist'

PLANTS OCCASIONALLY DAMAGED

Botanical name	Common name
Native grasses	
<i>Andropogon gerardii</i>	Big bluestem
<i>Bouteloua curtipendula</i>	Sideoats grama
<i>Carex muskingumensis</i>	Palm sedge
<i>Carex pennsylvanica</i>	Pennsylvania sedge
<i>Elymus canadensis</i>	Canada wild rye
<i>Koeleria macrantha</i>	Prairie June grass
<i>Luzula multiflora</i>	Woodrush
<i>Panicum virgatum</i>	Switch grass
<i>Schizachrium scoparium</i>	Little bluestem
<i>Sorghastrum nutans</i>	Indian grass
<i>Sporobolus heterolepis</i>	Prairie dropseed
Shrubs	
<i>Buxus sempervirens</i>	Common boxwood
<i>Ilex opaca</i>	American holly
<i>Leucothoe fontanesiana</i>	Drooping leucothoe
<i>Pieris japonica</i>	Japanese pieris
Trees	
<i>Betula papyrifera</i>	Paper birch
<i>Picea pungens</i>	Colorado blue spruce

PLANTS SELDOM SEVERELY DAMAGED

Botanical name	Common name
Shrubs	
<i>Celastrus scandens</i>	American bittersweet
<i>Cornus florida</i>	Flowering dogwood
<i>Cornus kousa</i>	Kousa dogwood
<i>Cornus sericea</i>	Red osier dogwood
<i>Crataegus laevigata</i>	English hawthorn
<i>Enkianthus campanulatus</i>	Redvein enkianthus
<i>Forsythia</i> spp.	Forsythia
<i>Ilex cornuta</i>	Chinese holly
<i>Ilex glabra</i>	Inkberry
<i>Juniperus chinensis</i>	Chinese junipers
<i>Kolkwitzia amabilis</i>	Beautybush
<i>Pinus mugo</i>	Mugo pine
<i>Salix matsudana tortuosa</i>	Corkscrew willow
<i>Sassafras albidum</i>	Common sassafras
<i>Syringa vulgaris</i>	Common lilac
<i>Wisteria floribunda</i>	Japanese wisteria
Trees	
<i>Betula pendula</i>	European white birch
<i>Fagus sylvatica</i>	European beech
<i>Gleditsia triacanthos</i>	Honey locust
<i>Kalmia latifolia</i>	Mountain laurel
<i>Picea abies</i>	Norway spruce
<i>Picea glauca</i>	White spruce
<i>Pinus nigra</i>	Austrian pine
<i>Pinus resinosa</i>	Red pine
<i>Pinus rigida</i>	Pitchpine
<i>Prunus serrulata</i>	Japanese flowering cherry

Botanical name	Common name
Perennials	
<i>Asparagus officinalis</i>	Asparagus
<i>Campsis radicans</i>	Trumpet creeper
<i>Parthenocissus quinquefolia</i>	Virginia creeper
<i>Potentilla fruticosa</i>	Bush cinquefoil
Annuals	
<i>Abelmoschus esculentus</i>	Okra
<i>Cucurbita pepo</i>	Squash
<i>Raphanus sativus</i>	Radish
<i>Solanum tuberosum</i>	Potatoes, Irish
Shrubs	
<i>Cornus racemosa</i>	Panicked dogwood
<i>Cotinus coggygria</i>	Smokebush
<i>Cotoneaster</i> spp.	Cotoneaster
<i>Cotoneaster apiculatus</i>	Cranberry cotoneaster
<i>Cotoneaster horizontalis</i>	Rockspray cotoneaster
<i>Cryptomeria japonica</i>	Japanese cedar
<i>Forsythia x intermedia</i>	Border forsythia
<i>Hamamelis virginiana</i>	Common witchhazel
<i>Hibiscus syriacus</i>	Rose of Sharon
<i>Hydrangea anomala petiolaris</i>	Climbing hydrangea
<i>Hydrangea arborescens</i>	Smooth hydrangea
<i>Hydrangea paniculata</i>	Panicle hydrangea
<i>Ilex crenata</i>	Japanese holly
<i>Ilex x meserveae</i>	China Girl/Boy holly
<i>Juniperus virginiana</i>	Eastern red cedar
<i>Ligustrum x vicaryi</i>	Golden privet
<i>Lonicera x heckrottii</i>	Goldflame honeysuckle
<i>Philadelphus coronarius</i>	Sweet mock orange
<i>Pyracantha coccinea</i>	Firethorn
<i>Rhododendron</i> spp.	Deciduous azaleas
<i>Rhododendron carolinianum</i>	Carolina rhododendron
<i>Rhododendron maximum</i>	Rosebay rhododendron
<i>Rhus typhina</i>	Staghorn sumac
<i>Rosa rugosa</i>	Rugosa rose
<i>Salix</i> spp.	Willows
<i>Spiraea x bumalda</i>	Anthony waterer spiraea
<i>Spiraea prunifolia</i>	Bridalwreath spiraea
<i>Syringa x persica</i>	Persian lilac
<i>Syringa villosa</i>	Late lilac
<i>Viburnum x juddii</i>	Judd viburnum
<i>Viburnum carlesii</i>	Koreanspice viburnum
<i>Viburnum plicatum tomentosum</i>	Doublefile viburnum
<i>Viburnum rhytidophyllum</i>	Leatherleaf viburnum
<i>Weigela florida</i>	Old-fashioned weigela
Trees	
<i>Abies concolor</i>	White fir
<i>Acer griseum</i>	Paperbark maple
<i>Acer rubrum</i>	Red maple
<i>Acer saccharinum</i>	Silver maple
<i>Acer saccharum</i>	Sugar maple
<i>Aesculus hippocastanum</i>	Common horsechestnut
<i>Amelanchier arborea</i>	Downy serviceberry
<i>Amelanchier laevis</i>	Allegheny serviceberry

Botanical name
Trees (continued)

Chaenomeles speciosa
Larix decidua
Magnolia x soulangiana
Metasequoia glyptostroboides
Pinus strobus
Prunus avium
Pseudotsuga menziesii
Pyrus communis
Quercus alba
Quercus prinus
Quercus rubra
Syringa reticulata
Tilia cordata 'Greenspire'
Tilia Americana
Tsuga canadensis
Tsuga caroliniana

Common name

Japanese flowering quince
 European larch
 Saucer magnolia
 Dawn redwood
 Eastern white pine
 Sweet cherry
 Douglas fir
 Common pear
 White oak
 Chestnut oak
 Northern red oak
 Japanese tree lilac
 Littleleaf linden
 Basswood
 Eastern hemlock
 Carolina hemlock

**PLANTS FREQUENTLY
DAMAGED****Botanical name**
Perennials

Aegopodium podagaria
Athyrium niponicum var. *pictum*
Syringa reticulata
Clematis spp.
Euonymus fortunei var. *coloratus*
Euonymus fortunei 'Kewensis'
Fragaria spp.
Hedera helix
Hemerocallis spp.
Hosta spp.
Iberis sempervirens
Lilium spp.
Polygonatum biflorum
Trillium spp.
Tulipa spp.
Vinca minor

Common name

Bishop's weed
 Japanese painted fern
 Wallflower
 Clematis
 Wintercreeper euonymus
 Wintercreeper
 Strawberries
 English ivy
 Daylily
 Hosta
 Candytuft
 Lily
 Solomon's seal
 Trillium
 Tulips
 Periwinkle

Annuals

Beta vulgaris
Brassica oleracea
Brassica oleracea botrytis
Brassica oleracea capitata
Brassica oleracea italica

Beets
 Kohlrabi
 Cauliflower
 Cabbage
 Broccoli

Botanical name**Annuals (continued)**

Brassica rapa
Daucus carota sativa
Helianthus spp.
Ipomoea batatas
Lactuca sativa
Matthiola incarna
Pelargonium spp.
Phaseolus spp.
Pisum sativum
Ranunculus asiaticus
Spinacia oleracea
Viola spp.
Zea mays

Common name

Turnip
 Carrot
 Sunflower
 Potatoes, sweet
 Lettuce
 Stock
 Geranium
 Beans
 Peas
 Buttercup
 Spinach
 Pansies & violas
 Corn, sweet

Shrubs

Chamaecyparis thyoides
Euonymus alatus
Rhododendron spp.
Rhododendron spp.
Rhododendron catawbiense
Rhododendron periclymenoides
Rosa x hybrid
Taxus spp.
Taxus baccata
Taxus brevifolia
Taxus cuspidate
Thuja occidentalis

Atlantic white cedar
 Winged euonymus
 Rhododendrons
 Evergreen azaleas
 Catawba rhododendron
 Pinxterbloom azalea
 Hybrid tea rose
 Yews
 English yew
 Western yew
 Japanese yew
 American arborvitae

Trees

Abies balsamea
Abies fraseri
Acer platanooides
Cercis canadensis
Cornus mas
Malus spp.
Prunus spp.
Prunus spp.
Sorbus aucuparia

Balsam fir
 Fraser fir
 'Crimson King' maple
 Eastern redbud
 Cornelian cherry dogwood
 Apples
 Cherries
 Plums
 European mountain ash

Tables based on text by M.J. Farglone, P.D. Curtis and M.E. Richmond. 1991. Resistance of woody ornamental plants to deer damage. Ithaca, N.Y.: Cornell Coop. Ext. with information from Dr. Arthur Cameron, MSU Department of Horticulture.

PLEASE REMEMBER:

Under some conditions, deer may eat unpalatable or "deer-resistant" plants — no plant species will be avoided by deer under all conditions.

