

"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.



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 ostromskianum</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>	'Zebrianus'
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'

Botanical name**Native grasses**

Andropogon gerardii
Bouteloua curtipendula
Carex muskingumensis
Carex pennsylvanica
Elymus canadensis
Koeleria macrantha
Luzula multiflora
Panicum virgatum
Schizachrium scoparium
Sorghastrum nutans
Sporobolus heterolepis

Shrubs

Buxus sempervirens
Ilex opaca
Leucothoe fontanesiana
Pieris japonica

Trees

Betula papyrifera
Picea pungens

Common name

Big bluestem
 Sideoats grama
 Palm sedge
 Pennsylvania sedge
 Canada wild rye
 Prairie June grass
 Woodrush
 Switch grass
 Little bluestem
 Indian grass
 Prairie dropseed

Common boxwood
 American holly
 Drooping leucothoe
 Japanese pieris

Paper birch
 Colorado blue spruce

PLANTS SELDOM SEVERELY DAMAGED

Botanical name**Shrubs**

Celastrus scandens
Cornus florida
Cornus kousa
Cornus sericea
Crataegus laevigata
Enkianthus campanulatus
Forsythia spp.
Ilex cornuta
Ilex glabra
Juniperus chinensis
Kolkwitzia amabilis
Pinus mugo
Salix matsudana tortuosa
Sassafras albidum
Syringa vulgaris
Wisteria floribunda

Trees

Betula pendula
Fagus sylvatica
Gleditsia triacanthos
Kalmia latifolia
Picea abies
Picea glauca
Pinus nigra
Pinus resinosa
Pinus rigida
Prunus serrulata

Common name

American bittersweet
 Flowering dogwood
 Kousa dogwood
 Red osier dogwood
 English hawthorn
 Redvein enkianthus
 Forsythia
 Chinese holly
 Inkberry
 Chinese junipers
 Beautybush
 Mugo pine
 Corkscrew willow
 Common sassafras
 Common lilac
 Japanese wisteria

European white birch
 European beech
 Honey locust
 Mountain laurel
 Norway spruce
 White spruce
 Austrian pine
 Red pine
 Pitchpine
 Japanese flowering cherry

PLANTS OCCASIONALLY DAMAGED

Botanical name**Perennials**

Asparagus officinalis
Campsis radicans
Parthenocissus quinquefolia
Potentilla fruticosa

Annuals

Abelmoschus esculentus
Cucurbita pepo
Raphanus sativus
Solanum tuberosum

Shrubs

Cornus racemosa
Cotinus coggygria
Cotoneaster spp.
Cotoneaster apiculatus
Cotoneaster horizontalis
Cryptomeria japonica
Forsythia x intermedia
Hamamelis virginiana
Hibiscus syriacus
Hydrangea anomala petiolaris
Hydrangea arborescens
Hydrangea paniculata
Ilex crenata
Ilex x meserveae
Juniperus virginiana
Ligustrum x vicaryi
Lonicera x heckrottii
Philadelphus coronarius
Pyracantha coccinea
Rhododendron spp.
Rhododendron carolinianum
Rhododendron maximum
Rhus typhina
Rosa rugosa
Salix spp.
Spiraea x bumalda
Spiraea prunifolia
Syringa x persica
Syringa villosa
Viburnum x juddii
Viburnum carlesii
Viburnum plicatum tomentosum
Viburnum rhytidophyllum
Weigela florida

Trees

Abies concolor
Acer griseum
Acer rubrum
Acer saccharinum
Acer saccharum
Aesculus hippocastanum
Amelanchier arborea
Amelanchier laevis

Common name

Asparagus
 Trumpet creeper
 Virginia creeper
 Bush cinquefoil

Okra
 Squash
 Radish
 Potatoes, Irish

Panicked dogwood
 Smokebush
 Cotoneaster
 Cranberry cotoneaster
 Rockspray cotoneaster
 Japanese cedar
 Border forsythia
 Common witchhazel
 Rose of Sharon
 Climbing hydrangea
 Smooth hydrangea
 Panicle hydrangea
 Japanese holly
 China Girl/Boy holly
 Eastern red cedar
 Golden privet
 Goldflame honeysuckle
 Sweet mock orange
 Firethorn
 Deciduous azaleas
 Carolina rhododendron
 Rosebay rhododendron
 Staghorn sumac
 Rugosa rose
 Willows
 Anthony waterer spiraea
 Bridalwreath spiraea
 Persian lilac
 Late lilac
 Judd viburnum
 Koreanspice viburnum
 Doublefile viburnum
 Leatherleaf viburnum
 Old-fashioned weigela

White fir
 Paperbark maple
 Red maple
 Silver maple
 Sugar maple
 Common horsechestnut
 Downy serviceberry
 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
Aquilegia spp.
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
 Columbine
 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 platanoides
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.

