



# LANDSCAPING BY DEER:

## *Deer Resistant Plants at a Horticulturist's Home Garden*

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Dr. Fernandez' interest in horticulture arose from working in his family's ornamental greenhouse/nursery business. He worked for eight years in the business participating in all aspects from greenhouse construction to plant production.

I've lived in my current home for a little more than 20 years. I live about 700 feet off of a dirt road in the middle of 10 acres surrounded by neighbors with no less than 10 acres, most living near the road. Across the street are about 250 acres that one neighbor owns and uses as a hunting preserve for their family and a few friends. Basically I'm in a deer paradise and even a "deer sanctuary" during hunting season since I don't hunt. That means there is a lot of deer pressure on my landscape. I usually see them in groups of 4 to 12 but sometimes up to 20.



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- 1** Japanese Anemone (*Anemone x hybrida* 'Honorine Jobert'): Depending on the cultivar they are loaded with white or various shades of pink flowers and single or double flowers. Flowering stems reach 3 to 5 feet in height but some of the newer cultivars are 2 to 3 feet. Can be somewhat aggressive but is easily pulled out. Full sun to partial shade; more flowers and more compact in full sun.
- 2** Blue False Indigo (*Baptisia australis*): Native to much of the eastern United States. It has bluish-green waxy trifoliolate leaves arising from a large clump of single stems. Flowers are in large 12 to 16-inch spikes occurring in early summer followed by inflated seed pods. Best in full sun.
- 3** Bleeding Heart (*Lamprocapnos spectabilis*): A great addition for early to mid-spring flowering with typical heart-shaped flowers and protruding white inner petals. Does not like wet soils during the winter or dry soils in the summer. Typically goes summer dormant. Best in partial shade.
- 4** Jack of Diamonds Siberian Bugloss (*Brunnera macrophylla* 'Jack of Diamonds'): Sky-blue flowers in the spring held above heart-shaped silver laced leaves make this a great plant for the shade garden. Leaves are hairy and contain spiny-feeling cystoliths that keep deer from eating them. Cultivar leaf colors are green, silver and white. Will scorch in sun; keep in partial but not heavy shade.
- 5** Royal Purple Smokebush (*Cotinus coggygia* 'Royal Purple'): Leaf colors include purple, green and gold. Spectacular fall color with oranges, reds and yellows. Billowy hair-like stalks after the petals drop give it a smoky appearance. Most older cultivars will grow to be 10 to 15 feet tall but some new cultivars have been developed that stay around the 6-foot range. Best in full sun but will take partial shade.
- 6** Slender Deutzia (*Deutzia gracilis*): Covered with white, slightly fragrant flowers in early to mid-spring. Grows 4-5 feet high and wide but there are dwarf cultivars, a pink-flowered cultivar, a gold-leaved form, and a cultivar with white variegated leaves. Best in full sun to partial shade.
- 7** Dwarf Korean Lilac (*Syringa meyeri* 'Palibin'): Fragrant blooming bright pink flowers in mid to late spring. Will reach 5-6 feet in height and width. Best in full sun.
- 8** Globe Thistle (*Echinops ritro*): Golf ball-sized steel blue flowers occurring mid-summer through early fall. Clump forming, growing between 2.5 and 4 feet. Spiny, thistle-like leaves deter browsing. Best in full sun.
- 9** Rozanne Hardy Geranium (*Geranium x 'Gerwat'*): Rozanne is the Trademark name for this relatively new hybrid hardy geranium with the typical blue flowers with a white center but larger and much longer blooming. Begins to bloom in early to mid-summer and continues through late fall. Best in full sun to light shade.
- 10** Hardy Hibiscus (*Hibiscus x*): Flowers come in a range of colors from white to pink to red to bicolored and tricolored flowers. Flowers last only one day but it puts out a lot of flowers each day once warm weather hits. Typically dies to the ground in the winter in Michigan but re-sprouts in late spring. Treat it as an herbaceous perennial. Best in full sun.
- 11** Limelight Hardy Hydrangea (*Hydrangea paniculata* 'Limelight'): Dense branching and heavy blooming with a range of mature sizes from 3 feet to over 12 feet and flower colors from pale green to white, and bluish to pink. Blooms occur on the current season's growth. Best in full sun.
- 12** Foreground - Japanese Anemone (*Anemone x hybrida*) and background Bush Clover (*Lespedeza thunbergii*): See Photo caption 1 for information on Japanese Anemone. Bush Clover grows to be 3 to 6 feet in one year but don't worry, it is killed to the ground in our typical Michigan winters, so treat it like a herbaceous perennial. Rose purple blooms in mid to late fall, so something to provide color late in the year. It is in the pea family so blooms look like small sweet pea flowers.
- 13** Maidenhair Fern (*Adiantum pedatum*): Grows 1.5 to 2 feet in height by 1 to 1.5 feet in width. The fronds emerge pink and transition to green as they open, held on reddish brown to black rachis (the stem of the frond). Forms clumps that slowly grow and spread over time. Best in partial to full shade with moist (not soaked) soils.



Since I've been at home during the pandemic I've been able to observe the deer much more frequently. Before the pandemic I always noticed them around dawn and dusk and not much during the rest of the day if I happened to be home, perhaps they were more skittish when I showed up so infrequently. Of course I knew they were around at night because of the plant slaughter seen in the morning. Now it seems they've become used to people being around more and I notice them coming through several times a day like they're making rounds (or it's different groups). They appear every 2 to 4 hours.

Long ago, I gave up on trying to use all of the wonderful plants in my landscape that I have access to being a Horticulture Professor; the deer also thought many of them were wonderful for browsing or rubbing. Now I use plants that the deer don't eat or that eventually escape deer damage, what I call landscaping by deer. Here are my personal experiences with deer at my home. Just remember that your deer may have different tastes than mine and I guarantee they won't have read this article.

I've tried repellents but they were not effective, for me at least. I was not willing or able (I travel a lot) to reapply every few days and after rain as many of the products call for. For those interested in deterrents, these include several commercial products (Liquid Fence, Bobbex Deer Repellent, Deer Scram, Havahart Deer Repellent, Deer Out and others) that variously contain eggs (sometimes putrefied), dried blood, cayenne pepper, soaps, and other smelly substances. These are sprayed on the plants to cause revulsion in the deer hopefully by smell alone but sometimes after a nibble. After they dry the scent is no longer detected or is very faint to humans. Most of these products are reported to be very effective but need to be reapplied at regular intervals and after rain. Alternative and homemade repellents include human hair, soap bars (usually small hotel size bars), coffee grounds, vinegar, cinnamon, garlic, sprays with peppermint or clove oil, and other strong smelling substances. I haven't seen any trials of these substances but most

of them are inexpensive and are sometimes waste products (coffee grounds, hair) so it may be worth a try, but deer seem to get used to many of them. I can say coffee grounds did nothing for my deer. Perhaps rotating through several of them would prolong any effectiveness that they might have.

I have found exclusion methods to be effective for high-branched trees and shrubs that will eventually become too tall or woody for deer to browse or rub. Rubbing is definitely seasonal and browsing sometimes is as well. When I initially tried to grow some arborvitae (*Thuja occidentalis*) in my garden the deer left them alone until winter. To prevent rubbing, I place three posts around a tree and wrap 4-foot tall chicken wire around them. To prevent browsing, I surround a shrub in bird netting, just catch it in the branches or use zip ties if necessary; that allows the plant to continue to grow more or less uninhibited but the deer are frustrated by the netting. If the problem is seasonal, like rubbing on trees when antlers are on the bucks (August to March), protection needs to be provided only during those periods. Once trees reach about five to six inches in diameter, bucks seem to no longer be interested in rubbing them at my house. Poles and wire can be removed once plants get to this size if your deer behave as mine. Many of the evergreens are also browsed only in the winter like arborvitae (*Thuja* species), false cypress (*Chamaecyparis* species), hollies (*Ilex* species), and yews (*Taxus* species). Netting should be relaxed and reapplied if browsing is constant or removed after winter if browsing is only in the winter. Once shrubs have been in my landscape for two to four years, they are rarely browsed and the bird netting is no longer needed. Finally I use a landscape feature that, in essence, excludes deer. I have approximately a 20 by 20-foot corridor between my house and a pole barn. The deer do not enter this space, it is probably too confined for them. This is where I put all of the plants that deer love to eat and they haven't bothered any of them. If you have such a space then you can experiment



with “deer candy” in your area to see if they’ll leave it alone. They usually don’t come up to the house either but sometimes get brave, another place to experiment.

Some methods I have not tried: I do not like fences so I haven’t installed a deer fence. These are very effective if built correctly but can be very expensive. There are electric fences designed for deer and some are solar charged with battery for night-time and cloudy periods. There are electric deterrents that use an attractant, like peanut butter, to entice the deer to lick it but are hooked up to an electric wire to frighten the deer away. Dogs can be very effective at excluding deer but you will need to let them out at night; deer are aware of schedules. Hunting is usually only a very temporary solution with the high deer population that we have. It really just makes room for other deer to fill in that one’s space. Hunting would have to be large scale and consistent to reduce deer populations in most areas. There are scare tactics such as lights or sprinklers attached to motion sensors that come on when something moves in their field; make sure to turn them off before you enter the garden. There are also acoustic repellents that emit an ultrasonic sound annoying to deer (and possibly other animals/pets) but unheard by humans. Some commercial growers use motion activated cannons (sound only, no shot) to scare off deer but this might disturb the neighbors and your sleep!

And that brings us back to the title, *Landscaping by Deer*. To me, the most effective way to avoid deer damage in my garden is to select plants that deer will not eat. For the botanists out there, a few plant families have a large number of ornamental plants that deer won’t eat because they are toxic, strongly scented or have prickly crystals. The families are the Anacardiaceae (a family that includes the highly toxic poison ivy but also the edible mango), Apiaceae (also contains a highly toxic plant, poison hemlock, and the edible carrot), Apocynaceae (usually mildly toxic but also has a sticky, latex sap), Ranunculaceae (the buttercup family with almost all toxic plants), Solanaceae (includes deadly

nightshade but also tomatoes and peppers), Boraginaceae (contains cystoliths – highly irritating calcium carbonate crystals – usually in the leaves; borage flowers are edible, have a sweet taste), and the Lamiaceae (the mint family, many used as edible herbs and teas; it is thought that the strong scents of most of these plants deter deer from eating). Other plant families are hit and miss as far as deer browsing. Toxic does not necessarily mean lethal; there is a range of toxic responses... from skin rash, eye irritation, and stomach ache to death... but there are a few plants on my list that are definitely lethal. If you have children that like to eat plants make sure to pay attention to the Comments column in the following tables. Also, the dose makes the poison; slight or moderately toxic plants can become extremely toxic if a large enough quantity is eaten. However, for the extremely toxic plants, usually the lesser symptoms occur and make most people stop before it becomes life threatening. I’ve made a note of plant toxicity to humans and pets when the information is available.

The following Tables list herbaceous perennials and shrubs that the deer don’t eat in my garden. My deer have not rubbed perennials or shrubs although they have walked through perennials and caused some minor damage. I don’t have a table for trees because all high-branched trees (maples, oaks, tree lilac, Kwanzan cherry, etc.) are susceptible to rubbing, so I surround their trunks using the pole/chicken wire method described earlier and this also discourages browsing. I have only planted blue spruce and white pine low-branched trees. Deer do not touch blue spruce but there are other problems with them that you should consider before buying, such as needle cast. The deer have enjoyed my white pines but I have not; they ate them to the ground.

Finally, remember that deer have different tastes at different locations. People have told me deer eat plants in their gardens that my deer won’t touch in my garden and vice versa.

- 14** Karley Rose Oriental Fountain Grass (*Pennisetum orientale* ‘Karley Rose’): Short grass reaching 2 to 3 feet in height and width with rose-purple flowers held at the tip of long flowering stems in 4 to 8-inch long bottle brush-like clusters starting in June and continuing until frost. Flowers transition to brown seeds and are retained on plants through most of winter. Best in full sun but will take partial shade, less flowering to no flowering as shade deepens.
- 15** Russian Sage (*Perovskia atriplicifolia*): Interesting blue-green to silver-green foliage with bluish purple flowers in large spikes occurring in mid to late summer and lasting through mid-fall. Best in full sun; tends to flop with increasing shade.
- 16** Long-leaved Lungwort (*Pulmonaria longifolia*): The silver-spotted leaves in the middle of the image. A great plant for foliage during the growing season with the bonus of early spring blue flowers in short spikes appearing just before or as the leaves emerge. It has spiny cystoliths in the foliage that deter animal browsing. A great shade ground cover, it will scorch in full sun; grows 1 to 1.5 feet high and slowly spreads.
- 17** Deer resistant plants can be selected to meet any design needs. Here is a planting providing a layered effect by height with all deer resistant plants. From foreground to background: The Blues Little Bluestem (*Schizachyrium scoparium* ‘The Blues’), Willowleaf Bluestar (*Amsonia hubrichtii*), Black Adder Anise Hyssop (*Agastache* x ‘Black Adder’), and Thundercloud Switch Grass (*Panicum virgatum* ‘Thundercloud’).
- 18** Fireworks Wrinkle-leaved Goldenrod (*Solidago rugosa* ‘Fireworks’, on right) and Iron Butterfly Ironweed (*Vernonia lettermannii* ‘Iron Butterfly’, on left): Fireworks Wrinkle-leaved Goldenrod is the tame cousin of Canadian Goldenrod, which although native can become a garden thug. Wrinkle-leaved Goldenrod grows to 3 to 5 feet tall and spreads slowly by rhizomes. It may also seed around a bit but is easy to control. Starting in late summer or early fall, it has bright yellow flowers arching panicles along the last 1.5 to 2 feet of the stem that are favored by bees and other pollinators. It is often thought that goldenrod pollen contributes to hay fever but the large pollen is spread by insects not wind. Iron Butterfly Ironweed is 2 feet tall and wide with foliage very similar to Willowleaf Bluestar but it flowers in late summer/early fall with loads of small tight clusters of bright purple flowers. It does not develop as good fall color as Willowleaf Bluestar but does provide the great fine-leaf foliage texture. It forms clumps and spreads very slowly. Both of these plants are native to the eastern part of North America and both perform best in full sun.
- 19** Tor Birchleaf Spiraea (*Spiraea betulifolia* ‘Tor’): A shrub with a rounded form about 2.5 to 4 feet high and wide. Leaves are somewhat similar to birch leaves. Flowers cover the plant in late spring to early summer. Tor and most others have white flowers but there are a couple with pink flowers (Glow Girl, Pink Sparkler). Best in full sun but will take partial shade.
- 20** Purple Coneflower (*Echinacea purpurea*, top) and Lamb’s Ear (*Stachys byzantina*, bottom): Purple Coneflower is native to most of the eastern United States and into a few of the southwestern states. Grows between 2 to 5 feet. Flowers are highly attractive to butterflies and occur from June through August. The seedheads will persist through winter to provide food for birds and other wildlife. Lamb’s Ear is grown primarily for the large, incredible fuzzy, silky-soft foliage. Sends up flower stalks that are equally fuzzy making it hard to see the bright blue flowers.
- 21** Tree Peony (*Paeonia x suffruticosa*): This cultivar is perhaps ‘Shimadaijin’. Tree peonies are not really trees, more like 3 to 5-foot tall shrubs with similar width. Do not cut these to the ground like herbaceous peonies, they have a woody structure like other shrubs that needs to remain uncut. Flowers slightly earlier than herbaceous peonies and have much larger flowers, 5 to 10 inches in diameter. Flower colors range from white to pinks and reds to oranges and yellows and bicolors and tricolors. Best in partial shade or morning full sun, afternoon shade.
- 22** Coronation Gold Yarrow (*Achillea filipendulina* ‘Coronation Gold’): Has 6 to 12-inch tall silvery green leaves topped by bright yellow flat panicles of flowers in early to mid-summer. Sometimes reblooming will occur if plants are deadheaded. Species and hybrids have range of leaf color (green to silvery) and flower color (white, yellow, orange, pink, red).





## Deer resistant herbaceous perennials in my landscape.

Many of these plants are toxic to some degree and many cause only a mild rash or discomfort. They are usually not eaten

by children or pets due to bitter taste, latex sap or other distasteful compounds. Care still should be exercised when selecting plants that are toxic. There are a few plants designated as Extremely Toxic

that should be avoided if you have young children. Pets usually will not eat these plants but you may want to avoid them anyway if you have pets that like to eat plants.

GENUS	SPECIES	COMMON NAME	FAMILY	DEER RESISTANCE	COMMENTS
<i>Achillea</i>	<i>millefolium</i> , hybrids	Yarrow	Asteraceae	No damage	Slightly toxic*. Terpenes formed by plant that may provide protection
<i>Aconitum</i>	<i>carmichaelii</i> , <i>napellus</i> , x <i>cammarum</i>	Monk's Hood	Ranunculaceae	No damage	Extremely toxic
<i>Actaea</i>	<i>matsumurae</i> , <i>racemosa</i>	Snakeroot	Ranunculaceae		Slightly toxic
<i>Adiantum</i>	<i>pedatum</i>	Maiden Hair Fern	Adiantaceae	No damage	May be toxic to cats
<i>Agastache</i>	<i>foeniculum</i> , hybrids	Hyssop	Lamiaceae	No damage	Fragrant foliage
<i>Allium</i>	<i>aflatunense</i> , <i>amplectens</i> , <i>atropurpureum</i> , <i>azureum</i> , <i>caesium</i> , <i>carolinianum</i> , <i>christophii</i> , <i>karataviense</i> , <i>moly</i> , <i>nigrum</i> , <i>oreophilum</i> , <i>schoenoprasum</i> , <i>schubertii</i> , <i>spaerocephalon</i> , <i>stipitatum</i> , <i>tripedale</i> , <i>unifolium</i> , hybrids	Ornamental Onions, Chives ( <i>A. schoenoprasum</i> )	Liliaceae	No damage	Nontoxic to humans but toxic to many other mammals (deer, horses, cattle). Fragrant foliage
<i>Amsonia</i>	<i>hubrechtii</i> , <i>tabernaemontana</i>	Blue Star	Apocynaceae	No damage	Slightly toxic, sticky latex sap
<i>Anemone</i>	<i>sylvestris</i>	Wood Anemone	Ranunculaceae	No damage	Moderately toxic
<i>Anemone</i>	x <i>hybrida</i>	Japanese Anemone	Ranunculaceae	No damage	Moderately toxic
<i>Aquilegia</i>	<i>canadensis</i> and hybrids	Columbine	Ranunculaceae	No damage	Moderately toxic
<i>Aralia</i>	<i>cordata</i>	Japanese Spikenard	Araliaceae	No damage	No reported toxicity
<i>Artemisia</i>	<i>schmidtiana</i> , <i>stelleriana</i>	Silver Mound Artemisia, Silver Bullet Artemisia	Asteraceae	No damage	Fragrant due to terpenoids – also taste bitter, range of toxicity from none (the herb tarragon) to moderately toxic.
<i>Athyrium</i>	<i>nipponicum</i>	Japanese Painted Fern	Dryopteridaceae	No damage	No reported toxicity
<i>Baptisia</i>	<i>australis</i>	False Indigo	Fabaceae	Minor to No damage	Slightly toxic. Deer nipped in 1st year but haven't touched since
<i>Belamcanda</i>	<i>chinensis</i>	Blackberry Lily	Iridaceae	No damage	Slightly toxic
<i>Bergenia</i>	<i>cordifolia</i>	Pigsqueak	Saxifragaceae	No damage	No reported toxicity
<i>Brunnera</i>	<i>macrophylla</i>	Siberian Bugloss	Boraginaceae	No damage	No reported toxicity but has prickly cystoliths in coarsely pubescent foliage, makes very undesirable for forage
<i>Camassia</i>	<i>cusickii</i> , <i>leichtlinii</i>	Camas lily	Liliaceae	No damage	Edible**
<i>Caryopteris</i>	<i>incana</i> , x <i>clandonensis</i>	Blue Mist Spiraea or Blue Beard	Lamiaceae	No damage	No reported toxicity. Fragrant foliage



GENUS	SPECIES	COMMON NAME	FAMILY	DEER RESISTANCE	COMMENTS
<i>Chelone</i>	<i>lyonii, obliqua</i>	Turtlehead	Scrophulariaceae	No damage	No reported toxicity
<i>Chionodoxa</i>	<i>forbesii, luciliae</i>	Glory of the Snow	Liliaceae	No damage	No reported toxicity
<i>Colchicum</i>	<i>autumnale, byzantinum</i>	Autumn Crocus	Liliaceae	No damage	Extremely toxic
<i>Coreopsis</i>	<i>pubescens, verticillata</i>	Tickseed	Asteraceae	No damage	No reported toxicity
<i>Crocsmia</i>	<i>x crocosmiiflora</i>	Crocsmia, Montbretia	Iridaceae	No damage	No reported toxicity
<i>Delphinium</i>	species and hybrids	Delphinium, Larkspur	Ranunculaceae	No damage	Very toxic
<i>Dianthus</i>	<i>grantianopolitanus</i>	Pinks	Caryophyllaceae	No damage	Slightly toxic
<i>Dicentra</i>	<i>cucullaria, eximia, spectabilis</i>	Dutchman's Breeches,	Fumariaceae	No damage	Moderately toxic
		Fringed Bleeding Heart, Bleeding Heart	Fumariaceae	No damage	Moderately toxic
<i>Digitalis</i>	<i>purpureum, x mertonensis</i>	Purple Foxglove, Merton Foxglove	Scrophulariaceae	No damage	Extremely toxic
<i>Dryopteris</i>	<i>erythrosora</i>	Autumn Fern	Dryopteridaceae	No damage	No reported toxicity
<i>Echinacea</i>	<i>purpurea</i>	Purple Coneflower	Asteraceae	Minor	Slightly to Moderately toxic, may cause gastrointestinal issues, headaches, oral irritation, dizziness at very high doses
<i>Echinops</i>	<i>bannaticus, ritro</i>	Globe Thistle	Asteraceae	No damage	No reported toxicity
<i>Epimedium</i>	<i>grandiflorum, perralidianum, pinnatum, sempervirens, x perralchicum, x rubrum, x versicolor, x youngianum</i>	Barrenwort	Berberidaceae	No damage	No reported toxicity from plant although a herbal extract has been linked to liver failure. Terpenes formed by plant that may provide protection
<i>Eranthis</i>	<i>hyemalis</i>	Winter Aconite	Ranunculaceae	No damage	Extremely toxic
<i>Eryngium</i>	<i>amethystinum, giganteum, planum, yuccifolium</i>	Sea Holly	Apiaceae	No damage	No reported toxicity
<i>Euphorbia</i>	<i>griffithii, polychroma, hybrids</i>	Spurge	Euphorbiaceae	No damage	Slightly toxic for these species, some species can be extremely toxic. Sticky latex sap
<i>Fritillaria</i>	<i>imperialis, meleagris, persica</i>	Imperial Fritillary, Checkered Lily, Persian Lily	Liliaceae	No damage	None to highly toxic depending on species.
<i>Galanthus</i>	species, hybrids	Snowdrop	Liliaceae	No damage	Slightly toxic
<i>Geranium</i>	<i>macrorrhizum</i>	Bigroot Geranium	Geraniaceae	No damage	Nontoxic to humans but toxic to many other mammals (deer). Has fragrant foliage
<i>Geranium</i>	<i>phaeum</i>	Dusky Crane's Bill, Mourning Widow	Geraniaceae	No damage	Nontoxic to humans but toxic to many other mammals (deer). Has fragrant foliage
<i>Geranium</i>	<i>sanguineum</i>	Bloody Crane's Bill	Geraniaceae	No damage	Nontoxic to humans but toxic to many other mammals (deer). Often have fragrant foliage
<i>Hakonechloa</i>	<i>macra</i>	Japanese Forest Grass	Poaceae	No damage	No reported toxicity





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GENUS	SPECIES	COMMON NAME	FAMILY	DEER RESISTANCE	COMMENTS
<i>Helenium</i>	<i>autumnale</i>	Helen's Flower, Sneezeweed	Asteraceae	No damage	Moderately to highly toxic. Despite one common name, it is not responsible for hay fever/pollen allergies.
<i>Heliopsis</i>	<i>helianthoides</i>	Oxeye Daisy	Asteraceae	No damage	No reported toxicity
<i>Helleborus</i>	species and hybrids	Hellebore	Ranunculaceae	Minor	Moderately Toxic but very bitter taste deters browsing although I have seen foliage eaten in winter, doesn't affect flowering
<i>Hyacinthoides</i>	<i>hispanica</i>	Spanish Bluebell	Liliaceae	No damage	Moderately to highly toxic
<i>Hyacinthoides</i>	<i>non-scripta</i>	Bluebell	Liliaceae	No damage	Moderately to highly toxic
<i>Hyacinthus</i>	<i>orientalis</i> , hybrids	Garden Hyacinth	Liliaceae	No damage	Moderately to highly toxic
<i>Iris</i>	species and hybrids	Iris	Iridaceae	No damage	Slightly toxic for humans, highly toxic to some mammals
<i>Kniphofia</i>	<i>uvaria</i>	Redhot Poker	Liliaceae	No damage	No reported toxicity
<i>Liatris</i>	<i>spicata</i>	Blazing Star, Gayfeather	Asteraceae	Minor	No reported toxicity
<i>Ligularia</i>	<i>dentata</i> , <i>stenocephalum</i>	Leopard Plant, Ligularia	Asteraceae	No damage	No reported toxicity
<i>Maianthemum</i>	<i>racemosum</i>	False Solomon's Seal	Polygonaceae	No damage	Extremely toxic
<i>Miscanthus</i>	<i>sinensis</i>	Chinese Silver Grass, Eulalia Grass	Poaceae	No damage	No reported toxicity. Considered a weed in some areas of the U.S.
<i>Monarda</i>	<i>didyma</i>	Beebalm	Lamiaceae	No damage	No reported toxicity
<i>Monarda</i>	<i>fistulosa</i>	Wild Bergamot	Lamiaceae	No damage	No reported toxicity
<i>Muscari</i>	<i>armeniaceum</i>	Grape hyacinth	Liliaceae	No damage	No reported toxicity
<i>Muscari</i>	<i>azureum</i>	Grape hyacinth	Liliaceae	No damage	No reported toxicity
<i>Muscari</i>	<i>botryoides</i>	Grape hyacinth	Liliaceae	No damage	No reported toxicity
<i>Muscari</i>	<i>latifolium</i>	Grape hyacinth	Liliaceae	No damage	No reported toxicity
<i>Narcissus</i>	species	Daffodil, Jonquil	Liliaceae	No damage	Slightly to Moderately toxic
<i>Nepeta</i>	<i>x faassenii</i> , <i>sibirica</i>	Catmint	Lamiaceae	No damage	Nontoxic to humans but slightly toxic to many other mammals (deer). Fragrant foliage
<i>Oenothera</i> (formerly <i>Gaura</i> )	<i>lindheimeri</i>	Lindheimer's Beeblossom	Onagraceae	No damage	No reported toxicity
<i>Origanum</i>	<i>vulgare</i>	Oregano	Lamiaceae	No damage	No reported toxicity. Subspecies <i>hirtum</i> is the edible standard culinary oregano although all <i>O. vulgare</i> forms have some flavor/aroma.
<i>Pachysandra</i>	<i>procumbens</i>	Allegheny Spurge	Buxaceae	No damage	No reported toxicity
<i>Pachysandra</i>	<i>terminalis</i>	Japanese Pachysandra	Buxaceae	No damage	No reported toxicity
<i>Paeonia</i>	species and hybrids	Peony	Paeoniaceae	No damage	Slightly to Moderately toxic



GENUS	SPECIES	COMMON NAME	FAMILY	DEER RESISTANCE	COMMENTS
<i>Panicum</i>	<i>virgatum</i>	Switchgrass	Poaceae	No damage	Nontoxic to humans but toxic to many other mammals (deer).
<i>Papaver</i>	<i>nudicale, orientale, rhoeas, somniferum</i> (reseeding annual)	Poppy	Papaveraceae	No damage	None to slightly toxic (except high dose of <i>P. somniferum</i> , the Opium Poppy). However, <i>P. somniferum</i> seeds (the seeds used in muffins, cakes, etc) are the only edible poppy seed.
<i>Pennisetum</i>	<i>alopecuroides, orientale</i>	Fountain Grass	Poaceae	No damage	No reported toxicity
<i>Penstemon</i>	species	Beardtongue	Scrophulariaceae	No damage	No reported toxicity but anecdotal reports of some toxicity
<i>Perovskia</i>	<i>atriplicifolia</i>	Russian Sage	Lamiaceae	No damage	No reported toxicity
<i>Platycodon</i>	<i>grandiflora</i>	Balloon Flower	Campanulaceae	No damage	Roots and basal leaves Slightly to Moderately toxic
<i>Pulmonaria</i>	<i>longifolia, rubra</i>	Lungwort	Boraginaceae	No damage	Slightly toxic, but prickly cystoliths in coarsely pubescent foliage makes very undesirable for forage
<i>Rheum</i>	<i>rhabarbarum, palmatum</i>	Common Rhubarb, Chinese Rhubarb	Polygonaceae	No damage	Slightly to Moderately toxic, petioles edible once cooked properly for Common Rhubarb
<i>Rodgersia</i>	<i>aesculifolia, pinnata</i>	Rodgersia	Saxifragaceae	No damage	No reported toxicity
<i>Rudbeckia</i>	<i>fulgida</i>	Black-eyed Susan	Asteraceae	Minor	Slightly to Moderately toxic
<i>Salvia</i>	species	Sage	Lamiaceae	No damage	No reported toxicity
<i>Schizachyrium</i>	<i>scoparium</i>	Little Bluestem	Poaceae	No damage	No reported toxicity
<i>Scilla</i>	<i>siberica</i>	Siberian Squill	Liliaceae	No damage	Extremely toxic
<i>Sedum</i>	<i>reflexum</i>	Jenny's Stonecrop	Crassulaceae	No damage	Edible**
<i>Silphium</i>	<i>perfoliatum</i>	Cup Plant	Asteraceae	Minor to No damage	Will nibble small, young plants, once established it shows no damage
<i>Solidago</i>	non-weedy species: <i>S. caesia, S. flexicaulis, S. rugosa, S. shortii, S. sphacelata</i>	Goldenrod	Asteraceae	No damage	No reported toxicity. Several non-weedy species, avoid <i>S. canadensis</i> - although native it is very weedy
<i>Stachys</i>	<i>byzantinum</i>	Lamb's Ear	Lamiaceae	No damage	No damage, fuzzy leaves
<i>Thalictrum</i>	<i>aquilegifolium, delavayi</i>	Meadow Rue, Chinese Meadow Rue	Ranunculaceae	No damage	Extremely toxic
<i>Thymus</i>	<i>vulgaris</i>	Common Thyme	Lamiaceae	No damage	The edible culinary thyme
<i>Tiarella</i>	species	Foam Flower	Saxifragaceae	No damage	No reported toxicity
<i>Tradescantia</i>	species	Spiderwort	Commelinaceae	No damage	Slightly to Moderately toxic
<i>Trillium</i>	species	Trillium, Wakerobin	Liliaceae	No damage	Roots and berries are slightly toxic





GENUS	SPECIES	COMMON NAME	FAMILY	DEER RESISTANCE	COMMENTS
<i>Tristagma</i> (formerly <i>Ipheion</i> )	<i>uniflorum</i>	Springstar	Liliaceae	No damage	Slightly to Moderately toxic
<i>Uvularia</i>	species	Bellwort	Liliaceae	No damage	No reported toxicity
<i>Verbascum</i>	species	Mullein	Scrophulariaceae	No damage	No reported toxicity
<i>Vernonia</i>	<i>lettermanii, missurica</i>	Ironweed	Asteraceae	No damage	Slightly to Moderately toxic
<i>Veronica</i>	species	Speedwell	Scrophulariaceae	No damage	No reported toxicity
<i>Vinca</i>	species	Periwinkle	Apocynaceae	No damage	Slightly to Moderately toxic, latex sap
<i>Yucca</i>	<i>filamentosa</i>	Adam's Needle	Agavaceae	No damage	Nontoxic to humans but toxic to many other mammals (deer).
<i>Zigadenus</i>	species	Deathcama	Liliaceae	No damage	Extremely toxic- notice the common name!

\*Toxicity ranges: No reported toxicity: is not toxic OR has not been tested for toxicity (toxicity unknown). This does not mean the plant is edible; Slight: minor discomfort, skin or eye irritation, stomach ache; Minor: increasing discomfort, skin blistering, diarrhea, stomach ache, disturbed vision, shortness of breath, irregular pulse, vomiting, shaking, respiratory difficulty; Extreme: increase in severity of previous symptoms and in severe cases death. Although plants may be listed as "No reported toxicity" that does not mean they are edible and may cause stomach upset if eaten.

\*\*Proper identification is essential before deciding to eat a plant you are unfamiliar with.

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## Deer resistant shrubs in my landscape.

Some of these plants are toxic to some degree and many cause only mild rash or discomfort. They are usually not eaten by

children or pets due to bitter taste, latex sap or other distasteful compounds. Care still should be exercised when selecting plants that are toxic. There are a few plants designated as Extremely toxic that should be avoided if you have young

children. Pets usually will not eat these plants but you may want to avoid them anyway if you have pets that like to eat plants.

GENUS	SPECIES	COMMON NAME	FAMILY	RESISTANCE IN MY "TEST" GARDEN: VERY = NO DAMAGE, MODERATE = NIBBLE	COMMENTS
<i>Abelia</i>	<i>mosanensis</i>	Sweet Abelia	Caprifoliaceae	Very	No reported toxicity
<i>Acer</i>	<i>palmatum</i>	Japanese Maple	Aceraceae	Very	No reported toxicity
<i>Berberis</i>	<i>thunbergii</i>	Japanese Barberry	Berberidaceae	Very	Slightly to moderately toxic
<i>Buddleia</i>	<i>daurica</i>	Butterfly Bush	Buddleiaceae	Very	Conflicting reports, treat as toxic
<i>Calycanthus</i>	<i>floridus</i>	Carolina Allspice	Calycanthaceae	Very	Moderate toxicity
<i>Cephalanthus</i>	<i>occidentalis</i>	Buttonbush	Rubiaceae	Very	Moderate toxicity
<i>Cotinus</i>	<i>coggygria</i>	Smokebush	Anacardiaceae	Very	Very minor, may cause skin rash in sensitive people
<i>Deutzia</i>	<i>gracilis</i> , <i>x magnifica</i>	Slender Deutzia, Showy Deutzia	Hydrangeaceae	Very	No reported toxicity
<i>Exochorda</i>	<i>racemosa</i>	Pearlbush	Rosaceae	Very	No reported toxicity
<i>Forsythia</i>	<i>x intermedia</i>	Forsythia	Oleaceae	Very	No reported toxicity, leaves and flowers have bitter taste
<i>Hamamelis</i>	<i>x intermedia</i> , <i>vernalis</i> , <i>virginiana</i>	Witch Hazel	Hamamelidaceae	Very	Slight
<i>Hibiscus</i>	<i>syriacus</i> and hybrids	Rose of Sharon, Hardy Hibiscus	Malvaceae	Very	No reported human toxicity. Conflicting reports on toxicity to dogs
<i>Hydrangea</i>	<i>arborescens</i> , <i>paniculata</i> , <i>quercifolia</i>	Smooth Hydrangea, Hardy Hydrangea, Oakleaf Hydrangea	Hydrangeaceae	Moderate, once established thick stems are not eaten	Slight
<i>Hypericum</i>	<i>kalmianum</i>	St. John's Wort	Clusiaceae	Very	Slightly to moderately toxic, can interfere with prescription drugs
<i>Itea</i>	<i>virginica</i>	Virginia Sweetpire	Grossulariaceae	Very	No reported toxicity
<i>Kolkwitzia</i>	<i>amabilis</i>	Beautybush	Caprifoliaceae	Very	No reported toxicity
<i>Lespedeza</i>	<i>thunbergii</i>	Bush Clover	Fabaceae	Moderate	No reported toxicity
<i>Magnolia</i>	<i>soulangiana</i>	Saucer Magnolia	Magnoliaceae	Moderate	No reported toxicity
<i>Magnolia</i>	<i>stellata</i>	Star Magnolia	Magnoliaceae	Moderate	No reported toxicity
<i>Paeonia</i>	Mudan or Moutan Group (several species and hybrids, <i>P. x suffruticosa</i> being one of the most popular)	Tree Peony (actually shrubs, never more than 5 ft. tall)	Paeoniaceae	Very	Slightly to moderately toxic

continued...





GENUS	SPECIES	COMMON NAME	FAMILY	RESISTANCE IN MY "TEST" GARDEN: VERY = NO DAMAGE, MODERATE = NIBBLE	COMMENTS
<i>Picea</i>	<i>abies</i> dwarf forms	Bird's Nest Spruce, Dwarf Norway Spruce, Little Gem Norway Spruce, Weeping Norway Spruce (several cultivars)	Pinaceae	Very	No reported toxicity
<i>Picea</i>	<i>glauca</i> 'Conica'	Dwarf Alberta Spruce	Pinaceae	Very	No reported toxicity
<i>Potentilla</i>	<i>fruticosa</i>	Shrubby Cinquefoil	Rosaceae	Very	No reported toxicity
<i>Spiraea</i>	<i>betulifolia, fritschiana, japonica</i>	Spiraea	Rosaceae	Very	No reported toxicity
<i>Syringa</i>	species and hybrids	Lilac	Oleaceae	Moderate to Very	No reported toxicity. Deer will nibble young plants, very resistant with age.
<i>Viburnum</i>	<i>burkwoodii, nudum, plicatum</i>	Viburnum	Caprifoliaceae	Very	No reported toxicity for the most part. Berries can cause stomach ache and vomiting if eaten in large quantities.
<i>Weigela</i>	<i>florida</i>	Weigela	Caprifoliaceae	Very	No reported toxicity

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**Tom Fernandez is a Presenter at GLTE 2022 - In-person at the Lansing Center in Lansing, MI, January 24-26th.**



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