

Plants Tolerant of Black Walnut Toxicity

Black walnut (*Juglans nigra*) toxicity refers to the toxic effects of **juglone**, a chemical produced in every part of black walnut trees. Black walnut produces this chemical to reduce competition for resources. Juglone is also prevalent in butternut and shagbark hickory trees, but in much lower quantities than black walnut. When juglone interacts with plants, it attempts to inhibit the respiratory processes of plants – leading to yellowing foliage, wilt, and eventually, death. Juglone can be found 50-80 feet from a tree's trunk, but the highest concentrations are found beneath the canopy. Some plants have adapted to its effects. The list below is a compilation of plants that have moderate to high tolerance of juglone.

TREES

Common Name	Botanical Name	Common Name	Botanical Name
Box Elder	<i>Acer negundo</i>	Carolina Silverbell	<i>Halesia carolina</i>
Japanese Maple	<i>Acer spp.</i>	Witchhazel	<i>Hamamelis spp.</i>
Red Maple	<i>Acer rubrum</i>	Golden Raintree	<i>Koelreutaria paniculata</i>
Sugar Maple	<i>Acer saccharum</i>	Sweetgum	<i>Liquidambar styraciflua</i>
Ohio Buckeye	<i>Aesculus glabra</i>	Tulip Tree	<i>Liriodendron tulipifera</i>
Sweet Buckeye	<i>Aesculus octandra</i>	Cucumber Magnolia	<i>Magnolia acuminata</i>
Tree of Heaven	<i>Alianthus altissima</i>	Mulberry	<i>Morus spp.</i>
Servicerberry	<i>Amelanchier spp.</i>	Blackgum	<i>Nyssa sylvatica</i>
PawPaw	<i>Asimina triloba</i>	Sycamore	<i>Plantanus spp.</i>
Sweet Birch	<i>Betula lenta</i>	Poplar/Aspen	<i>Populus spp.</i>
Yellow Birch	<i>Betula lutea</i>	American Plum	<i>Prunus americana</i>
River Birch	<i>Betula nigra</i>	Pin Cherry	<i>Prunus pennsylvanica</i>
American Hornbeam	<i>Carpinus caroliniana</i>	Wild Black Cherry	<i>Prunus serotina</i>
Hickory	<i>Carya spp.</i>	Chokecherry	<i>Prunus virginiana</i>
American Chestnut	<i>Castanea detata</i>	Pear	<i>Pyrus spp.</i>
Catalpa	<i>Catalpa bignonioides</i>	White Oak	<i>Quercus alba</i>
Hackberry	<i>Celtis occidentalis</i>	Scarlet Oak	<i>Quercus coccinea</i>
Redbud	<i>Cercis canadensis</i>	Shingle Oak	<i>Quercus imbricaria</i>
Fringe Tree	<i>Chionanthus virginicus</i>	Red Oak	<i>Quercus rubra</i>
Pagoda Dogwood	<i>Cornus alnifolia</i>	Staghorn Sumac	<i>Rhus typhina</i>
Flowering Dogwood	<i>Cornus florida</i>	Black Locust	<i>Robinia pseudoacacia</i>
Hawthorn	<i>Crataegus spp.</i>	Willow	<i>Salix spp.</i>
Persimmon	<i>Diospyros virginiana</i>	Sassafras	<i>Sassafras albidum</i>
American Beech	<i>Fagus grandifolia</i>	American Elm	<i>Ulmus americana</i>
White Ash	<i>Fraxinus americana</i>	Slippery Elm	<i>Ulmus rubra</i>
Honeylocust	<i>Gleditsia triacanthos</i>		

EVERGREENS

Common Name	Botanical Name	Common Name	Botanical Name
Atlantic Whitecedar	<i>Chamaecyparis thyoides</i>	White Spruce	<i>Picea glauca</i>
American Holly	<i>Ilex opaca</i>	Arborvitae	<i>Thuja spp.</i>
Juniper/Cedar	<i>Juniperus spp.</i>	Canadian Hemlock	<i>Tsuga canadensis</i>
Norway Spruce	<i>Picea abies</i>		



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SHRUBS

Common Name	Botanical Name	Common Name	Botanical Name
Bottlebrush Buckeye	<i>Aesculus parviflora</i>	Bush Clover	<i>Lespedeza spp.</i>
Speckled Alder	<i>Alnus rugose</i>	Honeysuckle	<i>Lonicera spp.</i>
Hercules-club	<i>Aralia spinosa</i>	Mockorange	<i>Philadelphus spp.</i>
Barberry	<i>Berberis spp.</i>	Ninebark	<i>Physocarpus opulifolius</i>
New Jersey Tea	<i>Ceanothus americanus</i>	Exbury Azalea	<i>Rhododendron (hybrid)</i>
Summersweet	<i>Clethra alnifolia</i>	Fragrant Sumac	<i>Rhus aromatica</i>
Silky Dogwood	<i>Cornus amomum</i>	Shining Sumac	<i>Rhus copallina</i>
American Hazelnut	<i>Corylus americana</i>	Smooth Sumac	<i>Rhus glabra</i>
Daphne	<i>Daphne spp.</i>	Wild Rose	<i>Rosa spp.</i>
Burning Bush	<i>Euonymus alatus</i>	Currant	<i>Ribes spp.</i>
Euonymus	<i>Euonymus spp.</i>	Raspberry/Blackberry	<i>Rubus spp.</i>
Forsythia	<i>Forsythia spp.</i>	Elderberry	<i>Sambucus spp.</i>
Rose of Sharon	<i>Hibiscus syriacus</i>	Bladdernut	<i>Staphylea trifolia</i>
Smooth Hydrangea	<i>Hydrangea arborescens</i>	Common Lilac	<i>Syringa vulgaris</i>
St. John's Wort	<i>Hypericum spp.</i>	Viburnum (most)	<i>Viburnum spp.</i>
Japanese Kerria	<i>Kerria japonica</i>	Adam's Needle	<i>Yucca spp.</i>
Beauty Bush	<i>Kolkitzia amabilis</i>	Prickly Ash	<i>Zanthoxylum spp.</i>

VINES

Common Name	Botanical Name	Common Name	Botanical Name
Dutchman's Pipe	<i>Aristolochia spp.</i>	Morning Glory	<i>Ipomoea spp.</i>
Trumpet Vine	<i>Campsis radicans</i>	Virginia Creeper	<i>Parthenocissus spp.</i>
Bittersweet	<i>Celastrus spp.</i>	Grape	<i>Vitis spp.</i>
Celmatis	<i>Clematis spp.</i>	Wisteria	<i>Wisteria spp.</i>
Honeysuckle Vine	<i>Lonicera spp.</i>		

ANNUALS

Common Name	Botanical Name	Common Name	Botanical Name
Begonia	<i>Begonia tuberos/fibrous</i>	Pansy	<i>Viola tricolor</i>
Calendula	<i>Calendula officinalis</i>	Violets	<i>Viola spp.</i>
Impatiens	<i>Impatiens walleriana</i>	Zinnias	<i>Zinnia elegans</i>
Morning Glory	<i>Ipomoea spp.</i>		

BULBS

Common Name	Botanical Name	Common Name	Botanical Name
Ornamental Onion	<i>Allium spp.</i>	Daffodil	<i>Narcissus spp.</i>
Glory of the Snow	<i>Chionodoxa spp.</i>	Squill	<i>Scilla spp.</i>
Crocus	<i>Crocus spp.</i>	Tulip	<i>Tulipa spp.</i>
Snow Drops	<i>Galanthus spp.</i>		



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PERENNIALS

Common Name	Botanical Name	Common Name	Botanical Name
Maiden Hair Fern	<i>Adiantum pedatum</i>	Dog Tooth Violet	<i>Erythronium spp.</i>
Yarrow	<i>Achillea millefolium</i>	Joe Pye Weed	<i>Eupatorium spp.</i>
Baneberry	<i>Actea spp.</i>	Blue Fescue	<i>Fescue glauca</i>
Bugleweed	<i>Ajuga spp.</i>	Sweet Woodruff	<i>Galium odoratum</i>
Hollyhock	<i>Alcea rosea</i>	Gentian	<i>Gentiana spp.</i>
Big Blue Stem	<i>Andropogon gerardii</i>	Cranesbill	<i>Geranium spp.</i>
Windflower	<i>Anemone spp.</i>	Oak Fern	<i>Gymnocarpium spp.</i>
Pussy Toes	<i>Antennaria spp.</i>	Sneezeweed	<i>Helenium spp.</i>
Jack-in-the-Pulpit	<i>Arisaema triphyllum</i>	Perennial Sunflower	<i>Helianthus spp.</i>
Goatsbeard	<i>Aruncus dioicus</i>	Daylily	<i>Hemerocallis spp.</i>
Wild Ginger	<i>Asarum spp.</i>	Coral Bells	<i>Heuchera spp.</i>
Aster	<i>Aster spp.</i>	Hosta	<i>Hosta spp.</i>
Astilbe	<i>Astilbe spp.</i>	Siberian Iris	<i>Iris sibirica</i>
Lady Fern	<i>Athyrium spp.</i>	Yellow Archangel	<i>Lamiastrum spp.</i>
Rattlesnake Fern	<i>Botrychium spp.</i>	Shasta Daisy	<i>Leucanthemum spp.</i>
Side Oats Grama	<i>Bouteloua curtipendula</i>	Lilyturf	<i>Liriope spp.</i>
Bellflower	<i>Campanula spp.</i>	Lobelia	<i>Lobelia spp.</i>
Sedges	<i>Carex spp.</i>	Ostrich Fern	<i>Matteuccia spp.</i>
Blue Cohosh	<i>Caulophyllum spp.</i>	Peppermint	<i>Mentha piperita</i>
Northern Sea Oats	<i>Chasmanthium spp.</i>	Virginia Bluebells	<i>Mertensia virginica</i>
Turtlehead	<i>Chelone spp.</i>	Bee Balm	<i>Monarda spp.</i>
Chrysanthemum	<i>Chrysanthemum spp.</i>	Evening Primrose	<i>Oenothera spp.</i>
Spring Beauty	<i>Claytonia spp.</i>	Sensitive Fern	<i>Onoclea sensibilis</i>
Lily of the Valley	<i>Convallaria majalis</i>	Cinnamon Fern	<i>Osmunda cinnamomea</i>
Fragile Fern	<i>Cystopteris fragilis</i>	Wood Sorrel	<i>Oxalis acetosella</i>
Hay Scented Fern	<i>Dennstaedtia spp.</i>	Pachysandra	<i>Pachysandra spp.</i>
Toothwort	<i>Dentaria spp.</i>	Switchgrass	<i>Panicum virgatum</i>
Dutchman's Breeches	<i>Dicentra cucullaria</i>	Phlox	<i>Phlox paniculata</i>
Bleeding Heart	<i>Dicentra spectabilis</i>	Obedient Plant	<i>Physostegia spp.</i>
Leopard's Bane	<i>Doronicum spp.</i>	May Apple	<i>Podophyllum peltatum</i>
Wood Fern	<i>Dryopteris spp.</i>	Jacob's Ladder	<i>Polemonium reptans</i>
Coneflower	<i>Echinacea spp.</i>	Solomon's Seal	<i>Polygonatum spp.</i>
Barrenwort	<i>Epimedium spp.</i>	Christmas Fern	<i>Polystichum spp.</i>
Winter Aconite	<i>Eranthis hyemalis</i>	Primrose	<i>Primula spp.</i>



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PERENNIALS (CONTINUED)

Common Name	Botanical Name	Common Name	Botanical Name
Lungwort	<i>Pulmonaria spp.</i>	Meadow Rue	<i>Thalictrum spp.</i>
Buttercup	<i>Ranunculus spp.</i>	Foamy Bells	<i>Tiarella spp.</i>
Black-Eyed-Susan	<i>Rudbeckia spp.</i>	Spiderwort	<i>Tradescantia virginiana</i>
Bloodroot	<i>Sanguinaria canadensis</i>	Toad Lily	<i>Tricyrtis spp</i>
Little Blue Stem	<i>Schizachyrium spp.</i>	Trillium	<i>Trillium spp.</i>
Stonecrop	<i>Sedum spp.</i>	Globe Flower	<i>Trollius spp.</i>
Blue Eyed Grass	<i>Sisyrinchium spp.</i>	Bellwort/Merry Bells	<i>Uvularia grandiflora</i>
False Solomon's Seal	<i>Smilacena racemosa</i>	Iron Weed	<i>Vernonia spp.</i>
Goldenrod	<i>Solidago spp.</i>	Speedwell	<i>Veronica spp.</i>
Prairie Dropseed	<i>Sporobolis heterolepsis</i>	Vinca	<i>Vinca spp.</i>
Lamb's Ear	<i>Stachys byzantina</i>	Violet	<i>Viola spp.</i>



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