



Black Walnut Toxicity

Information provided by The Morton Arboretum

SOURCE OF TOXICITY

Black walnuts (*Juglans nigra*) produce a chemical called juglone, which occurs naturally in all parts of the tree, especially in the buds, nut hulls, and roots. The highest concentration of juglone occurs in the soil directly under the tree's canopy, but highly sensitive plants may exhibit toxicity symptoms beyond the canopy drip line. Because decaying roots can release juglone, toxicity may occur after a tree has been removed.

SYMPTOMS

Plants sensitive to juglone show signs of wilting, yellow leaves, stunted or slow growth, and eventually death. Unfortunately, there is no cure once plants are affected.

PLANTS SENSITIVE TO BLACK WALNUT TOXICITY

Annuals and vegetables: asparagus, cabbage, eggplant, flowering tobacco, pepper, petunia, potato, tomato

Perennials: baptisia, columbine, lily (Asian hybrids), peony, rhubarb

Shrubs: blueberry, red chokeberry, cotoneaster, Amur honeysuckle, hydrangea, lilac, privet, potentilla, rhododendron, yew, and some viburnum shrub species

Trees: European alder, white birch, crabapple species, hackberry, larch, linden, saucer magnolia, mugo pine, red pine, white pine, Norway spruce, silver maple, and some viburnum tree species

Plants Tolerant of Black Walnut Toxicity

PERENNIALS:			
Botanical name	Common name	Botanical name	Common name
Ajuga spp.	Ajuga	Helianthus spp.	Sunflower
Alcea rosea	Hollyhock	Hemerocallis spp.	Daylily
Anemone spp.	Windflower	Heuchera spp.	Coralbell
Asarum spp.	Wild ginger	Hosta spp.	Hosta
Aster spp.	Aster	Lespedeza spp.	Bush clover
Astilbe spp.	Astilbe	Lobelia spp.	Cardinal flower
Athyrium spp.	Fern	Monarda spp.	Bee balm
Campanula	Bellflower	Phlox paniculata	Phlox
Chrysanthemum spp.	Mum	Physostegia spp.	Obedient plant
Dicentra spectabilis	Bleeding heart	Polemonium reptans	Jacob's ladder
Dryopteris spp.	Fern	Pulmonaria spp.	Lungwort
Eupatorium spp.	Joe Pye weed	Rudbeckia spp.	Black-eyed susan
Galium odoratum	Sweet woodruff	Sedum spp.	Sedum
Geranium spp.	Geranium	Solidago spp.	Goldenrod

SHRUBS:			
Botanical name	Common name	Botanical name	Common name
Chionanthus virginicus	White fringe tree	Rhus colappina	Prairie flame sumac
Cornus alternifolia	Pagoda dogwood	Rhus glabra	Smooth sumac
Corylus americana	American filbert	Ribes spp.	Alpine currant
Euonymus spp.	Euonymus	Rosa spp.	Rose
Forsythia spp.	Forsythia	Sambucus spp.	Sambucus
Lonicera spp.	Honeysuckle	Viburnum carlesii	Koreanspice viburnum
Physocarpus opulifolius	Ninebark	Viburnum dentatum	Arrowwood viburnum
Rhus aromatic	Gro-low sumac	Viburnum prunifolium	Blackhaw viburnum

EVERGREENS:			
Botanical name	Common name	Botanical name	Common name
Juniperus chinensis	Chinese juniper varieties	Thuja spp.	Arborvitae
Juniperus communis	Common juniper	Tsuga canadensis	Hemlock

TREES & INTERMEDIATES:			
Botanical name	Common name	Botanical name	Common name
Acer palmatum	Japanese maple	Liriodendron tulipifera	Tulip tree
Acer rubrum	Red maple	Prunus serotina	Plum
Acer saccharum	Sugar maple	Quercus alba	White oak
Aesculus glabra	Ohio buckeye	Quercus coccinea	Scarlet oak
Betula nigra	River birch	Quercus imbricaria	Shingle oak
Carpinus caroliniana	American hornbeam	Quercus rubra	Red oak
Carya spp.	Hickory	Rhus typhina	Staghorn sumac
Cercis canadensis	Redbud	Robinia pseudoacacia	Black locust
Crataegus spp.	Hawthorn	Salix spp.	Willow
Fagus grandiolia	American beech	Ulmus americana	American elm
Gleditsia tricanthos	Locust	Ulmus rubra	Slippery elm
Hamamelis spp.	Witchhazel		