Black Walnut trees produce a chemical called juglone, which can be toxic to a wide variety of plants. Juglone damage to sensitive plants appears as wilting, yellowing or browning of leaves, stunted or slowed growth and eventually death in some cases. The most concentrated toxicity occurs within the root zone of the tree, which can extend well beyond the branch tips on large, mature trees. Highly sensitive plants may still exhibit toxicity symptoms well beyond the branching.

Keep in mind that even juglone-tolerant plants may still exhibit some signs of stress when planted under Black Walnuts (and other mature trees as well). New plantings may show signs of moisture stress as they try to compete with the tree’s established roots for reduced water resources. Since it is often much drier under a tree canopy, these plants often need twice as much hydration for them to survive than if they were in the open without root competition. Shaded conditions under the tree canopy can also induce stress. This will correct itself during the next growing season when newly formed leaves will conform to the new, lower light conditions.

Some plants exhibit a high tolerance to the chemical, while others have a very low success rate when grown directly under or near Black Walnuts. Plants in the following lists are considered to be either tolerant or not tolerant. The tolerance is not known of all plants, so for those not listed, try planting a small number of plants and observe them for signs of damage for at least a full growing season before planting additional quantities.
## Tolerant Plants

### Fruits & Vegetables
- Bean, Snap
- Beet
- Carrot
- Cherry
- Corn, Sweet
- Currant
- Melon
- Onion
- Plum
- Raspberry, Black
- Pawpaw
- Squash

### Shrubs & Evergreens
- Arborvitae
- Althea
- Barberry
- Burning Bush
- Currant
- Elder
- Forsythia
- Hemlock
- Honeysuckle
- Hydrangea, Annabelle
- Hypericum
- Juniper
- Kerria
- Mockorange
- Ninebark
- Plum, Cistena
- Sumac
- Viburnum, Koreanspice
- Viburnum, Mohican

### Trees
- Amelanchier
- Birch, River
- Black Gum
- Catalpa
- Dogwood
- Fringetree
- Honeylocust
- Linden
- Maple, Japanese
- Maple, Red
- Maple, Sugar
- Mulberry
- Oak
- Pear, Flowering
- Planetree
- Redbud
- Sweetgum
- Tuliptree
- Willow
- Wisteria

### Vines
- Clematis (several varieties)
- Dutchman’s Pipe
- Honeysuckle
- Virginia Creeper
- Wisteria
TOLERANT PLANTS

SUN PERENNIALS
Anemone
Aster
Bee Balm
Bellflower
Coneflower
Daisy, Shasta
Daylily
Evening Primrose
Geranium
Grass (select varieties)
Helen’s Flower
Hollyhock
Iris, Siberian
Joe Pye
Lamb’s Ear
Leopard’s Bane
Obedient Plant
Phlox, Garden
Rudbeckia
Sedum
Sunflower
Veronica
Yarrow
Yucca

ANNUALS
Begonia
Chrysanthemum
Geranium
Impatiens
Marigold
Morning Glory
Pansy
Zinnia

GRASS SEED
Bluegrass, Kentucky
Tall Fescue

SHADE PERENNIALS
Astile
Barrenwort
Bleeding Heart
Coral Bells
Fern
Helleborus
Hosta (several varieties)
Jacob’s Ladder
Pulmonaria
Solomon’s Seal
Spiderwort
Viola

GROUNDCOVER
Ajuga
Liriope
Myrtle
Pachysandra
Phlox, Creeping
Sedum
Sweet Woodruff

BULBS
Crocus
Daffodil
Grape Hyacinth
Hyacinth
Tulip

SUN – These plants need at least 8 hours of direct sunlight.
PARTIAL SHADE – These plants need a minimum of 4 hours of direct sunlight and maximum of 8 hours. Avoid hot afternoon sunlight.
SHADE – These plants need less than 4 hours of direct sunlight. Avoid hot afternoon sunlight.
SUN-SHADE – These plants can be grown in any light situation.
# PLANTS NOT TOLERANT OF BLACK WALNUT

## TREES
- Apple
- Birch, Paper
- Crab
- Larch
- Linden
- Magnolia, Saucer
- Pine
- Spruce

## VEGETABLES
- Asparagus
- Cabbage
- Eggplant
- Pepper
- Potato
- Tomato

## SHRUBS & EVERGREENS
- Aronia, Red
- Azalea
- Blueberry
- Cotoneaster
- Holly, Winterberry
- Hydrangea (several varieties)
- Lilac
- Pine
- Potentilla
- Privet
- Rhododendron
- Rose
- Spruce
- Viburnum (several varieties)
- Yew

## PERENNIALS
- Baptisia
- Columbine
- Lily, Asiatic & Oriental
- Lily of the Valley
- Peony
- Rhubarb

## ANNUALS
- Nicotiana
- Petunia

## BULBS
- Crocus, Autumn