

# Walnut Wilt

## Walnut Wilt

Walnut wilt is a noninfectious disease which causes the sudden wilt and death of many plant species. The problem occurs in the beds of sensitive plants growing near walnut trees. The cause is an active compound known as juglone produced by these trees. The compound can be found in a narrow zone in the soil surrounding the living roots. Poisoning occurs when the roots of sensitive plants grow into the toxic zone near a juglone-producing root. Poor drainage may play a role even when roots do not actually touch.

Symptoms may appear at any time during a growing season. Affected plants wilt suddenly and often show a browning of the vascular tissues just under the outer layers of the main stem. Some plants with mild tolerance may show stunting, lack of flower development, and/or lack of vigor. Toxicity does not occur every year. Apparently, the production and release of juglone is influenced by the growing conditions of a particular year and in some years the toxin is not produced in sufficient concentrations to become toxic to sensitive plant species.

Walnut wilt can be avoided by planting vegetables or ornamentals outside of the toxic root zone. Plants will usually be safe if they are planted at a distance from the tree equal to the height of the tree. Keep in mind that the roots can spread 50 to 60 ft. from the trunk. This may be well beyond the drip line. In cases where a juglone producing tree is removed, juglone will not persist in the dead roots or in the soil surrounding the dead roots for more than a few months following the death of the original tree. Eventually sensitive plant species may be planted. Plants particularly sensitive to juglone include: tomato, potato, pea, cabbage, pear, apple, sour cherry, red pine and rhododendron. See the table below for a list of plants that in most cases are not affected by juglone.

### Black Walnut Tolerant Plants "in most cases"

*List compiled by University of Washington Horticulturist and IPM Specialist Karen Delahaut, Michigan State Horticulture Department, Morton Arboretum, Ohio State University Horticulture Department, Cornell University Horticulture Department*

Continued on other side



GREENHOUSES & GARDEN CENTER

Where beauty comes naturally.

13 Archie St., Auburn NY 13021

Located off Rte 38A in Auburn (315) 253-3030 • dickmanfarms.com

# Walnut Wilt

## Black Walnut Tolerant Plants "in most cases"

### Trees

Arborvitae  
Autumn Olive  
Beech  
Bigleaf Linden  
Black Cherry  
Boxelder  
Catalpa  
Chestnut  
Crabapple  
Dogwood  
Eastern Redcedar  
Elder  
Elm  
Goldenrain-tree  
Hackberry  
Hawthorn  
Hemlock  
Hickory  
Japanese Maple  
Locust  
Maple  
Mulberry  
Norway Spruce  
Oak  
Pawpaw  
Pear (Ornamental)  
Pine  
Poplar  
Quince  
Redbud  
Red Cedar  
River Birch  
Sassafras  
Staghorn Sumac  
Sycamore  
Sweetgum  
Willow

### Shrubs

Arborvitae  
Barberry  
Beautybush  
Black Raspberry  
Boxwood  
Currant  
Daphne  
Dogwood  
Elderberry  
Euonymus  
Forsythia  
Gooseberry  
Honeysuckle  
Hydrangea  
Juniper  
Kerria

### Shrubs cont'd

Lilac  
Mockorange  
Potentilla  
Privet  
Quince  
Rhododendron  
Rose of Sharon  
Sandcherry  
Spicebush  
Viburnum

### Vines

Bittersweet  
Clematis  
Grape  
Poison Ivy  
Virginia Creeper  
Wisteria

### Bulbs

Bluebell  
Chionodoxa  
Crocus  
Daffodil  
Grape Hyacinth  
Hyacinth  
Narcissus  
Snowdrop  
Squill (Scilla)  
Tulip  
Winter Aconite

### Perennials

Aster  
Astilbe  
Bachelor's Buttons  
Bearded Iris  
Beebalm  
Bellflower  
Bleeding Heart  
Bloodroot  
Bluebell  
Bugleweed  
Campanula  
Chinese Lantern  
Clover  
Chrysanthemum  
Coneflower  
Coralbells  
Cranesbill  
Creeping Phlox  
Crested Wood Fern  
Daisy  
Daylily

### Perennials cont'd

Dog's tooth violet  
Dutchman's  
Breeches  
Evening Primrose  
Fern  
Fleabane  
Gentian  
Geum  
Ginger  
Glory-of-the-snow  
Grasses  
Hawkweed  
Hellebore  
Herb Robert  
Hibiscus  
Hollyhock  
Hosta  
Iris  
Jacob's Ladder  
Jack-in-the-Pulpit  
Jerusalem  
Artichoke  
Joe-Pye Weed  
Lamb's Ear  
Leopard's Bane  
Lily of the Valley  
Liriope  
Lobelia  
Lungwort  
May apple  
Meadowrue  
Mint  
Mullein  
Pachysandra  
Pennyroyal  
Peony  
Periwinkle  
Phlox  
Primrose  
Rose Campion  
Sedum  
Siberian Iris  
Sneezeweed  
Solomon's Seal  
Spiderwort  
Sundrop  
Sunflower  
Sweet Woodruff  
Trillium  
Turtlehead  
Violet  
Windflower  
Yarrow

### Annuals

Ageratum  
Begonia  
Calendula  
Coleus  
Impatiens  
Morning Glory  
Johnny Jump-Up  
Marigold  
Pansy  
Sunflower  
Zinnia

### Vegetables

Bean  
Beet  
Carrot  
Corn  
Melon  
Onion  
Parsnip  
Radish  
Squash  
Snap Peas  
Lima Bean

### Fruits

Cherry  
Peach  
Plum



**DICKMAN  
FARMS**

GREENHOUSES & GARDEN CENTER

Where beauty comes naturally.

13 Archie St., Auburn NY 13021

Located off Rte 38A in Auburn (315) 253-3030 • dickmanfarms.com