

# Gardening with Black Walnut

Black walnut trees produce a chemical called Juglone in their roots, stems and leaves. Juglone suppresses the growth of other plants to reduce competition for moisture and nutrients. Susceptible plants growing near walnuts may suffer stunted growth, wilting, and ultimately death. Gardening near walnut trees can be a challenge. The average limit of the toxic zone from a mature tree is 50 to 60 feet from the edge of the canopy, but plants as far away as 80 feet have also been injured. The use of black walnut mulch, leaves, or husks in compost or as mulch can also have toxic results, especially on very susceptible plants. When the tree is completely removed, the toxin can remain in the soil for five years or longer.

The need to identify ornamental plants susceptible to Juglone is critical. We have compiled lists and observations from numerous universities and other sources. They are based largely on observations of native woodlands, gardens, orchards, ornamental plantings, and forest plantations. Few plants have been scientifically tested for tolerance or sensitivity to Juglone. These lists should be used for guidance, but results may vary with conditions. As with any claim of resistance, susceptibility may vary between species and under different growing conditions. For example, good soil drainage can reduce Juglone toxicity. The following is a list of plants generally susceptible to damage by Juglone.

## Trees

|                             |                     |
|-----------------------------|---------------------|
| <i>Acer saccharinum</i>     | Silver Maple        |
| <i>Alnus glutinosa</i>      | Black Alder         |
| <i>Amelanchier spp.</i>     | Serviceberry        |
| <i>Betula spp.</i>          | Birch               |
| <i>Carpinus caroliniana</i> | American Hornbeam   |
| <i>Celtis occidentalis</i>  | Hackberry           |
| <i>Diospyros virginiana</i> | Persimmon           |
| <i>Fraxinus spp.</i>        | Ash                 |
| <i>Hamamelis virginiana</i> | Witchhazel          |
| <i>Ilex verticillata</i>    | Winterberry         |
| <i>Magnolia soulangiana</i> | Saucer Magnolia     |
| <i>Malus spp.</i>           | Crabapples & Apples |
| <i>Pinus strobus</i>        | Eastern White Pine  |
| <i>Picea abies</i>          | Norway Spruce       |
| <i>Tilia americana</i>      | American Linden     |

## Shrubs & Vines

|                                |                         |
|--------------------------------|-------------------------|
| <i>Aronia spp.</i>             | Chokeberry              |
| <i>Chionanthus virginica</i>   | Fringe tree             |
| <i>Cotoneaster spp.</i>        | Cotoneaster             |
| <i>Hydrangea spp.</i>          | Hydrangea               |
| <i>Ligustrum spp.</i>          | Privet                  |
| <i>Lonicera spp.</i>           | Honeysuckle Vine & Bush |
| <i>Physocarpus opulifolius</i> | Ninebark                |
| <i>Pinus mugo</i>              | Dwarf Mugo Pine         |
| <i>Potentilla fruticosa</i>    | Potentilla              |
| <i>Prunus spp.</i>             | Cherry & Plum           |
| <i>Rhododendron spp.</i>       | Rhododendron & Azalea   |
| <i>Rhus spp.</i>               | Sumac                   |
| <i>Rosa spp.</i>               | Rose                    |
| <i>Staphylea trifolia</i>      | Bladder Nut             |
| <i>Syrina spp.</i>             | Lilac                   |
| <i>Taxus x media</i>           | Yew                     |
| <i>Viburnum dentatum</i>       | Arrowwood Viburnum      |
| <i>Viburnum plicatum</i>       | Double-File Viburnum    |



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### Herbaceous Plants & Bulbs

*Aquilegia spp.*  
*Baptisia spp.*  
*Leucanthemum spp.*  
*Colchicum autumnalis*  
*Heuchera spp.*  
*Lilium spp.*  
*Narcissus spp.*  
*Paeonia spp.*  
*Rosa chinensis*  
*Tulipa spp.*

Columbine  
False Indigo  
Chrysanthemum  
Autumn Crocus  
Coral Bells  
Lily  
Daffodil  
Peony  
Rose  
Tulip

### Fruits & Vegetables

*Rubus spp.*  
*Vaccinium spp.*  
*Asparagus officinalis*  
*Beta vulgaris*  
*Brassica oleracea var. capitata*  
*Capsicum annuum*  
*Lycopersicon esculentum*  
*Rheum rhabarbarum*  
*Solanum melongena esculentum*  
*Solanum tuberosum*  
*Vitis spp.*

Raspberry, Blackberry  
Blueberry  
Asparagus  
Beets  
Cabbage  
Pepper  
Tomato  
Rhubarb  
Eggplant  
Potato  
Grape



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