



Local Enhancement & Appreciation of Forests

Improving city life one tree at a time

Signs and Symptoms of Tree Damage – Prevention and Controls

ENVIRONMENTAL DAMAGE	DAMAGE/SYMPTOMS	PREVENTION	CONTROL	FURTHER INFORMATION
Construction Damage	<ul style="list-style-type: none"> Caused by physical injury to trunk and crown, including split and broken branches; soil compaction of root zone; or smothering of roots with added soil Damage may not become obvious for 1 to 2 years Trees wilt and grow poorly Tip of branches may die back Evergreens may produce a large crop of cones before dying 	<ul style="list-style-type: none"> Clearly mark and flag all trees to be preserved during construction Fence off trees as far out as branches reach Do not pile soil against trunks or raise soil level over roots No heavy equipment or supplies travelling over or stored on roots Contact a certified arborist for tree protection plan 	<ul style="list-style-type: none"> Properly prune damaged branches; smooth edges of wounds Soak trees once weekly by using a soaker hose or regular hose on a slow trickle for one hour Aerate soil and mulch around trees Contact a certified arborist 	Minnesota Department of Natural Resources
Lawnmower Damage	<ul style="list-style-type: none"> Horizontal cuts in bark of tree Repeated injuries may cause branches to die back and might kill tree Injuries allow diseases and pests to enter 	<ul style="list-style-type: none"> Use hand tools to clip close to trunk Place mulch or alternative, low-maintenance ground covers around trunk for a no mow zone 	<ul style="list-style-type: none"> Prevention is the best treatment Carefully cut away all damaged bark and trip jagged edges of cut 	Purdue University Extension
Lightning Damage	<ul style="list-style-type: none"> Often long scars running length of trunk to ground Some cases, only yellowing of leaves and branches dying back 	<ul style="list-style-type: none"> For tall and/or valuable trees, have a professional install a copper lightening protector 	<ul style="list-style-type: none"> Remove damaged branches and bark Trim jagged edges of wood or loose bark Water thoroughly 	University of Maryland Extension



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Nitrogen Deficiency	<ul style="list-style-type: none"> Occurs commonly on sandy soils Lower, older leaves first become pale green to yellow; later, entire plant may become lighter Flowers turn yellow and drop, and fruits are stunted and woody 	<ul style="list-style-type: none"> Replace mulch around tree as needed Compost as necessary 	<ul style="list-style-type: none"> When symptoms arise, water with compost tea or fish emulsion and apply supplemental nitrogen fertilizer such as bloodmeal around roots Spraying leaves with fish emulsion gives trees an immediate boost 	University of Maryland Extension
Iron Deficiency	<ul style="list-style-type: none"> Youngest leaves on upper shoots are first affected, becoming light yellow to nearly white between veins Plants usually stunted Spears when soil is too alkaline or because it has been over limed 	<ul style="list-style-type: none"> Select species tolerant of alkaline soils Do not over lime or plant too close to concrete foundations 	<ul style="list-style-type: none"> At first sign of yellowing leaves sprinkle compost onto surface of soil as far out as the edge of the tree canopy 	University of Maryland Extension
Salt Damage	<ul style="list-style-type: none"> Salt spray blown up from passing cars can damage leaves Salt-laden melt-water can produce toxic conditions around roots Symptoms include brown leaf edges, early leaf drop, shoot dieback 	<ul style="list-style-type: none"> Protect trees along roads by erecting a barrier to deflect salt spray from cars Use sand or sawdust instead of salt on slippery sidewalks Plant salt-tolerant species along walkways and roads 	<ul style="list-style-type: none"> Soak entire root area of trees once weekly by using a soaker hose of regular hose on a slow trickle for one hour 	City of Toronto
Waterlogged Soil	<ul style="list-style-type: none"> Roots die back and eventually rot as fungi and bacteria attack dying tissue Small leaves, stunted shoots, reduced tree growth 	<ul style="list-style-type: none"> Select species tolerant to waterlogged soil Prior to planting, mix in compost and other organic matter to improve drainage in clay soils 	<ul style="list-style-type: none"> Improve drainage and soil conditions 	City of Toronto



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Lack of Water	<ul style="list-style-type: none"> Leaves wilt, droop and turn yellow or brown Leaves may also look scorched, brown at tips and along leaf edges 	<ul style="list-style-type: none"> Commonly occurs as a result of construction, causing root loss, or hard surface installation placed too close to tree – see “Construction Damage” 	<ul style="list-style-type: none"> Remove hard surface at base of tree Provide regular deep watering – twice a week 	City of Toronto
Winter Injury	<ul style="list-style-type: none"> Large brown patches on leaves Branch tips or entire shoots may die back Evergreens may dry out and turn brown under freezing conditions 	<ul style="list-style-type: none"> Plant native species which are accustomed to our winters Ensure soil is well watered in fall before cold weather 	<ul style="list-style-type: none"> Prune back damaged tissue in spring 	University of Minnesota Extension
Girdling Roots	<ul style="list-style-type: none"> Roots grown around other roots or main stem of tree and cut off or restrict movement of water and nutrients within the tree Lack of flare at base of tree, reduced leaf size, early fall colour, dieback of branches 	<ul style="list-style-type: none"> Proper planting is most important preventative measure Do not pile mulch around tree trunk – mulch should be applied in a donut-shape 3-4 inches in depth Ensure adequate rooting space and prevent soil compaction around tree 	<ul style="list-style-type: none"> Contact qualified professional to remove visible girdling roots – this is best done 4-6 years after transplanting Maintain plant vigour to help tree deal with this stress 	City of Toronto
Juglone	<ul style="list-style-type: none"> Stunted growth, wilting or death of other trees and plants located near members of the walnut family Walnut trees produce a chemical called Juglone that affects the growth of other plants 	<ul style="list-style-type: none"> Select Juglone-tolerant species 		University of Maryland Extension