



HORTICULTURE

Yard & Garden

BRIEF

**BIRCH
DIEBACK**

Birch dieback is a condition in which branches or parts of branches die. In some cases, one side of a tree will be dead or one or more stems of a cluster of a birch will die. In individual cases, the specific causes of dieback are often difficult to determine. Several environmental conditions are known to cause dieback.

When birch trees are growing under natural conditions in a forest, the ground is shaded by other trees and is kept fairly cool. Falling leaves form a natural mulch beneath the trees. In the landscape, however, birch are often planted on an open, exposed site. Leaves are raked up each fall. Birch is a shallow-rooted tree. Its roots are known to be damaged or killed by relatively high soil temperatures. Soil temperatures are likely to be highest on open south or west facing slopes.

An early freeze in the fall may kill some branches of ornamental birches. This is especially serious with species or varieties that are not native to this area.

Warm days in late winter and early spring can cause excessive loss of moisture from buds and branches which cannot be replaced because the roots are in frozen ground. Soil moisture can become critical during extended periods of drought during the growing season. Light rains or ordinary watering for the grass will not soak down to the level of the tree roots.

On the other hand, poor soil drainage and heavy rainfall can cause poor soil aeration. This can result in damage to the roots due to lack of oxygen necessary for root growth.

Trees that are weakened by one or more of the above conditions are often attacked by secondary invaders. An example is the bronze birch borer whose larvae tunnel into the inner bark. The tunnels often girdle the branches and cut off the flow of sap, causing the branch tips to die back to the point of the girdling.

Birch trees are generally short-lived. This fact should be considered when choosing them. Under good growing conditions, native birch trees may reach an age of fifty years, but most of them die before that. In natural stands, they generally live longer than in the landscape. Exotic species and varieties usually have even shorter lives. The cut leaf European weeping birch frequently dies at an early age in Minnesota.

The best safeguard against birch dieback is good growing conditions. Plant trees in locations with at least partial shade for the root area. An organic mulch such as wood chips will help keep the soil moist and cool, along with suppressing weeds. The mulch should be four to six inches deep and extend from the trunk out under the canopy of the tree as far as is practical.