

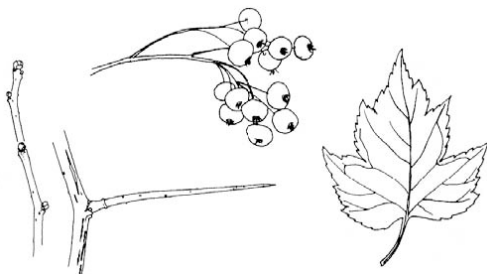
Plant Health Care Recommendations for Hawthorn

Hawthorns are widely used as specimen trees and shrubs, in mass plantings and as hedges. They are deciduous, small to medium sized trees generally maturing at about 25 feet, however this can vary among species. Leaves are simple, alternate and dark green in summer, but change to yellow or reddish purple with the onset of autumn. Flowers are generally borne in early spring, and fruit, a drupe, persists through fall. Some species have showy fruit and this is one of the most desirable characters of the tree. One prominent feature of most members of the genus *Crataegus*, is the presence of 1-3 inch long thorns along the stems, although some cultivars have been selected that are thornless. These trees are very adaptable to many soil types, but they do perform best when it is well drained.



Hawthorns can be very durable trees in their native environment, but they are plagued by many pests in the landscape. The two most destructive diseases of hawthorns are rust and fireblight.

Rusts find hawthorns to be suitable hosts in which to complete their complex life cycle (see Hawthorn Rust Technical Report). In some years on certain species and cultivars, the foliage and succulent shoots of entire tree canopies can become infected with the rust fungus. As a result, the foliage is dropped prematurely and the tree becomes stressed. Fireblight is a bacterial disease that affects young succulent shoots in the spring (see Fireblight Technical Report). The bacteria replicate quickly once within the plant, and this leads to the death of the stems. In addition, English Hawthorn is highly susceptible to a leaf spot fungus that causes early defoliation.



Many species of wood boring insects attack the trunk and twigs of hawthorns. Sucking insects such as lacebugs, aphids and scale also attack hawthorn readily. These insects harm the trees by feeding on sap from the conductive tissues, and excrete a substance called honeydew, which is a sticky byproduct of their feeding.

Spider mites, eriophyid mites and many caterpillar species can also damage the foliage and reduce their vitality. In addition to those previously mentioned, hawthorns also host diseases such as anthracnose, fungal cankers, leaf spots and powdery mildew. All of the factors described combine to place a great deal of stress and pressure on the tree. If these organisms can be limited, the health and beauty of the trees can be maintained.

Recommended Monitoring for Hawthorn:

Timing	Treatment
Late Winter	Apply horticultural oil to reduce populations of overwintering insects. Prune dead and diseased twigs and branches. Inspect root collar: Excavate mulch and soil to expose the flare as necessary. Apply fireblight treatment to trees with a history of this disease.
Mid Spring	Apply fungicide treatments to suppress rust, anthracnose and leaf spots if needed. Monitor and treat as needed for borers, scales and caterpillar defoliators. Treat as necessary including preventive borer sprays. Apply fireblight treatment to trees with a history of this disease.
Late Spring	Continue fungicide treatments to suppress rust, anthracnose and leafspots. Monitor for borers, caterpillars, and sucking insects, and treat as necessary. Monitor soil moisture levels to reduce stress and prevent root disease. Inspect mulch levels and adjust as necessary. Prune to improve form and appearance and to correct structural concerns after flowering. Prune fireblight infected shoots.
Summer	Monitor irrigation and soil moisture to reduce stress and prevent root disease. Retreat borers if needed. Monitor for insects and mites and treat as necessary.
Fall	Monitor for insects and mites and treat as necessary. Ensure adequate soil moisture levels prior to onset of winter to minimize injury. Apply systemic insecticide treatment to soil to reduce next year's pest problems. Prune out any diseased or damaged branches.
Winter	Sample soil for nutrient and pH levels, especially if nutrient deficiency symptoms are evident. Remove any mulch from stems to reduce risk of disease and rodent injury.