PLANT HEALTH CARE REPORT

Austrian Pine

Austrian pine (*Pinus nigra*) is a moderately fast-growing, pyramidal tree when young, becoming a flat-topped, large tree when mature. It grows on a wide variety of sites ranging from clay-filled homesites to shoreline sand dunes. Heavy loads from snow and ice occasionally lead to branch breakage. This species is fairly tolerant to road salt and wind-blown sea salt.

Austrian pine in parking lot island

Needles are dark green and persist two to four years depending on tree health. Buds are ½ to 1 inch long and tan. Bud characteristics and the growth form of the tree, upright and single-stemmed versus leaning or crooked, are characteristics used to separate this species from the similar Japanese black pine.

Austrian pine should be exposed to full sun. Soil pH requirements are not restrictive with an acceptable range from 4 to 7, sometimes higher. Maximum growth is achieved when the soil is fertile, moist, and well drained. Its range is broad, reaching from Maine (zone 4) through Virginia (zone 7) and west to Missouri.

Mature Austrian pine in urban park

Austrian pine can be transplanted with relative ease. Irrigation may be required during the establishment period; afterwards, they adapt to all but extreme soil moisture levels. This species tolerates wind, heat, and drought.

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When temperatures fall below -25°F, winter injury may occur.

The most common disease affecting Austrian pine is Diplodia tip blight (symptoms pictured at right). The fungus, *Diplodia sapinea*, infects stressed, mature trees starting at the branch tip and killing the branch back to the main stem. A wet spring either before or after a drought year intensifies disease conditions.

Another group of diseases which damage Austrian pine are needlecasts. These infect lower, older needles first then move throughout the tree. The infection period depends on the fungal pathogen though it usually starts in the spring and ends in the fall. Accurate diagnosis is necessary for treatment.

Several root disorders can lead to decline and death of Austrian pine. These include root-feeding nematodes and Phytophthora and *Heterobasidion annosum* root rots. Rapid death of trees during the summer is often caused by the pinewood nematode, a microscopic worm that grows in the wood vessels of trees. Nematodes are transmitted from infected to healthy trees by the pine sawyer beetle. Infected beetles feed on the branches of healthy trees, inoculating them with the nematode.

Insect pests of Austrian pine are few but can be damaging. Zimmerman pine moth (*Dioryctria zimmermani*) and other

Monitoring and Treatment Considerations for Austrian Pine

Winter

Inspect plants for deer browse; apply repellent treatment and fencing as needed. *Remove dead, dying, diseased, and broken branches. Reduce or remove branches to promote appropriate structure; subordinate co-dominant stems.

Early spring

Apply bark treatment to prevent turpentine beetle if there is a history in the area.

Mid-spring

Monitor for tip blight, needlecast, and moth borers; treat if symptoms are present from previous year. Fertilize, adjust pH, and amend soil according to soil analysis.

Late spring

Repeat tip blight, needlecast, and moth borer treatments. Repeat bark treatment to prevent turpentine beetle.

Early summer

Repeat tip blight and needlecast treatment. Monitor for sawfly; treat as needed. Monitor irrigation and soil moisture to minimize water stress and prevent root disease. Release beneficial organisms for biological control of pests.

Midsummer

Monitor for scales and mites; treat as needed. Inspect tree for symptoms of pinewood nematode. Remove terminal

borers cause damage easily confused with Diplodia tip blight. The caterpillar tunnels through the branch tip killing it in the same pattern as tip blight. Turpentine beetles often attack the stems of stressed trees. These beetles feed inside the bark disrupting the flow of water, frequently killing the tree. Popcorn-like pitch tubes on the stem are often the first visible sign of turpentine beetles. Several scale insects feed on the needles and bark often exuding honeydew that is colonized by a black sooty mold fungus. Sawfly larvae cause partial defoliation by feeding in groups on needles.

Sapsucker-feeding causes horizontal lines of holes in the stem. These migratory woodpeckers create wounds to access sap for food. If damage is severe, the tree may decline or become susceptible to attack by other pests. Deer often feed on small trees during the winter when food is scarce. Defoliation from deer-feeding can kill small trees.

Austrian pine is a beautiful, resilient species in the landscape, and most of the health issues that this species experience can be managed. However, the planting of this species is not encouraged because of the level of care required to maintain a healthy tree.

shoots with *Diplodia* or tips with moth injury.

Late summer

Monitor irrigation and soil moisture to minimize water stress and prevent root disease. Inspect mulch levels and adjust as needed. Sample soil for nutrient and pH levels.

Fall

Fertilize, adjust pH, and amend soil according to soil analysis.

*When managing groups of Austrian pines it is essential to remove and destroy severely declining and dead trees as soon as they are discovered to prevent transmission of pests to adjacent trees.