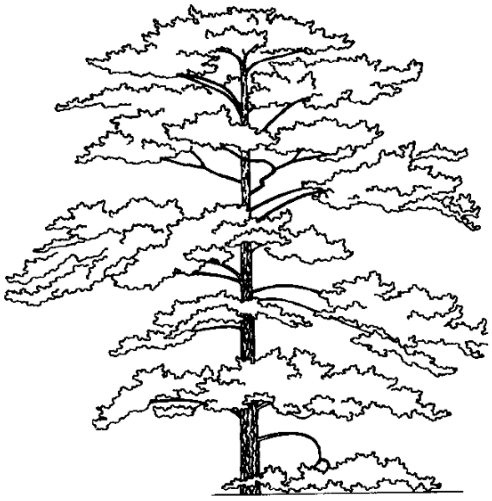
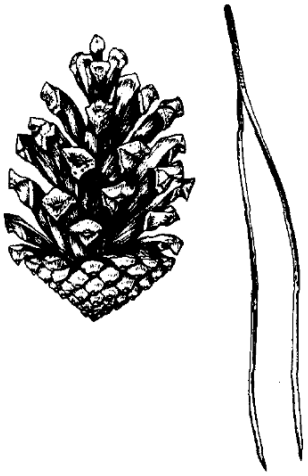
BARTLETT TREE EXPERTS
SCIENTIFIC TREE CARE SINCE 1907

Plant Health Care Recommendations for Austrian Pine



Austrian pine (*Pinus nigra*) is a fast growing, pyramidal tree when young, becoming a flat topped large tree when it matures. It is well adapted for landscape planting, growing well in a wide variety of sites ranging from clay filled homesites to shoreline sand dunes. Heavy loads from snow and ice rarely lead to limb breakage on this stiff-branched species. Road salt and wind blown sea salt cause little or no damage to the foliage.

Needles are dark green and persist two to four years depending on tree health. Buds are 1/2" to 1" 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 very similar Japanese black pine.



They grow best in full sun. Soil pH requirements are not restrictive, with an acceptable range from 4.0 to 7.0 or higher. Maximum growth is achieved when the soil is fertile, moist and well drained. It grows well in climate zones 4 through 6 and survive to zone 8. These zones range from Maine to Virginia and west to Missouri. Austrian pines transplant relatively easily. Irrigation may be required during the establishment period, after which they readily adapt to all but extreme soil moisture levels. This species tolerates wind, heat and drought. However, when temperatures fall below -25° F, winter injury may occur.

Austrian pine was thought to be relatively pest resistant, however, there have been losses and disfiguring diseases in most area. The most common disease is Diplodia tip blight (*Sphaeropsis sapinea)*. This fungus commonly infects stressed trees over thirty years old starting at the branch tip and killing the branch back to the main trunk. The worst disease years are those with a wet spring either before or after a drought year.

Another group of diseases which damage Austrian pine are the needlecasts. These diseases infect lower, older needles first then move throughout the tree. Infection period depends on which of the numerous the fungi are attacking, 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 trees. These include root feeding nematodes, *Phytophthora and Hetrobasidion annosum* root rots. Rapid death of trees during the summer is often caused by the pine wood nematode, a microscopic worm that grows in the wood vessels of infected trees. The nematodes are transmitted by the pine sawyer beetle from infected to healthy trees. Infected sawyers feed on the branches of healthy trees, inoculating them with the nematode.

Insect pests of Austrian pine are few, but can be damaging. The Zimmerman pine tip moth (*Dioryctria zimmermani)* and others borers causes damaged which is 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 trunks of stressed trees. These beetles feed inside the bark disrupting the flow of water in the tree and often killing the tree. Popcorn like pitch tubes on the trunk are often the first visible symptom of turpentine beetles. Several scale insects feed on the needles and bark often exuding honeydew that is colonized by the black sooty mold fungus. Sawflies will cause partial defoliation by feeding in groups on needles.

Sapsucker feeding causes horizontal lines of holes in the trunk. These migratory birds create these wounds to supply a source of sap flow 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 in limited supply. Defoliation from deer feeding can kill small trees.

Recommended Monitoring for Austrian Pine

Timing	**Treatment**
Winter	Crown clean to remove dead, dying, diseased, co-dominant leaders and interfering limbs. Sample soil for nutrient levels and pH. Correct root collar problems. Protect from deer damage if needed.
Early Spring	Apply turpentine beetle preventive sprays to the trunk if there is a history of turpentine beetles in the area.
Mid Spring	Treat tip blight, needlecast, and tip moth if symptoms are present from previous year. Fertilize and treat pH problems as recommended on the soil sample report.
Late Spring	Repeat tip blight, needlecast, tip moth and turpentine beetle treatments.
Early Summer	Monitor and treat tip blight, sawfly, soil nematodes and soil moisture levels. Repeat needlecast treatment.
Mid Summer	Monitor and treat soil moisture problems, scale, mites, needlecast, root rots and nematodes. Prune out any terminals with Diplodia or tip moth injury.
Late Summer	Monitor and correct soil moisture problems, needlecast, root collar and mulch level. Treat soil nutrient and pH problems as needed.
Fall	Treat soil nutrient, soil nematode and pH problems as needed. Protect from deer damage if needed.

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.