

# *Pinus wallichiana*



**Family:** Pinaceae

**Local/common names:** Kail, Chil, Blue pine, Bhutan pine, Himalayan pine

**Trade name:** Chir pine

**Profile:**

*Pinus wallichiana*, also known as blue pine or the Himalayan white pine, is used various ways for its wood and leaves. It is also known as 'Bhutan Pine', a name, which can cause confusion with *Pinus bhutanica*, a closely related species.

**Habitat and ecology:** *Pinus wallichiana* is native to the Himalaya, Karakoram and Hindu Kush mountains from eastern Afghanistan across north India to Yunnan in southwest China. It grows at high altitudes (1800-4300 m) in mountain valleys and rarely grows as low as 1200 m. It grows in a temperate climate with dry winters and wet summers. The plant naturally forms a pure forests or a mixed one with *Cedrus*, fir, spruce and broad leaved trees like *Prunus*, *Quercus* etc. at about 2000-3500 m altitude range.

**Morphology:** This tree grows to a height of 50 m with a straight trunk and short, down-curved branches. The branches are longer in solitary trees, creating a dome-like crown. The bark on young trees is smooth, becoming fissured with age. The branches are present in regularly spaced whorls and are smooth. Young shoots are glaucous and later turn pale grey-green. The winter buds are grey with an orange tinge and ovoid-conic and pointed in shape. The leaves are reduced to needles and are in clusters of five. The basal sheaths are deciduous and 15-20 cm long, often curved at the base, adaxial side with multiple bluish-white stomatal lines. They are usually pendant but may be spreading in some trees. The male strobili are present on lower branches and are often in dense clusters on younger twigs. The female cones are in groups, erect when young but later pendant. They are bluish-green when young, maturing to light brown with pale brown apophyses. The cone scales are wedge-shaped, wide near the apex, apophysis grooved, ending in a blunt umbo. The basal scales are usually not, or only slightly, reflexes and are very resinous.

**Distinguishing features:** The leaves are in clusters of five. The female cones on maturity are cylindrical, erect when young and pendulous on maturity.

**Life cycle:** Flowering occurs in May-June and fruiting in July. The seeds mature during October-November.

**Uses:** The seeds are edible. The honeydew from aphid-infested leaves is eaten as manna. A manna-like substance that exudes from the leaves and twigs is eaten or used as honey. Vanillin flavouring is obtained as a by-product of other resins that are released from the pulpwood. The plant has various medicinal uses and is an antiseptic, diaphoretic, diuretic, rubefacient, stimulant and vermifuge. It is a valuable remedy used internally in the treatment of kidney, bladder complaints and rheumatic infections. It is also very beneficial to the respiratory system and in treating respiratory complaints such as coughs, colds, influenza and tuberculosis. Externally, it is used in cases of skin irritation, wounds, sores, burns and boils and is used in the form of liniment plasters, poultices, herbal steam baths and inhalers. The wood is a diaphoretic and stimulant. Turpentine is extracted from blue pine on a commercial basis. The plant yields higher quantity of products as compared to *Pinus roxburghii* but is not produced so freely. In general, trees from warmer areas of distribution give higher yields. Rosin, the substance left after turpentine, is extracted and is used by violinists on their bows and also in making sealing wax, varnish. The leaves are used as stuffing for pillows. A tan or green dye is obtained from the needles. The needles contain a substance called terpene that

is released when rain falls over the needles and inhibits seed germination of other plants. The wood is moderately hard, durable and highly resinous and is used in construction and carpentry. The wood is good firewood but gives off a pungent resinous smoke. It can be splintered and used as a torch. It is also used as a condiment.

**Market rate:** Data not available