

# *Pinus strobus*

## Eastern white pine

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*Pinus strobus* (Eastern white pine) is the classic pine tree of the Eastern United States. It has played a role in history matched by few other trees. *Pinus strobus* was first described as a species in 1753. The name means the pine cone tree. Other scientific names used in the past included *Strobus strobus* (1903), *Pinus strobus* var. *strobus* (1940), and *Pinus strobus* var. *chiapensis* (Mexican or Chiapas white pine, 1940). Chiapas pine was made a separate species in 1964. Other common names include white pine, northern white pine, northern pine, ship-mast pine, soft pine, pin blanc, and Weymouth pine.

*Pinus strobus* is the largest tree of the northeastern United States. It ranges from southern Canada (Ontario to Newfoundland) southward across the Lake States and New England, running down the Appalachians to the far north portion of Georgia. *Pinus strobus* is a tree of cold winters and warm summers. It does not move far from the mountains in the southern end of its range. The growth Hardiness Zone is 2b - 7a and the Heat Zone is 2-7. The lowest number of the Hardiness Zone tends to estimate the northern range limit of the tree and the largest Heat Zone number tends to estimate the southern end of the range. Coder Tree Grow Zone A. *Pinus strobus* grows best on rich, well-drained but moist slopes along streams and in moist coves. *Pinus strobus* thrives with good soil aeration and moisture but can survive for a while on fine textured soils, compacted soils, and on drier sites.

*Pinus strobus* is a fast growing but long-lived tree. Without disturbance white pines can grow to 220 years of age with a maximum of about 450 years. White pine is more tolerant of shade and competition than many pines and can be successful on many sites and with many other species. *Pinus strobus* is moderately fire resistant when old, but easily killed when most of the foliage is low enough to be burned. *Pinus strobus* develops extensive root graph systems with other white pines under forested and plantation situations, sharing resource space.

*Pinus strobus* grows to a height of 80 - 100 feet tall with a maximum height attainable in the north central part of its range of 160 feet. *Pinus strobus* grows to a diameter of 2-3.5 feet with a maximum of 6 feet. Height and diameter size are greatly diminished as the southern range limit is reached. Crown form is tied to the tiers or whorls of branches produced each year. The live crown usually occupies a large portion of the stem height, with some branches touching the ground. When young, the tree is classically upright and conical shaped. With age, a flat or rounded, irregular shaped crown remains.

*Pinus strobus* needles are 2.7 - 5 inches long with 5 needles per bundle. The needles are retained on the tree for 2 -3 years. The needles are soft, flexible, slender, and dark bluish green in color with minute white lines (longitudinally aligned stomates).

*Pinus strobus* reaches sexually maturity around 8 years of age with 5-7 years between good seed crops. Mature female cones are narrow and elongated in shape. The cones are 4 - 8 inches long and 1-2 inches in diameter. The cones are dangling, slender, occasionally slightly curved, long stalked (1 inch), and have no prickles. The cones are visibly resinous. Cone are yellowish-brown to greyish-brown in color with purple tints and white resin spots visible on the scales. Cone scales are thin, flat, and flexible. The cones are open at maturity and fall from the tree after 1-2 seasons.



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*Pinus strobus* twigs are slender, smooth, grey-green to orange-brown in color when young with a light reddish hair (tricomes) covering first year twigs. The branches are distinctly whorled with living branches held well down the stem. There are usually few large branches, just many small branches arising from each whorl. The branches tend to come out perpendicular to the stem and then the tips will become more upswept with time. The bark is dark green-grey colored, thin, and smooth on young stems. With tree age and diameter growth, the bark becomes thick and dark orangish-brown with purple tints, forming long, thin, rectangular shaped blocks separated by deep furrows. The block surfaces have minute surface scales.

*Pinus strobus* is difficult to confuse with any native pines. Its five needles per bundle, hanging thin flexible cone, and noticeably whorled branching pattern are unlike any other Eastern or southeastern pine. *Pinus strobus* does have five historic varieties (not standard cultivars) which can be seen in landscapes. These old varieties include *Pinus strobus glauca* which has pale bluish-green colored needles, *Pinus strobus fastigiata* / (*Pinus strobus pyramidalis*) which is a highly upright form, *Pinus strobus nana* Carr. which is a dwarf compact bush form with dwarf needles, *Pinus strobus umbraculifera* Carr. / (*Pinus strobus nana* Gord. not the species above) which is a dwarf umbrella shaped form with dwarf needles, and *Pinus strobus prostrata* which is a dwarf ground cover form with dwarf needles. There are no known hybrids with the native pines of the southeastern United States.

*Pinus strobus* has been the standard wood of commerce up to the early part of the 1900s. The traditional uses for white pine came about because it is soft, easy to machine, relatively strong for its density, and easy to carve. It has been extensively used for interior trim, paneling, cabinets, furniture, matches, general construction lumber, pulp, sashes, door trim, veneers, and canoes. It has been grown for Christmas trees, its pitch used for water proofing, and its foliage used as a mattress stuffing.

*Pinus strobus* has been used for millennia as a medicine tree. Different methods of using white pine parts internally include treatments for coughs, kidney problems, lung problems, rheumatism, stomach cramps, typhoid, sore throats, tuberculosis, chest pain, scurvy, headache, backache, and to cause vomiting. External use of white pine parts include saves, poultices, and rubs for colds, cuts, wounds, inflammation, pain relief, boils, poison ivy, and venereal disease sores. The smoke of the needles were used to cleanse houses. The young male cones were used for food seasoning with stewed meat.

# Native Range Of Growth For *Pinus strobus*: Eastern white pine

Native contiguous range derived from federal and state maps, herbarium samples and personal observations. The native range includes all areas north of the lines on the side of the lines with the arrows.

