

## **A Bonsai Close Up on Black Pine in the Northeast US**

### ***Pinus Thumbergii***

By Pauline Muth copyrighted 1999 updated 2003,2004

#### **Description**

Japanese Black Pine is a two-needled pine that is hardy to Zone 5. It can be grown in Zone 4 with winter protection. It is noted for its strong root system and wonderfully textured bark, which appears during its 10<sup>th</sup> year of growth. The mature *kame-no-ko* or turtle shellbark develops with great age. Since sunlight promotes this bark, be sure to turn the tree as it grows to expose all sides of the trunk to the sunlight.

The needles are known for their dark green color. Healthy needles are straight and sharp. (If the needles are curved, look for the cause and do not style these trees until the tree is healthy.) If the needles are cool to the touch, it tells us that the pine is healthy and that it is taking up water. Do not work on trees that have warm needles. they are under stress.

The sheath must be white in color not dark. Buds should be white and pointed.

The branches grow in spokes around the trunk and branches. To develop a thicker trunk the branches may be left on but they must be removed before a bulge develops on the trunk. Branch buds may be selected while in the bud state to prevent the growth of too many side branches.

When branch is cut, watch the pitch. It should be thick and sticky. If the tree is healthy in spring, the pitch will begin to ooze in twenty or less seconds.

Leaving cones on the tree weakens the section they are on.

Do not handle the developed bark.

#### **Growing Conditions**

Black pine is grown in full sun, taking care to expose all sides of the tree to the sun by rotation. To prevent disease and insect problems, excellent wind circulation is required. They negatively react to air pollution.

Black pine is hardy to zone five. In our zones of 4 and 5, they require cold storage for the winter. They do not require light for cold storage. During freezing weather they can be stored in an unheated garage or cold frame.

It prefers well-drained soil. Young (first 4-5 years after styling) small pines should be planted in a mix of 2 parts mulch to 3 parts medium sand to 1 part small grained sand. Young large pines should be planted in a soil mix of 2

parts small mulch to 3 parts large grained sand to 1 part medium grained sand.

Developed pines should be planted in a mix of 2 parts mulch to 2 parts medium sand to 1 part small sand.

They transplant in spring when the buds swell. Roots can be slightly reduced in volume in the spring. Do not shock the pine with a severe root disturbance if you have also done a lot of work on the tree at the same time. It is better to do severe style work one year and then transplant into a bonsai pot the next year. Usually transplanting is only needed every two to three years. Older bonsai are transplanted every 4 or 5 years. Add mycorrhizoids and iron to the soil when transplanting.

When this pine is young and developing its form, it should be watered well but not kept wet. As the pine becomes fully developed, water only when dry. Water thoroughly and then allow to dry in-between waterings, but not to the point of dehydration. Be careful especially in cool conditions. Older pines will develop long needles if they have too much water. Black pine absorbs moisture through its needles also. It is important to spray the pine and keep the dust off the needles.

Fertilize young developing pine from April on gradually increasing the time between fertilizer applications until they are 30 days apart. Add phosphorus to your fertilizer in the form of super phosphate. Older developed pines only need fertilized a few times during spring and during fall growth of buds. They respond well to organic fertilizers.

### **Pruning and styling**

Severe cuts can be made into fall and winter. As with most pines, fall is the optimal time for pruning. In the spring, large cuts can be made at the time of bud swell. This is also the time for repotting but do not do both at the same time.

Keeping the shape is relatively easy because of the growth habit of this tree. When branches are exposed to the sun, hard break back easily occurs on branches that are less than 10 years old.

The **needles** on the pine last for 3 years and then turn yellow in the fall and drop off. Remove these in the fall. When you remove black pine needles, leave the sheath to prevent destruction of the buds between the bases of the sheaths. When you cut back the current growth at the end of branches, budding will occur further back on the branch. Budding occurs at the base of old needles. Cuts are made at an angle leaving the cut facing upward. This oval cut heals faster than a round cut.

In the **spring**, a group of buds will appear at the end of each branch. The number in the group will depend on the strength of the branch. This first group of buds will develop into long candles. These candles are cut off completely as the needles begin to elongate from the candles. At this point the candle turns from white to green. This will be around May 15 or later depending on the weather in the spring season. This spring growth is treated as a parasite sapping the energy of the tree. If the tree uses some energy to grow these candles, less will be left for the summer candles and the needles will be shorter. Candles that are less than one inch long should not be cut off. If the tree is large and you need to divide your working time, start removing candles at the top of the tree where the growth is strong. Eight weeks later in the summer, a second set of buds will appear. (If it takes longer than this, then the tree is not very healthy.) Remove buds whose branches will not be needed in your design. Take out the smallest candles first, and then 2 weeks later take out the longer buds. Remaining buds are left to grow into the fall. Then they are trimmed back. **DO NOT** cut where no candles exist. The small candles of spring can be cut back at the same time.

Candles can be reduced by  $\frac{1}{3}$  to  $\frac{1}{2}$  of their length. On a mature pine, leave 2 sets of needles on the strong branches and 3 sets on the weaker branches. When at the refinement stage, leave 3 needles on strong growth areas usually at the top, 5 needles in the mid area and 7 needles at the bottom where growth is the weakest.

On older, slow growing pines, the strong spring growth will lessen. Shape will be maintained by branch pruning leaving secondary branches to take over for the old primary branch. The nodal length should decrease from the trunk outward. When removing needles use tweezers and remove one needle at a time or cut the needles off leaving the sheath.

The roots and branches mirror each other in health and so must be balanced. **Wiring** is best done in the fall and winter. Massage the branch before bending. This will loosen the bark and prevent too much damage from the styling. Do large bends gradually.

**Pot** in an unglazed strong pot.

### **Propagation**

Black Pine can be started from seed. Seeds are planted fresh in the fall after soaking overnight and then left outdoors to freeze over the winter. They will sprout in the spring. After the true leaves appear, cut the taproot with a razor blade to prevent taproot formation. Keep the training pot in

the soil in a garden or grow directly in the soil. Training can begin in 3 to 4 years. It is best to grow in the ground during this time to develop a good trunk.

Nursery stock is also a good source of these pines. Look for strong trunks with dense bushy growth that leaves good choices for styling. Check the trunk when considering a purchase since it must be the primary consideration.

When using pines from the field, be sure to wait a full year after potting before styling.

### **Bonsai Styles**

The plant does well in many bonsai styles except for broom style.

Comment or questions to

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