

## ***Japanese Black Pine***

Pinus Thumbergii      Family: Pinaceae

### **"The King of Bonsai"**

The development of Japanese Black Pine from

Seed or Nursery Container to Bonsai Pot

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Have a Plan - Take Pictures

I chose to grow black pine bonsai because, first of all, they make great bonsai. Secondly, and most important was for the ability to learn how to grow healthy Japanese black pines in south Florida and then pass that knowledge on to others. Black pine takes many years to develop or a big checkbook. However, you can start small, learn by doing and then in the future you can obtain a great black pine specimen and watch it thrive because, 'You Learned How to Do It'.

#### **PART 1**

**The Cycle of Growth:** Understanding 'Why' we do and 'What' to do when.... Is this the 'Only' way?? No not at all. It is just the 'Way' I do it.... Here in South Florida. Is it for you? Maybe, maybe not. However, it is a good starting point.

**January:** Yes, this is as close to winter in South Florida as we get; make sure the pine is healthy. Initial styling, repotting, root work, large branch removal, heavy bending, trim candles.

**February:** Okay to wire, moderate bending and small to medium branch removal. Start seeds.

**March:** Okay to wire, minor bending and small branch removal.

**April:** Prune "Decandle" before needles open out - Auxins - what do they do? You may pinch with fingers or use scissors. If you use scissors be sure to cut straight across not on an angle. Fertilize.

**May:** Minor branch bending, fertilize and watch for wire biting.

**June:** Minor branch bending, fertilize and watch for wire biting.

**July:** Bud selection, bifurcation - leave small buds on top of tree, leave large buds on bottom of tree. Candles growing upward or downward are removed leaving only two

buds. During hot months use zero nitrogen fertilizer (0-10-10). Use high nitrogen liquid fertilizer half strength and spray right on weak areas (branches) of the tree to promote vigor in that area.

**August:** Needle thinning (timing is important), keep a record year to year to determine 'Your Best time', trim candles. Protect from excess heat midday. Minor cutting and bending, small branches only. Unwire, prune, thin needles and rewire.

**September:** Select new buds on candles cut last month - leave only two buds. Continue spraying high nitrogen liquid fertilizer, reduced strength, on weak areas of tree. Watch midday heat and protect accordingly.

**October:** Restart fertilizer program - start acquiring repotting supplies for January repotting.

**November (mid):** Thin needles, (timing will have some effect on needle length). Spray with fungicide (white vinegar).

**December (early):** Finalize needle thinning.

Following the "Cycle of Growth" yearly will help keep your tree healthy.

## **PART 2**

### **Balance of Energy:**

First, you must know what stage of development the black pine is in and is it Healthy?

Second, you must visually divide your black pine into three zones - top, middle and bottom. Only two zones if it a small pine.

**Needle Thinning:** Three reasons WHY. 1. Slow the top growth. 2. Allow more sun into the interior of the pine. 3. Redirect the energy to lower and interior of the pine. Remove more needles from the top of the tree and fewer needles from the bottom. Remove upward and downward growing needles. Be careful not to remove all needles from a branch as it will die. With tweezers, pull needles straight out of sheath or if you use scissors, cut close to the top of the sheath but do not remove sheath. Keep scissors sharp clean and free of sap by frequent cleaning.

The pine needles are the producers of energy through photosynthesis. Reducing the number of pine needles reduces the energy to that branch. To strengthen weak areas, remove fewer needles. Too slow vigorous growth, remove more needles. Never remove all needles from a branch.

Pruning "**Decandling**": Pinch or cut medium zones first, followed in 7 to 10 days by the strong zones, followed in 7 to 10 days by cutting very strong candles. This allows the weaker branches additional time to gain strength before you cut the very strong candles. You may also pinch or cut all candles at the same time and vary the length of the part of the candle that is remaining. With strong candles, you leave a longer stub than less strong candles - weak candles are not cut! Cut the candles just as the needles begin to show. The resulting buds will produce shorter internodes. In essence, by controlling which candles (shoots) you cut first will determine where you put the energy. At the top and the outsides of the tree, remove the strong candles leaving the weakest. At the bottom and interior areas of the tree remove the weakest and leave the strongest and always prune to a bifurcated or forked branch. Young trees produce more vigorous candles with longer internodes than older, established black pines. Work only on strong branches, do not work on weak branches. Remaining stubs will be removed at a later date.

**Auxins:** are hormones that push apical growth and subdue all growth behind the apical bud. This is nature's way of controlling how the pine grows straight and tall. This also suppresses back budding and keeps interior and lower branches weak. By removing the branches (apical tip (bud)) you allow back budding to occur and inside and lower branches to strengthen. Advantageous buds will develop at the base of the sheath where you removed the needles.

**Styling:** Black pines may be developed into most classical styles including Bunjin. However, formal and informal upright are most common. Is this styling - rigid Japanese rules or laws of nature? Parallel branches – in nature, the top branch usually shades out the bottom branch and it withers. Branches on the inside of curves don't work in nature either. Bar branches - if you can't remove them - don't. Simply grow one side at a different level than that the other. Good taper is necessary. Wiring - after decandling, do not wire the branches too tightly, do not remove the final needles until after you have wired your tree as wiring causes needles to break and or fallout and you don't want to wind up with 'no needles'. Grafting - approach graft is best and takes about two years. The veneer graft is best cosmetically but most difficult to do. Use only clean and very sharp tools. Seal all wounds with any one of a number of available products. You must 'Plan' your black pines future as it is Not a clip and grow tree. Remember, take pictures, do sketches, keep notes but, do not be intimidated by Black Pine.

**Initial Styling.** You must evaluate the tree, such as root condition and the type of soil it is trying to grow in. You must determine if the tree is healthy. Do not remove a lot of major branches all at one time, take ½ this year and the rest next and leave a 2" stub to be removed the following year. Make a plan; select your front by carefully removing soil from the base of the trunk to expose the roots. This allows you to choose the best front combination of root base, trunk shape and branch location. Be patient, place a wire ring

(loosely) around the base of the branches you want to remove as a reminder. Then slowly nibble away at the large branches. Smaller branches may be cut back leaving a 1" stub and removed the following year.

### **PART 3**

While **repotting**, do not touch the trunk, and carefully handle the pine only by the branches. Rough handling of the trunk will strip off the flaky bark that is so desirable on developed black pines. Failing to repot a black pine will cause very serious problems. Failure to repot will cause top roots to die and loss of nebari. Bottom roots will push the tree out of the pot and the trees health will suffer. After repotting, spray entire tree occasionally with a good liquid fertilizer such as 'Miracle Gro'...Why?... because, we removed some of the roots. This will feed the tree until the roots recover.

**Soil:** Use only non-organic for good drainage (i.e. equal parts (any three) combination of lava, pumice, turface and hard fired akadama). You should also add charcoal and mycorrhizae for PH balance and improved food uptake through the root system.

**Needle size reduction:** this is a subject of great interest to most observers of Japanese black pines. There are several ways to reduce needle length. The preferred method is to time the fall needle thinning. The individual tree, its location and your experience with that tree in that location will determine the exact time to thin the needles to get appropriately small needles. If you make an effort to reduce your needles while you are trying to develop the tree in its early stages of life, you will drastically slow the forward progress and stress the tree. The needles, after all, are the food producers, energy producers for the tree. If while your tree is in the early stages of development and the needles get too long simply cut them with sharp, clean scissors to the desired length. Remember; work only on strong healthy trees.

**Wiring:** Wiring can be done anytime of the year. Wiring is usually done in the fall or winter after needle thinning. Do not wrap wire too tightly as you will damage the bark, leave it loosely wrapped around the branches. Aluminum or copper may be used. Copper is used mostly when showing your black pine or where extra strength is needed such as with the use of guy wires. Always watch for wires biting. Save a length of that old, leaky garden hose that you just replaced and cut small pieces to use as protectors where you might have to have hard contact with the tree (ie; roots or branches). It's cheap and conforms to the surface well.

**Care:** Work only on healthy trees! Seems to be a reoccurring theme. Black pines can withstand all but a hard freeze. Water most days, tolerates some dryness in between, use well-draining soil, repot every two years, 4 to 5 years for established older trees.

When repotting older, more developed trees, do not remove more than one third of the roots. On younger trees you may remove up to one half of the roots. Treat the Black Pines with fungicide in the fall.

**Lighting:** Prefers full sun, yet may need partial shade in the hottest parts of summer. Turn plant every 2 weeks. Be sure to keep the pines well ventilated.

**Fertilizer:** Spring and fall - Use a good, balanced, inorganic liquid, half strength, such as Miracle Gro, every week or inorganic time release such as Dynamite, Osmacote or Suncoat. Brands with necessary Micronutrients are best. Organic fertilizers such as Bio Gold work well except that they tend to break down and clog up the soil. This, of course, prevents good drainage and the plant will suffer root rot. In Midsummer, when the heat is on, *switch your fertilizer to a '0' nitrogen* fertilizer such as 0 -10-10. About October, you may resume your normal fertilizer program. This will give your black pine a big growth push before winter.

**Seeds:** One of the best ways to propagate Japanese black pines is with seeds. Since you have to 'Grow' black pines to form, what better way than to be able to control their entire life. Soak seeds overnight in water to promote germination. Any seeds that remain floating the next day should be discarded as they will not germinate. Using course sand in a seed tray and place seeds about ¼" deep with pointy end down. After the seeds push out the first true 'leaves', pull them out of the seed tray and with a razor blade, cut off all roots. Yes, cut at the very top of the roots but still in the white area of the stem. Dip the pine 'cutting' in 'Rootone' and place in individual small plastic flower pots, again in course sand. And yes, all black pines grown for bonsai are technically from cuttings.

**Pests:** aphids, spider mites and pine tip moth as well as needle cast, needle scale and fungus. A stressed tree is more susceptible to pests and diseases.

Black pines can be a multi-generational 'Friend' and as with a 'Friend', if you nurture the relationship properly, they will always be there for you. Patience and understanding yields satisfying results. Japanese Black Pine Bonsai.....Don't Pass it By, Pass it on!