

PINE MANAGEMENT THEORY

PART 6

By
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The following sections describe the seasonal timing of pine refinement techniques and how the techniques differ between species.

SPRING

Japanese Black Pine Spring Candle Management

A basic tenet of pine theory is that the spring flush of candle production uses a good deal of the tree's stored energy. These candles emerge white and without photosynthetic capacity and may be thought of as parasitic. They deplete stored energy, rather than contributing energy through photosynthesis, until they turn green upon needle emergence. By removing these candles you have robbed the tree of a significant amount of stored energy and removed the growth tips which hormonally suppress interior bud formation called back-budding. Those species and individual plants vigorous enough to predictably produce a second flush of growth will usually respond to spring decandling by producing an equal or greater number of second growth shoots. The less "energized" shoots emerging will be finer, shorter and shorter-needed. This is enhanced especially if water and fertilizer are appropriately controlled during the replacement shoot emergence, needle lengthening and hardening phase of early summer. In review, spring candle removal produces finer summer shoots suitable for bonsai training in vigorous species such as Japanese black pine.

Japanese black pine candles appear as a long white tube. The best time for decandling is when the bulk of the tree's strongest candles or tubes turn from white to green and the new needles have developed beyond being bumps to the stage of being very short visible needles still pressed tightly to the candle, the pine-apple stage. The entire candle is

removed, usually cut, at the brown/green junction between last year's brown mature shoot and this year's new green candle. At optimal decandling time the candle just beginning to turn green is still rubbery and can be snapped in two by hand. Once the candles turn completely green and harden they will no longer snap in two by hand. At this point they will show noticeable needle lengthening with the needles spread away from the shoot, the porcupine stage; they have now moved beyond the optimal stage for candle removal.

In the colder climates of the northern U.S. candle conditions indicating optimal decandling season

for Japanese black pines usually occur in June, prior to the solstice. The best decandling conditions in warmer U.S. growing areas usually occur in late winter, February and March.

Water stress during candle elongation will cause the candles to droop and vertical dehydration wrinkles to form along the shoot.

Healthy second flush buds are off-white or creamy in color, pointed in shape, firm and sharp. Second flush buds that are green, brownish and bumpy, will likely produce rank shoots unsuitable for bonsai and should be removed if more desirable buds are present. Buds that are

Japanese black pine, Pinus thunbergi, trained in informal upright style. This bonsai was exhibited at the 2000 Grand-view Bonsai Exhibition in Kyoto, Japan.



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rounded and soft will produce weak growth.

The sooner the second growth shoots appear after decandling, the greater the number of replacement shoots and the greater the length and diameter of the second growth shoots; the stronger the tree. More than four shoots should form per decandling site on vigorous black pines. Newly produced second growth needles will emerge light green, soft and easily pulled from the fascicle, but will quickly harden and take on a mature form.

After decandling, new shoots usually appear in four to five weeks in Japan. About six weeks is common in the U.S. and about eight weeks in the San Francisco, California, area which has cool and cloudy, weak growing conditions.

The period from spring decandling until dormancy onset in autumn and the beginning of fall branch thinning should be not less than ninety days. A period of less than ninety days of growth and recovery is inadequate to allow the

plant to regain vigor and second growth shoots to emerge, lengthen and harden prior to frosts.

In warm areas, Japanese black pine candles elongate steadily and slowly over four to five months between January and May. In cold areas candles elongate minimally in winter and then very rapidly in spring, usually May, catching up to warm areas in less than a month. In near tropical growing areas, such as Hawaii, Japanese black pines grow year round. There is no identifiable "flush" of candles and the tree is "thinned" whenever it gets overly congested or out of silhouette. Japanese black pine new growth in tropical areas resembles second flush shoots rather than the traditional candle seen in more northerly climes. Dennis Makishima has described Japanese black pine growth management in Hawaii as being similar to mowing grass. It is an ongoing thinning chore rather than an annual task.



Japanese black pine, Pinus thunbergi, trained in informal upright style. The short compact needles have been well trained through the correct trimming techniques as described in this article. This masterpiece bonsai was exhibited at the 2000 Grand-view Bonsai Exhibition in Kyoto, Japan.



ABOUT THE AUTHOR

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Greg Cloyd is a serious bonsai hobbyist who has studied pines for many years. He has organized an advance bonsai study group and invited many of the top pine specialists from the country for discussions and educational programs. The search for authoritative information on pine has recently led him to Japan where he visited many of the top growers.

Dr. Cloyd is a physician and member of the Cleveland Bonsai Club. He is also interested in native collected trees. He freely shares the results of his research and study by presenting programs and writing articles for publications. He maintains an impressive bonsai collection in Hudson, Ohio.



Japanese black pine, Pinus thunbergi, trained in the informal upright style. Note the short compact needles. This bonsai was exhibited at the 2000 Grand-view Bonsai Exhibition in Kyoto, Japan.

Japanese black pine, Pinus thunbergi, trained in the formal upright style and exhibited at the 2000 Grand-view Bonsai Exhibition in Kyoto, Japan.

