

The Art of Bonsai

By Eugene Howell

One of the techniques that a beginner in bonsai learns quite early, or should learn, is that frequent pinching of growing tips is essential to the development of ramification. The general rule is that when there are five to seven leaves on a branch; pinch it back to two or three. This is easy enough to understand, but is there any other reason to pinch, or to worry about when to pinch? After all, what difference does it make if you neglect this task for a few weeks and let the branches develop more leaves and grow longer? There are two answers to these questions.

When developing the plan for how you want your newly styled bonsai to look in about three to five years, you must remember that in nature the branches on the lower part of a tree are large in diameter and are long. In examining the tree further up, one should notice that the branches progressively get thinner and shorter as they get closer to the top of the tree. This concept of nature is one of the main considerations in selecting which branches are to remain when styling a pre-bonsai for the first time: larger diameter branches at the bottom and thinner branches near the top.

So, your new bonsai is styled, you have followed the rules, and now you have a starter-bonsai with lots of potential. At this point it is helpful if you keep in mind the phenomenon called “apical dominance”. What this means is that the meristem cells (re-read an article I sent you about two years ago if you don’t remember anything about meristem cells) at the tip of a stem or branch are dominant over all the other cells in that stem or branch. This dominance is what causes a stem/branch to grow longer and longer and continually develop new leaves, as opposed to staying the same length and just getting fatter and fatter. These apical, meristem cells produce a chemical which slows the growth of cells lower down on the stem/branch, thus the rapid growth in length rather than girth. This is the reason that a young sapling will grow 4 or 5 feet tall during the first 2 or 3 years of life and yet may be only about as thick as a pencil. It will have few, if any, side branches.

When you pinch the end of each stem/branch the loss of the dominant, meristem cells eliminates the production of the chemical that has retarded the cell growth of side branches. The meristem cells at the tips of any lower branches then kick-in and begin to grow new leaves and side branches, thus ramification is achieved. If there are no lower branches then the buds at the base of each petiole will begin to develop into a new side branch or a new leaf. If the dominant, apical, meristem cells are not removed the branch continues to grow in length and girth fairly quickly, thus becoming larger in diameter much faster than the branches that have had the apical meristem cells removed. This can work to both your benefit and disadvantage. If you are attempting to increase the size of a branch that is too thin for its position on the tree, allowing the apical cells to remain is the way to do it. On the other hand, if you have simply not taken the time to pinch as often as you should, the small branches at the top of the tree will become too large much faster than will any of the other branches on the tree. This happens because the apical, meristem cells at the tips of the branches at the top of the tree are dominant over all the other meristem cells on the tree. So one of the answers to the questions at the beginning of this article is that “by ignoring the need to pinch on a timely basis you allow the top-most branches to quickly get out of proportion to the ones just below”. Your tree will soon develop into one which has branches that get progressively thinner as you go up the trunk (as they should) and then, all of a sudden, get thicker at the top of the tree. This completely destroys the natural look of the bonsai and causes the tree to look top heavy and ungainly.

When you allow this to happen there is only one solution; remove all of the “too-thick” branches at the top of the tree and re-grow the top. Since this can easily take a year or more to accomplish, just to get the tree back to where it was before you ignored it, you have effectively erased at least one year of development of your tree.

Don’t ignore the need to pinch on a timely basis and if you find that you have enough time to do only a partial pinch job, make sure the branches near, and at, the top of the bonsai are the ones that receive it.