



DEFOLIATION:

NOTE: This article is a consolidation of both a presentation given to Buffalo Bonsai Members by fellow member Dan Trzepacz and the second part shows the results that can be achieved with using the rules given in Dan's presentation.

DAN'S Presentation Summary:

"Defoliation" is the removal of leaves from a tree other than the natural leaf fall, on DECIDUOUS trees. This technique is practiced for many reasons:

- To induce a new a new crop of leaves that are smaller in size.
- To get rid of leaves damaged by wind, dryness, or excessively hot weather and replace them with a crop of new, fresh foliage.
- If defoliation is done early enough, the second lot of leaves may encourage back budding of new branchlets. Thus, ramification may be increased twice in a season.
- Better autumn coloring may result in deciduous trees.
- The tree actually "ages" twice in one season.
- If transplanting has to be done out of season, defoliation of the tree acts as a safety precaution.
- Partial defoliation may be done for grooming purposes, i.e. to
- remove leaves where they fall outside the line of the design or just clutter the view.
- Partial defoliation of vigorous areas of the tree can be practiced to regulate the vigor distribution.
- Timing for defoliation in our area (Western New York) is from about the middle of June to about the 4th of July.
- A tree that is to be defoliated must be in healthy condition.
- Do NOT defoliate bonsai the same year they have been repotted.
- DO NOT DEFOLIATE CONIFERS!!!!
- Tress grown for flowers or fruit should not be defoliated either.

When you defoliate a tree, do not cut the leaf off too close to the branch. Doing so could damage the bud for the new leaf. A good rule of thumb is to cut the petioles (leaf stems) in half. The portion of the petiole that remains will dry up and fall off by itself.

After defoliation has taken place, no water will be lost through the leaves and the tree will not be drying out as rapidly as before, so be especially alert to not over-water. However, frequent misting of branches will definitely encourage bud development and regrowth of leaves.

You also do not need to fertilize until the new leaves emerge. In addition, while the tree has no leaves on it it's a good time to get a second chance to trim and wire your bonsai.

The Results That Were Achieved Using The Above:

Five trees were used in the defoliation exercise. A small ficus, and four medium sized bonsai; a hornbeam, and three maples. The defoliation process took place between June 13th to 16th. Leaves started to emerge on the bonsai between

June 21st to 26th. The final results shown were on August 5th.

When the trees were defoliated, they were trimmed back to reduce their size and silhouette as much as possible. In addition, wiring was applied where required. Measurements were taken of the leaves that were removed. The measurements were for the typical size as well as the largest leaves removed for each tree. These were then compared with the final leaf sizes on August 5th. The results were amazing. **Leaf reduction** was generally from **50% to 60% smaller**. The least amount of reduction was 36% for the trident maple, which had the smallest leaves to begin with.

Bonsai	Size Before	After Trim Size	With New Leaves	Orig Leaf Size	New Leaf Size	% Leaf Reduction
Ficus	13 x 10.5	8 x 8	9 x 9	2.25	.8750	60%
Hornbeam	21 x 19.5	16.5 x 17.75	17.5 x 18	2.25	1.125	50%
Maple	28 x 27	22 x 23	25 x 24	2.75	1.500	45%
Red Leaf Maple	30 x 24	21 x 22.75	23 x 23.5	3.50	1.750	50%
Trident Maple	20 x 21	16 x 18	19 x 20	1.75	1.125	36%

In addition, back-budding on the branches significantly improved the leaf pads on each branch (see adjacent photos of July 7 and August 5th of red leaf maple).

Shown below are the photos of each bonsai in the study.



Ficus:



Before Defoliation



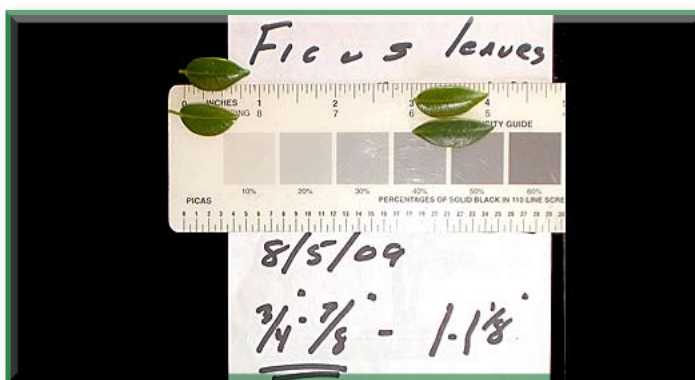
After Defoliation & Trimming



With New Leaves in August



Leaf Size at Defoliation



Leaf Size August 5th

Hornbeam:



Before Defoliation



After Defoliation & Trimming



With New Leaves in August



Leaf Size at Defoliation



Leaf Size August 5th

Maple:



Before Defoliation



After Defoliation & Trimming



With New Leaves in August



Leaf Size at Defoliation



Leaf Size August 5th

Red Leaf Maple:



Before Defoliation



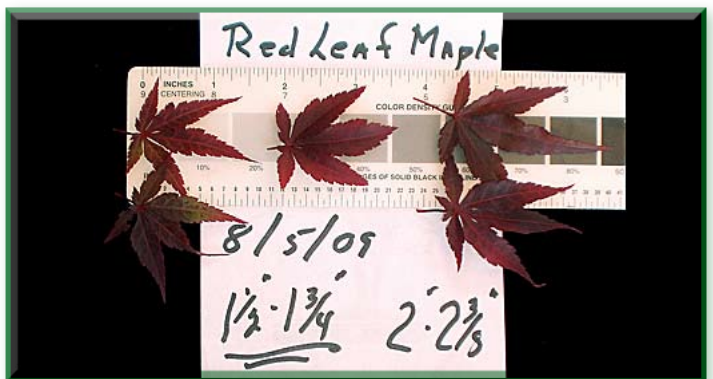
After Defoliation & Trimming



With New Leaves in August



Leaf Size at Defoliation



Leaf Size August 5th

Trident Maple:



Before Defoliation



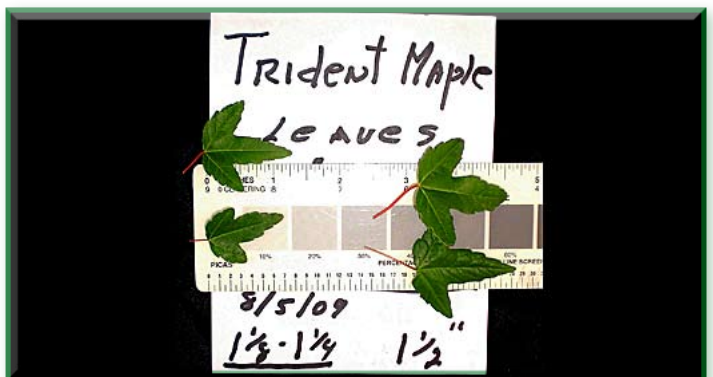
After Defoliation & Trimming



With New Leaves in August



Leaf Size at Defoliation



Leaf Size August 5th