Collecting and Preserving Tree Leaves

Collecting

The best time to collect leaves is early to mid-summer when they are full grown, but not yet full of insect holes, spots, and bumps. Collect the terminal twigs with at least two leaves, preferably more, from mature trees in full sunlight. Look the tree over and collect typical leaves for that species. Collect at least two specimens of each species and mount the best specimen. Specimens collected in midsummer are easier to press than those collected earlier (but may have more damage).

Pressing

Place the leaves between two layers of newspaper with cardboard or a blotter on the outside of each paper. Put a heavy weight such as a brick or heavy book on top of your homemade leaf press. Be sure to change the newspapers every day or two for at least two weeks because they absorb moisture from the leaves. If you don't change the newspapers your leaves may turn dark or spoil. One way to hasten the drying is to place your leaf press in front of a fan or air conditioner. Another method used to press leaves is to place the leaves between two layers of waxed paper and then press them with a hot iron. Sometimes this makes the leaves smoother and helps them keep their color.

See below for a question (and answers) about problems with pressing leaves.

Mounting

Fasten your leaves to paper with clear rubber cement or strips of transparent tape. Traditionally we have used herbarium paper (16.5 x 11.5) but many leaves will fit on regular 8.5 x 11 if you choose to make a more compact, storable kit. If you make a smaller kit please be aware that some trees have leaves that are quite large and may not fit well. However, most leaves will fit and then can easily be kept in a notebook. When pressing one leaf of each specimen should be pressed with the underside of the leaf up (so students can see the back). Cover the front of the paper for protection. Note - I have been doing some experiments with lamination and it appears to work very well. We used 3 ml thickness because it bends around the specimens better than thicker laminate. I have not yet tried it on samples with thicker stems (like conifers have) and suspect that these stems might need to be split long-ways to lay them flat. The laminate holds the sample well, gives some stiffness, and should delay deterioration considerably. You may want to affix the sample to a piece of heavy cardboard to keep from bending and breaking the specimens.

Collecting Tree Seeds:

Collect several representative seeds from the trees listed. Collect seeds when they are ripe and dry. Continue to dry after collection, for at least a week. Seeds collected in the fall should be stored over winter in a dry place in paper bags or similar containers.
Question & Answer:

Question – One of our 4-H members is having a hard time getting good leaf specimens for their Forestry project. They have tried three times. They are collecting the leaves, drying them thoroughly by blotting, and placing between newspapers with plywood backing and then using C-clamps to press. The leaves seem to be getting very dark, especially from the petiole and spreading up through the leaf blade. On some species the leaf margins are getting necrotic and browning. I suspect this may be environmental in nature due to the alternating heavy rains and sometimes high winds this spring but would like some support for my suspicions.

Answer – Suggestions from Purdue FNR faculty and staff. The variety of suggestions shows that drying leaves is not an exact science!

• I suspect the student is not changing the newspaper often enough and probably keeping them in a humid house. Suggestion: try setting the press in the sun during the day and changing the newspaper daily.

• Sounds like the leaves are rotting from the lack of air movement. They should have cardboard between the leaves. The wavy interior lets air circulation dry the leaves; i.e., cardboard, newspaper sheet, leaf specimen, newspaper sheet, cardboard, newspaper, leaf specimen, newspaper, cardboard, etc. The leaves only need to be pressed flat, not compressed. A strap around the press is adequate. The C-clamps may be a bit much.

• I suspect that the 4-H member isn’t getting the moisture away from the leaves fast enough. It’s my understanding that the blotting paper needs to be changed, i.e. press for a couple of days, change paper and press again. Repeat until the blotting paper no longer has any water to absorb. It’s also possible that the bundle is clamped so hard that the air space for moisture transfer through the blotting paper is reduced.

• Possibly the plywood is aiding mold and not letting air move through the paper.

• A few ideas. First, some tree species do this easier than others. If it is one species giving them a problem the easiest solution is to switch species. If they are all doing it, it could be partially technique. They may be getting the clamps too tight and squeezing the leaves. They might also consider putting the press in a dark cooler place. The other solution is to use the wax paper and iron method. It is quick and often gives greener leaves.