Growing Nut Seedlings

(not clones) (papa unknown)

Nut growers would usually want to plant clones of proven cultivars, but there are a few cases where seedlings would be suitable. Producing seedlings is much easier than clonal propagation and bare root seedlings should be ¼ the price of named cultivar clones. The following explanation applies to many nut species. I won't bother to describe the many ways I have discovered that don't work.

At its heart, every nut wants to become a tree. Given a reasonable chance, they will be successful. The major challenge for a grower is preventing pilfering. Ignoring pilfering is the key to total failure.

There is a fork in the road when collecting nuts. Nuts for seeds need to be kept moist. Nuts to eat need to be dried. In this case, we want nuts for seed, so they



must be kept moist.

Large nurseries plant the nuts soon after collection. The beds are usually covered to frustrate varmints and save the new plants. Every wild thing enjoys digging up nuts.

Figure 1. Black walnut plant bed at West Virginia's Clements State Tree Nursery. (The local crows have learned to pull up young plants get at the kernels.) These are big enough to be uncovered. Nuts need a period of dormancy before they can wake up, realize it's spring, and germinate. They are too smart to be fooled by a couple of tropical days in January. For a smaller project, nuts are stored in a (squirrel-proof) cold building or a refrigerator to meet their dormancy requirement. The nuts should be kept cool (not warm or freezing) and damp (not dry or wet) over the first half of the



winter. To hold moisture, the usual method is to store the seed nuts in a plastic bag or bucket along with enough damp potting soil to contact all the nuts. The container needs to hold the moisture in, but should not be completely airtight. If the seed sources are interesting, use separate, well labeled containers for each mother.

Figure 2. Hazelnuts for seed with potting soil in a plastic bag – ready to go in the cooler

Check the nuts occasionally for radical emergence starting in mid-February. When about half the nuts are showing radicals, it is time to transplant into pots. Plant the nuts with exposed radicals and return the rest to the container. If the intention is to field plant in the early summer, 4x4x9 inch pots are big enough. If the plan is to field plant after the first summer, bigger pots are needed.



Figure 3. Carpathian walnuts beginning to sprout with radicals exposed.

Almost every one of the nuts with exposed radicals will grow, but we are not home-free just yet. The emerging plant needs full sun, from the outset, to avoid having to harden-off the plants when exposed to full sun later. That means a greenhouse, or outdoors. If they are outdoors, they will need to be moved indoors a few nights to avoid frost damage. It is handy to have them on a cart or pallet.



Figure 4. Hazelnuts seedlings growing in squirrel-proof cages with chipmunk assassin guarding

Squirrels, chipmunks, and crows will pull up every plant to get to the nut. Cover the plants with a cage about a foot above the soil. Don't take the cage off until the plants are a foot tall, pressing against the cage cover mesh, and have enough roots to survive the attack.

The final step for this document is transferring for field planting. Plot layout, planting, and the care of young plants is covered in other documents.

Commercial nurseries usually ship seedlings bare rooted during the plant's dormancy. The plant's dormancy can be extended into April and May by keeping the bare rooted seedlings in refrigerated storage.

On a smaller scale, potted plants can be planted in the field any time of year with proper care. However, there is a tricky issue with transferring potted plants to the field. Enough root mass is needed to hold the soil together during the



transfer into the plant's new home, but the root tips need to be pointing outward, not wrapped around the rootball. There are several solutions to the girdling root problem. One solution is to cut the girdling roots at planting time. Another solution is to use air pruning pots, like the Ellepot (Ellepot: A sustainable solution for propagation) or a homemade equivalent. A third solution is only practical during dormancy, when the soil can be shaken off to get bare rooted plants. For this option, the potting soil should have a high sand content. This third method is also a good option if the plants are to be shipped, since the shipping weight of bare rooted plants can be reduced by 90% compared to potted plants.

Figure 5. A 3rd year hazel doing poorly and pulled out. "These are not the kind of roots you are looking for."