

16. Planting:

John Kelsey - - - 2024 May - - - Rev 5

Warning:

Depending where you live, this enterprise probably will fail without protection from weeds and deer in place at the outset. In case you're not convinced, here are a couple of pictures.

The HTIRC has clearly demonstrated the necessity of deer fencing with almost pure failures from browsing in some unprotected plots. Their design using plastic fence at the time cost about \$1 per linear foot installed. There is a lot of information about using electric deer fencing on the internet – even baited fencing! Did you ever lick an electric fence? We had a 100% failure with our 3D electric fence at the Blennerhassett planting.



Figure 1. Test plots at Lugar Forest near Purdue U. The upper plot unfenced. Photo from James McKenna

Grasses are worse than broadleaf weeds, and the presence of sod forming grasses will assure failure. This is a start-up problem and needs to be controlled the year of planting or before to assure good survival and a good starting growth.



Figure 2. A fifth-year black walnut planting in tall fescue. I thought that brush hogging between the rows of survivors would be helpful – What a waste of time and fuel!

Layout:

For many years, I have used a stretched string for layout; however, this year I used GPS, because the site was too hilly and irregular for a string. For a string, I buy light colored braided Dacron masonry line. It will stretch about 5% without breaking and is UV resistant. I make a string for a field and keep it for many years. For 8-foot (96 inch) spacing, I cut a 1 inch board 91 inches long and wrap the string just snugly from end-to-end. On one end of the board, I coat the strings with a black permanent marker, the other end red. When stretched, these marks will be 96 inches apart. I take the string off the 91 inch board and wrap it on a permanent 2-foot board. On the permanent board, I write the field and other instructions (like - “start 20 feet from Sisson’s fence.”)

The GPS method is too involved to describe here. A cell phone’s coordinates are not accurate enough. You need to buy an expensive system, or be a techie nerd. Go ahead. Say it.

Planting:

After taking care of deer and weeds, around November order trainer seedlings for delivery in the spring – preferably for May delivery if the nursery has cold storage. State tree nurseries always have bald cypress and white pine at a good price. Start out in by planting the bed-run trainer seedlings. The next fall, estimate the mortality and reorder.

If the squirrel situation isn’t too bad, direct seeding is an option to seedlings. We like to direct seed 4 Select nuts at each tree position, and then choose the best of the saplings at each position after they are well underway. This planting plan takes about 1400 nuts (7 gallons hulled) per acre. Seedlings don’t make much progress their first year due to transplant shock, so planting seedlings or seeds makes little difference in the long run. You can replant blank positions for a couple of years, but after that it is a waste. They cannot catch up.

Figure 3. Black walnut plants emerging from 4 seeds planted after Christmas tree sale.

Another approach: Grow pines at all the 8’x8’ positions, remove alternate pine rows when the pines are about 12 feet tall, then plant 4 black walnut seeds around the stumps in the pine-straw mulch.



To plant black walnut seeds we use a homemade spade bit in an old-fashion drill hand brace. The sharp point lets the bit slide off, if it encountered a root. We tried a rechargeable drill, but couldn't get it to run slow enough. It slung the dirt away that we needed to tamp in the nut seed. A couple of turns with the hand brace and the hole was deep enough. Drop in a seed and step on it.



Figure 4. Our spade bit used to plant black walnut seeds

To plant bare rooted seedlings (most of our planting) we use a dibble. This can be slow tiring work when working alone. A 4-person crew works best: one big guy to open the holes; another person to carry the bucket and pick out the plants, another to insert the plants; and a 4th person to close the hole.

When we have a lot of large seedlings or potted plants to plant we used a tractor mounted posthole auger. In some cases the new roots turned back when they encountered the glazed wall of the auger-made hole, so we turned one of the little cutting knives around to make jagged ugly holes. For nut and fruit trees I bring in new dirt to tamp in the plant and leave the ring of original dirt to form a dike. The dike holds the water in if we need to water. For the first two years we water any week without .5 inches of rain.



Figure 4. Our rough hole made by a modified auger.