

Paulownia Root Cutting Propagation

By David Sutton 3/25/2010

About Root Cuttings

In China, root cuttings are the method of choice for paulownia propagation. In years past, I have often wondered why? There is so much work involved with root cutting. Seed propagation is so much easier.

What I have come to realize is root cuttings are a low tech, highly successful method of cloning paulownia when you want to use proven genetics for site selection and growth goals. I have come to realize there is a large amount of genetic variance within the paulownia species. Seed may or may not meet the goals of your plantation. If you have done your research, you may match genetics to meet your needs. I make no fantastic claims about my paulownia, just that it comes from quality stock.

Care Before Planting:

- For field planting, wait till the soils warm up. If planted too early, wet cold soils with fungi pathogens will cause the cuttings to rot before they have a chance to sprout. In other words, it is a race between sprouting and rotting. Put the odds in favor of sprouting by waiting till the soils stay warm! In East Tennessee, that would be the last week in April or the first week in May, or when the ground temperature stays above 55°F.
- Upon receipt, refrigerate until you are ready to field plant. They are packaged so that they can be stored for about 6 weeks in refrigeration. You need to check weekly for condensation on the plastic bags. If it develops, simply remove the roots from the bag and replace into a new plastic bag, wrap in a dry paper towel. The paper towel should wick any surface moisture off the root cuttings.
- Another method is to place into a soil-less potting medium such as sand/vermiculite mixture and simply leave outside in the weather until you are ready to field plant. You can wait till you see the first signs of sprouting as an indication for planting.
- If the root cuttings are small, it might be best to pot the cutting into ½ to 1 gallon containers and let them grow in these pots for the first few months. All root cuttings we sell are large enough for field planting.

Field Planting:

- Before field planting, soak the root cuttings in a fungicide for at least an hour. My current choice is a product called Infuse made by Bonide purchased at my local farm co-op. It is broad spectrum, systemic, and can last up to 4 weeks. It is just good insurance to prevent field rot.
- Loosen the soil before planting by digging a hole, refilling the hole with the loose soil dug. I prefer using a tractor with a chisel plow/sub-soiler to break and loosen the soil. Weeds must be kept under control the first year, so I use a pre-emergent product called Prowl after tilling the soil. It works for about 6 weeks.
- Planting orientation is also important. The cuttings need to have the same vertical orientation to the ground surface as when dug. The cutting will always sprout on the end which was originally closest to the ground surface. If planted upside down, it will sprout toward the center of the earth! If you cannot tell which side is up, simply place the root horizontal and let it choose the sprouting end.
- Planting depth is also important. Place the sprouting end of the root cutting level to the ground surface to no more than 1/8 of an inch deep.
- Mark your planting with a survey flag to add in weed control and watering, which is very important throughout the summer months.

After planting

- Do not water your root cuttings for the first few weeks! There should be enough moisture in the spring soils to keep the cuttings healthy. Too much water just promotes rot.
- Keep the weeds under control the entire summer. Use whatever means it takes. Paulownia is very intolerant to any type of shading or competition.
- Allow the cutting to grow as will. What you need to do during the first year is just let the root system develop. Plan on coppicing the trees the beginning of the second year to develop the first log of your future paulownia lumber.