

Considerations for Collecting and Vegetatively Propagating Poplar Woody Plant Materials

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Most Important

Vigorous, healthy plant material at the end of the vegetative propagating process is directly dependent upon vigorous, healthy plant material being used to begin the process. If vigorous, healthy plant material is not available, it will need to be created.

Essential Points

- A clearly defined end product (that is, dormant cutting/rooted plant, bareroot/container, size, and so on) needs to be determined prior to initiating a propagation project.
- Only use vegetative growth from the most recent year's vegetative growth to make dormant cuttings for field planting or greenhouse/nursery propagation.
- Know the difference between floral and vegetative buds. This is particularly important in determining the sex of dioecious species.
- Only collect stems with healthy, intact vegetative buds. Intact vegetative buds are buds at leaf scars (that is, the bases of the prior year's leaf stems) along the stem of branch material to be used in propagation that have not been damaged or broken off, and that have not become short shoots or small branches. *Stems with obvious disease and insect damage should not be used.*
- When making cuttings for planting, it is absolutely essential to have a healthy, intact vegetative bud within the top 1 in (2.5 cm) of the cutting regardless of the cutting length. It is very important for the people doing the onsite collections to clearly understand how the material will be subdivided and propagated to be effective and efficient in their collection efforts.
- In general, dormant cuttings can be collected in January/February, but may be collected outside this timeframe depending on the overall weather conditions at a specific site. Vegetative material where bud elongation has begun, or that is in an active growing stage, can only be propagated under extremely controlled conditions (that is, usually in a greenhouse or nursery).
- Dormant cuttings/stem sections should be sealed in plastic and stored at temperatures slightly below freezing (28 to 30 °F [-1 to -2 °C]). *Note that home freezer temperatures are considerably below freezing (-10 to 10 °F [-10 to -20 °C]). Storing dormant cuttings in home freezers may result in severe damage, even death, to the cuttings.*
- Dormant cuttings/stem sections should not be refrigerated at temperatures above freezing, or even slightly above freezing, for more than 1 to 2 weeks.

Questions to Consider

- Why is vegetative propagation of plant material being considered? Convenience? Cost? Is your focus on function as opposed to biodiversity or genetic diversity? Is this the only technique you are aware of?
- What are you ultimately trying to achieve with the choice of vegetative propagation?

- What are the overall objectives for rehabilitation, restoration, revegetation?
- Are biodiversity and genetic diversity important issues in rehabilitation, restoration, revegetation? Should biodiversity and genetic diversity be important considerations in rehabilitation, restoration, revegetation?
- Are there deployment strategies for clones and separate sexes of dioecious plants (that is, poplars and willows) in your rehabilitation, restoration, revegetation efforts? Is current population status/structure being considered? Is there a conscious attempt to collect both male and female material from dioecious plants?
- Should consideration be given to other plant propagating techniques to meet the overall objectives, such as breeding, collecting seeds, and growing seedlings?