

Harvest Options

Hybrid Poplar Best Management Practices

The harvest of poplars depends upon the final product goal, and the economic position and philosophy of the landowner. There are a whole range of harvest options ranging from low tech labor intensive methods to the use of sophisticated high tech harvesting machines and chippers. Poplar stands should be harvested when their average annual growth increment begins to decline over time. This time frame depends upon the original planting spacing and growing conditions.

Key Considerations

Cut poplar trees low to the stump to maximize harvest volume and to promote stump resprouting (coppice). If the entire tree is not removed from the site, the tops, branches, and other slash should be spread on the site to promote decomposition (unless the site will be replanted immediately afterwards or the slash used for biomass). Poplar logs should not be decked along roads for lengthy periods of time because they are subject to bacterial stain.



Poplar stump coppice regrowth

- Harvest poplars in the winter months to minimize soil compaction and to maximize resprouting. Poplar trees resprout better if cut during the dormant season from November through April. If resprouting is not desirable, harvest can be done in summer on sites where soils are firm. Use of a tracked harvester minimizes compaction. Harvesting by hand with a chainsaw followed by horse skidding minimizes site damage and is a more sustainable practice. If a whole tree chipper or harvester is used, winter is a better time for harvest because foliage is left on site to recycle essential nutrients and organic matter.
- Minimize or avoid stream crossings and maintain the use of a buffer along the stream when harvesting. Any harvest near a stream should be by hand and with minimum disturbance such as horse skidding or cable skidding.

The choice of a harvest system depends upon the planting area, tree size, and landowner objectives. For small areas, a labor intensive (i.e. human intensive with minimum mechanization) approach is efficient. For medium size blocks, a small tractor (or a horse) can be used to skid tree length logs. But, for large areas a highly mechanized approach may be necessary that may include a feller buncher or tracked harvester, a grapple or cable skidder, and/or a stationary chipper. Prior to harvesting, it is necessary to have a contract with a contractor specifying volume to be removed, property boundaries, and environmental considerations.

Post Harvest Options

- Kill the stumps of the former planting with a properly labeled herbicide and replant with new improved poplar clonal stock. Stumps could be removed by a bulldozer, but that option is not economical. When stumps are killed and the site replanted, the new rows are offset and planted within the old rows. This approach eliminates the option of mowing as a weed control strategy because of the presence of stumps.

- Maintain the subsequent stand as a coppice stand. Each stump will have multiple stems and the coppice stand will be more productive than the old stand. This approach may be utilized for bioenergy, phytoremediation, or riparian wildlife plantings because multiple stems are not problematic. If single (or double) stems are the goal of the landowner, it will be necessary for the landowner to thin the multiple stems back to one or two stems during the first or second dormant season after harvest. This practice can be achieved by hand or hydraulic pruners mounted on a farm tractor.



Poplar plantation coppice regrowth

- Replant the entire area if sawlogs or veneer is the product objective because of potential defects associated with the cut stumps and problems associated with multiple stems.



Portable Wood Chipper



Mechanized Cut-To-Length Wood Harvester

For more information visit:

www.extension.umn.edu/agroforestry "Growing Hybrid Poplar in MN"

Authors

Diomy Zamora, Extension Educator, Forestry, zamor015@umn.edu

Gary Wyatt, Extension Educator, Forestry, wyatt@umn.edu

Jud Isebrands, Forestry Consultant, efcllc@athenet.net