Advanced **Hardwood Biofuels** Northwest

January 2014

Renewable Energy from Poplar

Fast growing hybrid poplar trees are a leading feedstock for renewable transportation fuels in the temperate region. Advanced Hardwood Biofuels Northwest (AHB), a consortium of university and industry partners, is working to develop the foundation for a renewable biofuel industry that produces fuels from poplar trees sustainably grown in the Pacific Northwest (PNW). AHB's feedstock development efforts will help revitalize rural economies through job creation and economic development opportunities.

Poplar's advantages

- Poplar can grow on 2-3 year rotations, growing back after it is harvested, with 7 or more cycles possible before replanting.
- Poplar can be grown almost anywhere in the PNW , but growth will vary depending upon the local climate.
- Poplar grows well in floodplains, west of the Cascades, and other regions with sufficient rainfall or irrigation.

Researching poplar

- Researchers are investigating poplar varieties and management practices to maximize biomass yields at four demonstration sites in WA, OR, ID, and CA.
- To reduce the use of chemicals and irrigation, researchers are investigating how to enhance poplar's preferred traits.

Harvesting success

- Poplar harvesting methods are established and efficient harvesting techniques are being investigated.
- Poplar biomass is readily available on the site and can be harvested year round, as it is needed at the biorefinery.
- Researchers have successfully harvested two of the project's demonstration site in the fall of 2013.

The Poplar Cycle

Poplars for biofuels are grown as a purpose-grown energy crop on a cycle of growth, harvest, and regrowth that ensures a steady supply of biomass is available to biorefineries. Poplar cuttings are planted in rows and managed using traditional agronomic practices. After 2-3 growing seasons the trees will be cut and chipped in the field, then transported to nearby biorefineries where they will be converted to drop-in liquid transportation fuels. After harvest, the poplars grow back, storing more carbon in their roots and trunks leading to significant reductions in greenhouse gas emissions compared to petroleum-based fuels.

For more information contact: Dr. Rick Gustafson, University of Washington, 206-543-2790, pulp@uw.edu or visit

hardwoodbiofuels.org

USDA United States Department of Agriculture National Institute of Food and Agriculture

This project is supported by Agriculture and Food Research Initiative (AFRI) Competitive Grant number 2011-68005-30407 from the USDA National Institute of Food and Agriculture (NIFA).