Advanced **Hardwood Biofuels** Northwest

May 2017 Briefing Paper

Harvesting Fields of Fuel

Click on the harvester to watch a video of the real harvester at work!

Advanced Hardwood Biofuels Northwest (AHB) is conducting research to investigate the potential of poplar trees as a feedstock for developing biofuel and bio-based chemical industries. AHB is a program funded by the USDA National Institute of Food and Agriculture to integrate research, education, and extension in support of a Pacific Northwest bioeconomy.

Poplar trees are a promising biomass feedstock for this new industry. The poplars would be grown as an agricultural crop and harvested every three years. After harvesting, the trees re-sprout the following spring from the stumps, a process known as coppicing. Using this coppice system, a poplar grower will only need to re-plant their trees once every 18 to 20 years.

However, growing poplars this way required the development of a coppice header that could be used as an attachment on a forage harvester, which is used to harvest many traditional crops, such as corn. The specialized header is optimized for poplar stems up to five inches in diameter. New Holland developed the coppice header in collaboration with the State University of New York ESF and AHB's feedstock partner GreenWood Resources. The harvester cuts the trees near their base and feeds the stems into the machinery. The wood is chipped and simultaneously sprayed into an adjacent collection vehicle. Once the industry develops, the poplar chips would be transported directly to biorefineries where the poplar feedstock would be converted to biofuels and other bio-based chemicals. Watch a short video of the harvester in action here.

If you would like to attend a field tour, please contact Patricia Townsend (patricia.townsend@wsu.edu)

Poplar trees grown for bioenergy grow as multiple stems from a single root system, called a coppice.

The New Holland harvester cuts and chips the poplar in a single pass.

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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 no. 2011-6800530407 from the USDA National Institute of Food and Agriculture (NIFA).