

Harvesting of Hybrid Poplar Trees for Cellulosic Ethanol B-Roll

Scene-by-Scene Description

Get the facts behind the footage available on the U.S. Department of Energy's (DOE) Office of Energy Efficiency and Renewable Energy (EERE) B-Roll Web site at eere.energy.gov/news/b_roll.cfm.

Video Title: Poplar Tree Farm B-Roll

Video Only/No Audio

Location: Boardman, Oregon

Shoot Date: June 2, 2010

Total Running Time: 3:46

Scene 1: 00:05: A three-year-old poplar tree is harvested for biofuel by a biomass harvester. Biomass resources are used to generate electricity and power as well as to produce liquid transportation fuels such as ethanol and biodiesel.

Scene 2: 01:31: Close-up of harvested poplar trees. An alternative to using corn or other food-based crops for ethanol feedstock is the harvesting of woody, cellulosic materials such as the poplar tree.

Scene 3: 01:47: Mature rapid-growth poplar trees at the tree farm.

Scene 4: 02:38: New poplar trees and saplings are planted to produce biofuel.

Learn More about Biofuel Production

Biomass includes all plants and plant-derived material and can be used to produce transportation fuels, biobased products, and power. Ethanol—an alcohol—is made primarily from the starch in corn grain and is most commonly used as an additive to petroleum-based fuels to reduce toxic air emissions and increase octane. Roughly half of the gasoline sold in the United States today includes 5% to 10% ethanol.

Making ethanol from cellulosic feedstocks is more challenging than using starch or sugars. In order to make cellulosic ethanol, feedstock materials must first be broken down into their component sugars for subsequent fermentation; this process is called biochemical conversion. Cellulosic feedstocks also can be converted into ethanol using heat and chemicals in a process called thermochemical conversion.

To learn more about biofuels like cellulosic ethanol, visit the EERE Biomass Program Web site at eere.energy.gov/biomass.