AHB is researching a system for locally-grown fuels in the PNW.

Purpose grown hybrid poplars  
Drop-in replacement transportation fuels
AHB is one of seven USDA AFRI "CAP" projects around the U.S.
AHB is organized into five teams.

- Feedstock
- Conversion
- Sustainability
- Education
- Extension
Feedstock Team
The Feedstock Team is researching all aspects of feedstock development.

- Growing and harvesting technologies
- Clone selection
- Quantifying yields
- Production costs and logistics
Four demonstration sites have been established.
Conversion Team

ZeaChem
A demonstration plant is located in Boardman, OR.
Acetic acid and cellulosic ethanol have been produced so far.
Sustainability Team
Hardwood biofuels significantly reduce net carbon emissions
Will this system be environmentally, economically, and socially sustainable?

- Soil, water, and wildlife.
- Biorefinery location and logistics
- Community perceptions and potential impacts
Soil & Water

- Greenhouse gas emissions are similar to that of adjacent agriculture fields
- Deposition is occurring at the poplar sites, no erosion is taking place
- Nutrient leaching rates are minimal
Wildlife

- Species of interest
  - Songbirds
  - Small mammals
  - Pollinating insects

- Wildlife abundance is expected to be greater in the poplar than in adjacent agriculture fields.
Potential sites for biorefineries are being identified.
Community perceptions and potential impacts

• Assessing
  ▪ Community impacts
  ▪ Grower perceptions
  ▪ Biofuels in the media

“A long time ago Caterpillar had an ad which really struck a chord with me, and it was, ‘There are no simple solutions, just difficult trade-offs.’ And that’s what we’re dealing with here, is trying to figure out if this trade-off of a monoculture poplar field is better than the trade-off of importing oil from Iraq.” – Environmental group, OR
Education Team
The Education Team is focused on workforce preparation.
The Education Team is developing a comprehensive suite of programs.

- Middle/High school curriculum
- Teacher professional development
- Bioenergy Summer Bridge-to-College Program
- 2-year degree and certificate programs
- Bioenergy minor
- Master’s level training
Extension
Team
The Extension Team is providing outreach to growers and stakeholders.
Challenges ahead
Developing new markets presents a “chicken and egg” problem.
10,000 - 18,000 acres of land would be needed for a biorefinery.
Growers have concerns based on negative experiences with poplar.
It may be difficult to compete with fossil fuel prices.
High-value bioproducts present short-term economic opportunities.
Visit us online for more information.

http://hardwoodbiofuels.org