



Maximizing the Potential for Barley Bioprocessing to Create Food and Fuel

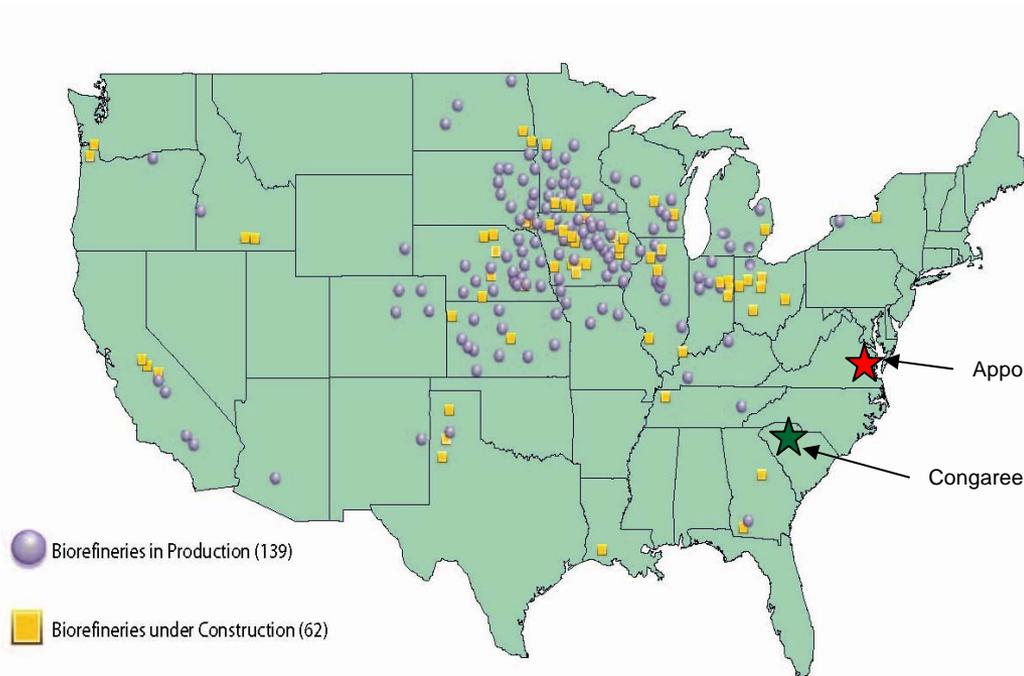


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Overview of Osage Bio Energy

- Osage Bio Energy (OBE) is a Virginia-based company that will use regional grain to produce biofuels and related products for East Coast markets. OBE's sister company, Osage Inc, is also a Virginia-based company and is one of the largest ethanol distribution companies in the Southeast.
- Osage Bio Energy is backed by First Reserve Corporation, a leading private equity firm serving the energy sector exclusively, which has committed \$300 million to Osage Bio Energy.
- In addition to ethanol fermentation, our process captures the naturally occurring, high-value proteins in barley. OBE will use these to provide the livestock industry with a competitively priced, nutritionally superior feed product. Our process also separates the fiber fraction (hulls), making it available in a pellet form for use as a renewable fuel.
- Osage Bio Energy's long range plans include developing projects that evolve from emerging technologies.

OBE's location in the Mid-Atlantic utilizing winter small grain is unique for ethanol producers.



Source: Renewable Fuels Association
01.24.08

- Most ethanol producers are located in the Midwest and must ship the ethanol primarily to the East or West Coast where most demand exists.
- Osage Bio Energy intends to procure its feedstock from farmers in barley growing regions on the East Coast.

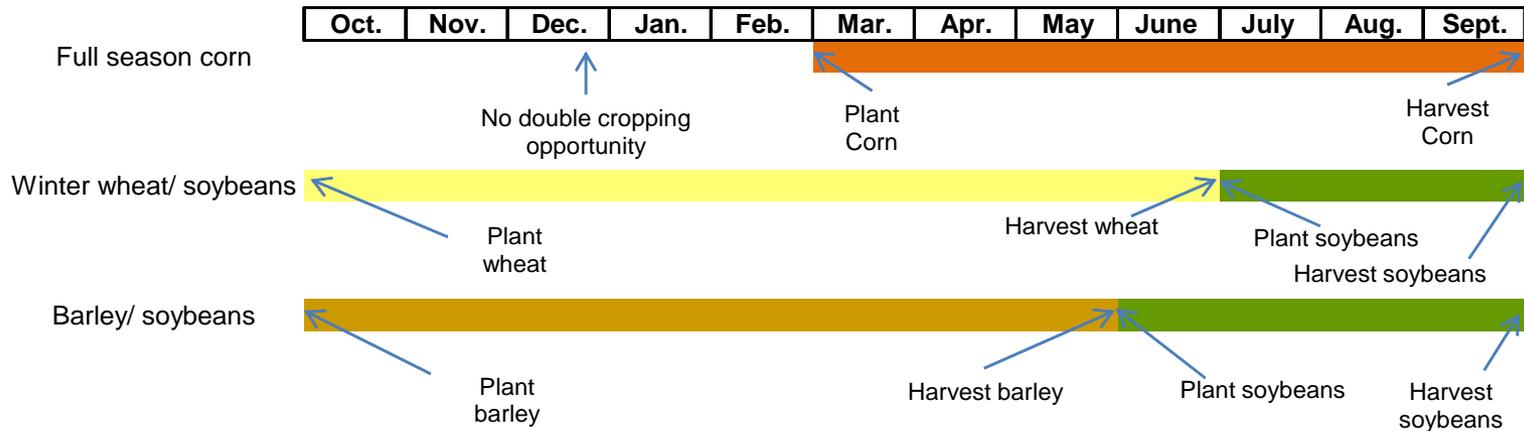
Why Barley?

	East Coast Barley
Cropland	<ul style="list-style-type: none"> • Double-crop agricultural land not presently used during the winter months in Mid-Atlantic and Southeast. • Barley can be produced in moderately productive soils.
Farming benefits	<ul style="list-style-type: none"> • Barley crop is symbiotic with the soybean crop as it reduces fertilization requirements, primarily potash and nitrogen, as well as utilizing the same harvesting equipment. • Winter planting reduces nutrient runoff, enabling better nutrient utilization, as well as help with soil and water conservation efforts in sensitive watersheds like the Chesapeake Bay. • A challenge is the need for added grain storage.
Co-product	<ul style="list-style-type: none"> • Barley Protein Meal - Improved amino acid composition for poultry and swine. • Fuel Pellets – Similar to woodchip pellets for pellet stoves.

- Osage Bio Energy plants will utilize 28 million bushels of barley per year.
- Will require almost 300,000 acres of winter cropland per year for barley.
- Will create over 450 seasonal farm jobs.
- Will provide an economic market value in the range of \$100 million annually to growers.
- Will offer over 170,000 tons of barley protein meal per year as poultry and swine rations.

Barley's Benefits to Farmers

Compared to wheat, double cropping with barley and soybeans provides a longer growing season for soybeans, enabling a higher yield.



- Barley trials at both Penn State University and Virginia Tech University show that the “Thoroughbred” variety, on average, can produce yields of 100 bushels per acre in a double crop system with soybeans.
- 3.3 million acres of soybean production in the region, 2.1 million of which is not currently double cropped.

Locally produced products from regionally grown winter barley offers several key environmental advantages

- Winter barley offers cropland soil conservation benefits.
- Local production reduces impact of transporting fuel and livestock feed products from Midwest.
- Barley hull pellets as renewable biomass fuel will offset use of fossil fuels.
- Use of ag-based alternative fuels and ag-based fuel pellets provides significant ghg reduction opportunities.

- Consistent and dependable barley supply is critical. Need to attract the attention of growers and provide assistance with deploying a new crop option.
- Need to attract the attention and business of the livestock industry and demonstrate the nutritional value of barley protein meal .
- The agricultural industry needs help in facing the challenges associated with introducing a new crop to the area. Virginia's grain storage deficit is an example of a significant barrier.

Options include on-farm storage and strategically located grain terminals. Significant incentives exist in the New Market Tax Credit program.

- Offer direct financial incentives targeted at capital construction in rural distressed communities. Net benefit is typically 20%.
- Existing allocations are opening up and a new allocation of \$3.5 billion is scheduled for next month.
- Virginia has a relatively weak history in competing for and securing allocations and federal programs like to “spread-the-wealth”.

- We expect to start up the plant in Hopewell in Q2 2010.
 - Estimated construction time from ground-breaking to operations is 19 months.
 - Construction contract signed.
 - Site contractor mobilization planned for October, 2008.

