

Forest Concepts processes feedstock for first forest-powered commercial aviation flight

November 14, 2016 - Auburn, Washington – Forest Concepts is proud to be among industry cooperators that helped develop technologies and equipment to produce bio-jet fuel from forest residuals, the limbs and branches that remain after the harvesting of managed forests. The company is particularly honored to have processed a portion of the woody biomass feedstock that was converted to aviation fuel used today to power a regularly scheduled Alaska Airlines flight between Seattle and Washington, DC.

Forest Concepts played a supporting but important role in the NARA project to develop a technically viable pathway from abundant forest logging debris to fully certified aviation biofuel. The team at Forest Concepts advised and supported the NARA feedstocks development team. Forest Concepts' engineers contributed wood chip milling and screening expertise to the development effort. The company's pilot plant then mechanically processed and screened bulk forest biomass into uniform, small-sized, flowable feedstocks needed to make the wood-derived cellulosic sugars used by GEVO in their biofuel production process.

Forest Concepts used proprietary machinery developed under funding from the USDA National Institute of Food and Agriculture SBIR program, DOE Office of Science SBIR Program, and the US Department of Energy Bioenergy Technologies Office. Beginning in 2005, federal agencies supported Forest Concepts' engineers to invent, develop, and commercialize energy saving methods for milling wood chips and other woody biomass into small, flowable feedstocks for the biofuels industry. Related funding enabled design and optimization of sorting equipment to produce feedstocks of ideal size and shape for various biofuel conversion methods.

Dr. Jim Dooley, co-founder and Chief Technology Officer at Forest Concepts commented, "Long-term and ongoing federal support of technology-based small companies like ours through the SBIR and other technology development programs is reducing the cost of advanced biofuels, improving yields of early-stage biorefineries, and improving the carbon footprint of the industry. Support over the years from USDA and DOE to Forest Concepts paid off for the NARA project in that our engineers had experience with similar materials and the pilot scale equipment was already in place and ready to use when the NARA Feedstocks team specified the size, shape, and other physical properties for their "reactor ready" feedstocks. "

A series of tests were conducted at Forest Concepts' pilot plant and research lab in Auburn during the spring of 2015, culminating with the production of approximately 6 tons of feedstocks for use by processing and conversion participants to validate, refine, and optimize their biorefinery processes. Once all the processing unit operations were decided and documented, the final 100+ tons of production feedstock was milled and screened by Lane Forest Products in Oregon.

The employees and management of Forest Concepts join other project cooperators to celebrate the successful production of certified woody biomass derived alternative jet fuel for use by Alaska Airlines, and congratulate Washington State University and the USDA National Institute of Food and Agriculture for an outstanding program of research, development, and demonstration.

*Photos and video are available.
Tours and photo/video/interview opportunities can be
scheduled at Forest Concepts' facility in Auburn, WA.*

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Forest residuals-based feedstock after
processing at Forest Concepts
(Forest Concepts photo)



Forest Concepts' operations manager Jason Perry (l)
and lead NARA Feedstock specialist Gevan Marris (r)
inspecting reactor-ready forest-derived feedstocks
for shipment to biofuel production facilities.
(Forest Concepts photo)