Bioenergy and Bioproducts

Feedstock Crops  Modeling  Agronomic Practices  Production Logistics  Microbial/Enzymatic Systems  Conversion Technologies  Economic, Policy, and Environmental Issues

Texas AgriLife Research, a part of the Texas A&M University System, is a national leader in bioenergy and bioproducts research, development, and commercialization because of its programs, expertise, infrastructure, and partnerships.

- 14 academic departments at Texas A&M University, ranging from engineering to genetics to economics
- 13 research stations with capability of production evaluation under varied climatological and soil conditions, from desert to high rainfall and tropical to temperate
- 400 faculty members and 1600 employees
- Strategic partnerships with industry in feedstock production, chemicals, equipment, and conversion technologies
- Sponsored research programs with the State of Texas and federal agencies

Dedicated energy crop development for advanced biofuels and bioproducts
- High- tonnage nonfood sorghums as a lignocellulosic feedstock (10–15 dry tons/acre/year)
- Energy cane as a nonfood lignocellulosic feedstock (15–20 dry tons/acre/yr)
- Hybrid sweet sorghum as an ethanol and bioproduct feedstock
- Wide hybridization of energy crops to custom tailor composition and tonnage
- Sustainable production practices focused on optimized inputs for high-tonnage production of annual and perennial crops
- Advanced machine systems for production, harvest, transport, and storage

Economically sustainable oilseed crops for biodiesel and bioproducts
- Conventional and exotic oilseeds for commercialization potential
- Germplasm for commercial production
- Minimum production cut off of 100 gal/oil/acre annually (current oil production yields range from 35 to 50 gal/acre using conventional oilseeds.)
- Sustainable production agronomics
- Machine systems for mechanical harvest
- Cost-effective oil extraction processes

Algae development for biodiesel, bioproducts, and jet fuel
- Algae screening for high biomass and oil production
- Cost-effective production practices (water quality, nutrients, carbon dioxide utilization, density, invasives)
- Economical production systems (open systems)
- Extraction processes (chemical, mechanical, electrical)
- Separation processes, by-product development, disposal

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