

## Bioenergy and Bioproducts

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.



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

### 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 and 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
- Coproduct development for livestock and mariculture feed as well as human nutrition

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